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Essays on the Politics of Regulation

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by

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To Krista.

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ABSTRACT OF THE DISSERTATION

Essays on the Politics of Regulation

by

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This dissertation consists of an introductory chapter and three distinct yet thematically related papers. The purpose of the dissertation is to explain variation in regulatory policy across countries by highlighting the institutional (supply) and interest group (demand) determinants of policy. I develop and test theory explaining regulatory policy outcomes at several levels of analysis. Chapter 1 introduces the topic and related literature.

Chapter 2 focuses on the supply of regulatory policy by examining how political institutions affect the responsiveness of policymakers to consumer interests. I argue that the political influence of consumers depends on the level of democracy. To test the theory, I develop an original dataset measuring competition agency design in 156 developing countries covering the period 1975-2007. I estimate hazard models on the timing of competition policy reform. I also create an original index of governments' commitments to antitrust policy and estimate its political determinants. The results confirm a link between democracy and the commitment to consumer-friendly regulatory policy.

Chapter 3 holds institutions constant in order to examine the demand-side determinants of regulatory policy outcomes within democracies. I argue that competition policy enforcement reflects the relative political strength of two contending interest groups: a rent-preserving alliance of incumbent producers and affiliated labor opposes competition policies that erode its market dominance; a pro-competition coalition of consumers, unorganized workers, and entrepreneurs favors regulatory oversight. Tests of the timing and nature of reform in democracies support the argument that commitments to antitrust regulatory reform are weakened where the anticompetitive interest group is large and encompassing.

Chapter 4 develops hypotheses regarding the firm-level determinants of lobbying and political influence. I argue that economic power translates directly into political power: large, well-organized oligopolists are more likely to lobby and to influence government policy in their favor. I directly test lobbying activity and policy influence using firm-level survey data from over 20,000 firms operating in 41 countries. The results suggest that the political power of the firm increases with its size, market power, and participation in business associations. There is some evidence that the substantive impact of these microeconomic determinants of political influence depends on the level of democracy.

1

Introduction

The essays that follow examine how the organization and political influence of business affects variation in regulatory institutions around the world. The motivation for the project follows recent research arguing that industrial organization and patterns of corporate ownership affect productivity, innovation, and ultimately economic growth (Hall and Soskice, 2001; Morck et al., 2005; Khanna and Yafeh, 2007). Furthermore, it appears that one of the enduring lessons of the Great Recession is that regulatory laxity poses huge systemic risks (Moss and Cisternino, 2009), but that entrenched interests will fight hard to maintain the status quo (Johnson, 2009). The design and implementation of regulatory institutions are decisions made by policymakers, and so I emphasize the politics of regulatory policy.

Following a long line of research in the political economy of economic development, I focus on the institutions relevant to private sector productivity, and highlight how interest groups, operating under distinct political rules, seek to shape these institutions in their favor. Indeed, if regulatory reform is to be successful, it requires that we understand the social interests at stake and their ability to fight for preferred outcomes within the constraints represented by political institutions. In the tradition of Rajan and Zingales (2003b), my project highlights how incumbent firms will seek to block reforms that erode their existing rents.

I emphasize institutional change in developing countries, where recent reforms have addressed the shortcomings of previous liberalization schemes. The focus on developing countries is also motivated by the breakdown of the Washington consensus over its failure to produce more equitable economic development (Stiglitz, 2002). One of the explanations for the disappointing results is that external liberalization does not necessarily increase domestic competition. As Stiglitz (2005) notes, "the notion that free trade and investment promotes growth relies on the assumption that private markets are competitive and well functioning" (p. 231). Anticompetitive practices by incumbent firms are one of the most important "behind-the-border" barriers to trade and investment, and this project seeks to explain variation in the institutions governing private markets.

The ability of incumbent firms to repel competition is directly related to the effectiveness of domestic regulatory institutions. Indeed, it could be inferred that one of the major factors contributing to weak product market competition in developing countries is the absence of effective regulatory oversight. The World Trade Organization recognized the issue, and in 1996 identified anticompetitive behavior by businesses as a potential source of distortion in free trade. In so doing, the WTO named competition policy as an important "new issue" and setting up a working group to explore its relationship with international trade and investment.[1] Rodrik (2002) summarizes the relationship between domestic regulation and international commerce, noting"now that the formal restrictions on trade and investment have mostly disappeared, regulatory and jurisdictional discontinuities created by heterogeneous national institutions constitute the most important barriers to international commerce" (p. 3). Since it is apparent that domestic regulatory regimes influence both domestic and international economic activity, the political origins of regulatory "discontinuities" deserve further investigation.

[1]The working group was dismantled in 2004, unable to reach an agreement on a multilateral framework regarding competition policy. It was abundantly clear that domestic political considerations impede governments from reaching an international regulatory consensus on this issue.

1.1 What is Competition Policy?

Welfare-enhancing competition is characterized by the entry of new firms—foreign and domestic—into product markets, which eliminates producer rents and leads to higher overall welfare, lower prices, and lower unemployment. I define domestic competition policy as the set of laws and institutions affecting market contestability, or the ability of new firms to enter the market.

An encompassing view of competition policy includes at least three categories of law. First, competition policy includes the entry regulations that raise the costs of entering the market (Djankov et al., 2002; De Soto, 1989). In an influential study that builds on the insights of De Soto (1989), Djankov et al. (2002) document variation in the regulatory requirements for starting a business around the world. For example, the authors count 19 procedural requirements taking 149 days in Mozambique, whereas an entrepreneur from Canada can complete the requirements in just 2 days. This study shows that the number of procedures required to start a business is positively correlated with greater degrees of corruption, and negatively associated with economic competition.

A second set of institutions relevant to market contestability are the laws governing financial markets. The development of a financial system affects market contestability to the extent that capital is a required for startup. Thus, the associated set of competition regulations are those that contribute to financial development, including investor (La Porta et al., 1997; Beck and Demirguc-Kunt, 2005) and creditor (Djankov et al., 2007) protections. A burgeoning literature recognizes that these corporate governance and banking regulations are the result of political bargains made under heterogeneous political institutions (Roe, 2003; Gourevitch and Shinn, 2005; Pinto and Pinto, 2008; Perotti and von Thadden, 2006; Pagano and Volpin, 2005)

A portion of this project examines what is perhaps the most direct form of market governance: domestic antitrust policy. Antitrust (or competition) policy regulates and sanctions anticompetitive behavior by incumbent firms. Though the author-

ity of competition agencies varies substantially across countries, the stated objectives of competition policy generally includes one or more of the following: banning abuse of dominance by large firms; prohibiting anticompetitive agreements between incumbent businesses (e.g., cartels); and ensuring that mergers do not threaten competition. A robust competition policy has been shown to increase entry rates of new firms into the market (Kee and Hoekman, 2007) and lead to increases in economic competition (Voight, 2009). Fox (2007) argues that antitrust enforcement can reduce poverty and promote economic development.

In spite of the benefits of economic competition to developing countries, many governments still have no formal institutional means of penalizing the anticompetitive practices of incumbent producers. Indeed, whereas all OECD nations have a competition agency, in my sample of 156 developing countries covering the period 1975-2007, 74 passed laws delegating competition policy to a regulatory agency; 82 have no formal regulatory oversight.

1.2 My Contribution

I offer a political economy explanation for variation in regulatory institutions that builds upon a well-known social cleavage: increases in economic competition from a non-competitive status quo imply a redistribution of wealth from organized incumbent oligopolists ("producers") to diffuse consumers (Stigler, 1971; Peltzman, 1976; Rogowski and Kayser, 2002). Stigler's contribution emphasized the inherent advantages that producers have in organizing and influencing government, while Peltzman's extensions better reflect the reality that the demands of consumers are often met in the policy arena. My research follows a more recent contribution by Rogowski and Kayser (2002), which underlines the importance of political institutions in shaping the incentives of policymakers to respond to consumers.

An exploration of the ways in which interest groups influence policy requires that careful attention be brought to bear on the policy preferences of relevant interest groups, and the extent to which these groups can organize politically. I draw on a rich literature on interest groups to build a model of competition policy coalitions. A pro-competition coalition is rooted in the interests of consumers, unorganized workers, and small business owners, who favor the effects of competition on lower prices, greater product choice, and lower unemployment. The competing group is a rent-preserving alliance anchored in the interests of incumbent producers and allied labor. This group seeks to maintain anticompetitive rents by opposing competition policy reform. The political cleavage that emerges is thus one of insiders versus outsiders. This prediction is distinct from most production-based approaches in the political economy literature, where cleavages are drawn along class (factors of production) or industry lines (Gourevitch, 1986; Rogowski, 1987, 1989; Frieden, 1991b; Hiscox, 2001).[2]

An effective competition policy weakens the ability of insiders to capture and maintain rents, benefiting the pro-competition coalition through favorable price and employment effects. The redistribution implies political conflict: insiders will lobby to maintain and expand their rents, and the pro-competition coalition will support greater competition policy enforcement. Variation in competition policy reflects the interests of the winner of the political conflict between these two groups. When the pro-competition coalition prevails, governments invest in effective antitrust oversight. When the rent-preserving alliance wins out, no such regulatory institutions emerge.

A portion of my analysis explains the relative political strength of the two interest groups as a function of domestic political institutions. I advance a straightforward proposition relating democracy to regulatory policy that to my knowledge has been overlooked. In particular, I argue that the level of democracy affects the strength of consumers relative to producers. Indeed, since the median voter is a consumer, consumers' influence over policy will increase with an expansion of the franchise and electoral com-

[2]For a recent exception see Baker (2003, 2005), who incorporates consumer interests into a model of trade policy preferences.

petition. The empirical implication is that governments' commitments to antitrust policy will increase with the level of democracy.

The project contributes to a long line of research explaining how domestic political institutions filter the interests of the relevant interest groups into policy. Prominent examples include Milner and Kubota (2005) and Dutt and Mitra (2002), who argue that democracy increases the likelihood of trade liberalization in developing countries. Related research argues that democracy contributes to economic reform by increasing the political weight of the electorate and reducing the clout of special interests (Stokes, 2001; Weyland, 2002).[3] Other related contributions explain how various electoral rules within democracies influence economic policy outcomes (Cox and McCubbins, 2001; Shugart and Haggard, 2000; Persson and Tabellini, 2004a,b).

To test my theory, I develop an extensive dataset, the first of its kind, to study competition policy institutions in developing countries. The use of policy as the dependent variable contrasts with much of the existing research, which generally uses economic outcomes as the dependent variable. My dataset covers competition policy institutions in 156 developing countries over the period 1975-2007, recording the year of passage of competition law in each country. Also, since laws on the books do not necessarily reflect the government's commitment to a robust competition policy, I create an original index measuring the governments' commitments to antitrust enforcement. The index has two independent components: one gauges *de jure* commitment to effective policy by coding several indicators of agency independence; the second measures *de facto* commitment by incorporating resource allocations, expert assessments, and actual regulatory decisions.

The dissertation also tests the specific mechanisms linking interest groups to policy. In particular, I contribute to our understanding of the role of interest groups in shaping regulatory policy by developing a multilevel model of political activity and influence, which I test directly using a cross-national, firm-level survey. This method

[3]See Milner and Mukherjee (2009) of a review of the literature linking democracy to economic liberalization.

represents a significant improvement over more indirect approaches, which, in large part due to the complexities of measuring firms' political activities, usually attempt to capture interest group influence by relating policy outcomes to the structural characteristics of these groups.

1.3 Organization of the Dissertation

The dissertation proceeds as three distinct articles. Chapter 2 focuses on the supply of regulatory policy by examining how political institutions affect the responsiveness of policymakers to consumer interests. I argue that the political influence of consumers depends on the level of democracy. To test the theory, I develop an original dataset measuring competition agency design in 156 developing countries covering the period 1975-2007. I estimate hazard models on the timing of competition policy reform. I also create an original index of governments' commitments to antitrust policy and estimate its political determinants. The results confirm a link between democracy and the commitment to consumer-friendly regulatory policy.

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2

Democracy and Consumer Strength: Direct Evidence from Regulatory Reform in Developing Countries

Abstract

The distributional implications of antitrust regulation imply a political cleavage between consumers and producers. I argue that the relative strength of these two groups depends on the level of democracy. In particular, an expansion of the franchise and competitive elections will increase the relative political weight of consumers, resulting in policies that favors their interests. An empirical implication of the argument is that the likelihood of effective competition policy reform increases with democracy. I test this proposition in two stages using an original dataset measuring competition agency design in 156 developing countries covering the period 1975-2007. First, I estimate hazard models on the timing of competition policy reform. Second, since "laws on the books" do not necessarily indicate a commitment to effective policy, I create an original index measuring governments' commitments to antitrust policy. The index captures the independence of the agency, resource (budget and staffing) allocations, expert perceptions, and actual le-

gal actions. The results of the empirical analysis support the proposition that democracy improves governments' commitments to competition policy.

2.1 Introduction

The canonical models of regulation imply a political conflict between consumers and producers (Stigler, 1971; Peltzman, 1976). Consumers favor greater levels of economic competition, which lowers prices and increases aggregate welfare. Producers prefer lax regulatory policy, allowing them to maintain or expand their anticompetitive rents. This paper argues that democratic political institutions mediate the strength of these two groups. In particular, I suggest that an expansion of the franchise and competitive elections will increase the political weight of consumers, resulting in policies that favors their interests. I provide one of the first direct tests of the link between democracy and consumer strength using an original dataset measuring competition (antitrust) agency design in 156 developing countries covering the period 1975-2007. The results support the proposition that democracy increases governments' commitments to competition policy.

One of the main factors contributing to market competition is government regulation of anticompetitive behavior. Welfare enhancing competition is characterized by the entry of new firms—foreign and domestic—into product markets, which eliminates producer rents, leading to higher overall welfare, lower prices, and lower unemployment. The delegation of regulatory authority to an independent competition agency has been shown to increase the entry rates of new firms into the market (Kee and Hoekman, 2007) and economic competition (Voight, 2009). In spite of the benefits of economic competition to developing countries, many governments still have no formal institutional means of penalizing the anticompetitive practices of incumbent producers. In my sample of 156 developing countries covering the period 1975-2007, 74 passed laws delegating competition policy to a regulatory agency; 82 have no formal regulatory over-

sight. Since delegation of regulatory authority to competition agencies is ultimately a political decision, I highlight how the political rules of the game change policymakers' incentives to pursue competition policy reform.

I offer an explanation for variation in regulatory institutions that builds upon a well-known social cleavage: increases in economic competition from a non-competitive status quo imply a redistribution of wealth from organized incumbent oligopolists ("producers") to diffuse consumers (Stigler, 1971; Peltzman, 1976; Rogowski and Kayser, 2002). Competition policy enforcement weakens the ability of incumbents to capture and maintain rents; this benefits consumers through favorable price and employment effects. The redistribution implies political conflict: incumbent interests will lobby to maintain and expand their rents, and consumers will support greater competition policy enforcement.

I advance a straightforward proposition that to my knowledge has been overlooked. In particular, I argue that the level of democracy affects the strength of consumers relative to producers. Indeed, since the median voter is a consumer, an expansion of the franchise and electoral competition in a democracy will increase the political weight of consumers relative to producers. The empirical implication is that governments' commitments to antitrust policy will increase with the level of democracy.

The empirical contribution of the paper provides one of the first direct tests of the political determinants of regulation. The use of policy as the dependent variable contrasts with much of the existing research, which generally relies upon distant economic outcomes as the dependent variable. For instance, the important contribution by Rogowski and Kayser (2002) makes inferences about the effect of institutions on consumer strength by measuring the correlation between electoral institutions and prices. These authors infer that electoral institutions shape policymakers' incentives in the production of certain policies that affect prices, but the intermediate stage in the causal chain (institutions to policies) is not tested. Similarly, Rosenbluth and Schaap (2003) study the effects of political institutions on interest rate spreads; and Persson et al. (2003) and

Kuniková and Rose-Ackerman (2005) use subjective corruption indices as the dependent variable. My work is closer in spirit to Djankov et al. (2002), Scartascini (2002), Pagano and Volpin (2005), and Quinn (1997, 2003), who also employ policy outputs as the dependent variable.

Using an original dataset on competition policy in 156 developing countries over the period 1975-2007, I test the theory in two stages. The first is to measure the effect of democracy on the timing of laws delegating regulatory authority to competition agencies. Since laws alone do not necessarily reflect support for a particular policy, the second step develops an original index measuring governments' commitments to competition policy, and estimates its political determinants. The results of the empirical tests are consistent with the proposition that political competition leads to consumer-friendly policies.

My paper also contributes to broader debates in international political economy. First, I find no evidence of a robust relationship between external openness and an effective behind-the-border competition regime. To the extent that economic integration has not produced welfare improvements in many developing countries, the absence of correlation between these policies may suggest that welfare gains only accrue when trade liberalization is combined with effective competition enforcement. Second, the evidence that competition policies can reflect consumer interests despite the collective action hurdles that these actors face is in line with recent consumption-based theories of economic policy (Baker, 2005; Trumbull, 2006).

The paper proceeds as follows. Section 2 reviews the related literature. Section 3 presents my theoretical model. Section 4 describes the research design and the variables. Section 5 reports the results of the models of agency adoption, and the empirical analysis of agency commitment appears in Section 6. Section 7 concludes.

2.2 Related Literature

The academic study of regulation was revolutionized by the work of Stigler and Peltzman (S-P). The S-P model advanced research in positive political economy by highlighting the distributional implications of various regulatory arrangements. By explaining that regulation results in a transfer between social groups, their work brought politics into the mix. The important intuition is that politicians do not always pursue policies that maximize social welfare.

The S-P model explains the competing political interests that result from the transfer that regulation represents. An effective antitrust policy is a tax on incumbent monopolists, and a subsidy to consumers. They argued that regulatory institutions should be thought of as an equilibrium outcome of a market, the political market for policy. Rogowski and Kayser (2002) extend the model to argue that majoritarian electoral institutions in democracies are more conducive to the interests of consumers. Other important contributions highlight how special interests compete with the public for policies that favor them (Grossman and Helpman, 1994; Frieden, 1991a).

Related research explains how political institutions filter the interests of the relevant social groups into policy, and several studies highlight the effects of democratic political institutions. Milner and Kubota (2005) and Dutt and Mitra (2002) argue that democracy increases the likelihood of trade liberalization in developing countries. The reason is that, under a two-factor Heckscher-Ohlin framework, the median voter in a capital scarce/labor abundant developing country gains from trade liberalization. Related work argues that the democracy contributes to economic reform by increasing the political weight of the electorate and reducing the clout of special interests (Stokes, 2001; Weyland, 2002).[1] Other contributions explain how various electoral rules within democracies influence economic policy outcomes (Cox and McCubbins, 2001; Shugart and Haggard, 2000; Persson and Tabellini, 2004a,b).

[1]See Milner and Mukherjee (2009) of a review of the literature linking democracy to economic liberalization.

This paper also contributes to debates regarding the delegation of regulatory authority to independent institutions. The literature on central banking argues that anti-inflationary monetary policies are more likely under an independent body that is not subject to electoral pressure (Barro and Gordon, 1983; Rogoff, 1985; Lohmann, 1992). Other approaches explain the delegation of authority to independent regulatory agencies as a process of diffusion (Jordana and Levi-Faur, 2005, 2006; Henisz et al., 2005) or domestic politics (Murillo and Martinez-Gallardo, 2007).

2.3 The Effect of Democracy on Competition Policy

I argue that democracy makes policymakers more sensitive to consumer interests, thereby increasing the likelihood of competition policy reform. The policy preferences of consumers follow from the S-P theory of regulation, which posits a conflict between producers and consumers based on the distributional implications of regulation. Consider an incumbent firm with *market power*, or the ability to charge a price that exceeds marginal cost without inducing new firms to enter the market. Market power exists when barriers to potential competitors enable incumbent firms to restrict output and raise prices,[2] which implies a transfer of wealth from consumers to producers in the form of a monopoly rent. The distributional implications of market power result in a cleavage between incumbent firms and consumers. On one hand, incumbents benefit from market power in the form of economic rents, and they therefore have an incentive to oppose antitrust or competition policy oversight.[3] One the other hand, a reduction

[2] An important point of emphasis is that producers need not be monopolists in the strict sense in order to have market power: barriers to competition may bestow market power on more than one firm, enabling each to set price above marginal cost.

[3] I assume that incumbent firms' opposition will exist in spite of the fact that antitrust agencies have not necessarily pursued policies that improve consumer welfare (Long et al., 1973; Siegried, 1975; Asch, 1975); one reason is that regulatory agencies may be captured by incumbent firms, who use them perversely to deter competition (Shughart, 1990; McChesney and Shughart, 1995). Other empirical work suggests that the agencies regulate according to partisan political interests of the chief executive. There is reason to believe, therefore, that the formal *independence* of regulatory bodies is a crucial factor in the extent to which they are opposed by incumbent interests. If the government can make a credible commitment to delegate independent regulatory authority to the competition agency, then entrenched businesses

of market power—greater product market competition—favors consumers through favorable prices effects. Consumers will support delegation of antitrust authority to competition agencies that promote well-functioning markets and penalize anticompetitive behavior.

Political institutions go unaddressed under the S-P setup, but the effects of democracy can be deduced as follows. Consider the process of democratization as an expansion of the selectorate, or the portion of the population that participates in choosing the political leadership (Bueno de Mesquita et al., 2003). Following Bueno de Mesquita et al. (2003), define the winning coalition as the subset of the selectorate whose support is required for the leadership to maintain political power. If we think of democratization as an expansion of the franchise, it follows that democratization increases the size of the selectorate and changes the makeup of the winning coalition. Democratization induces policymakers to pursue the electoral support of new groups of voters.

An important distinction between autocracy and democracy is the makeup of the winning coalition. In autocratic settings, leaders maintain power through the support of a coalition that could include any number of groups, but by definition, the minimum winning coalition in autocracies does not include a majority of citizens. Most often, the minimum winning coalition in autocracies includes economic elites,"the major producers/investors in the economy" (Acemoglu, 2008, p.1). In many developing countries, the autocratic selectorate consists of a coalition of industrialists and their labor allies who gained economic power through various development strategies that shielded them from domestic, or more commonly in the Latin American case, external competitors (Weyland, 2002). Other configurations of autocratic support include the military or religious groups (Geddes, 1999; Gandhi and Przeworski, 2007).

Democratization changes the makeup of the minimum winning coalition by expanding the selectorate. Quite simply, an expansion of the franchise results is an increase in the proportion of the minimum winning coalition represented by consumers,

are more likely to oppose its existence. This is why a portion of my contribution is to create an index measuring agency independence.

and a reduction in the proportion of the winning coalition represented by producers, or the economic elite.

Electoral competition in democracy translates the interests of the winning coalition into policies that favor the median voter. The reason is that, as democracy strengthens, political leaders have incentives to appeal to new coalitions of voters who have been previously ignored. Indeed, under standard assumptions, it is easy to show that the platforms of the two candidates in a competitive election will converge on the preferences of a median voter (Downs, 1957; Grossman and Helpman, 1994), or those of the dominant majority (McGuire and Olson, 1996; Alesina and Rodrik, 1994).[4] If we assume that consumers make up a larger group than do incumbent producers, an expansion of the franchise to some approximation of universal suffrage *ensures that the median voter is a consumer*. Thus, political competition will lead to policies that improve economic competition, and increase aggregate welfare. Furthermore, as political competition increases, opposing parties will draw attention to the influence of bribes on policy outcomes that are unfavorable to the median voter. As voters become aware of the influence of anticompetitive interest groups on competition policy, the incentives for regulatory laxity will decline.[5]

In sum, I have argued that the relative political weight of consumers increases with democracy. The empirical implication of this proposition is twofold. First, the likelihood of competition policy reform will increase with democracy. Second, the government's commitment to competition policy will improve with democracy.

[4]The deadweight loss from uncompetitive markets accrues to consumers, who constitute the dominant majority in a democracy.

[5]Note that this argument provides less analytical traction for explaining variation in regulatory outcomes within democracies, where the characteristics of interest groups, such as their ability to organize, may affect the nature of the commitment to regulatory institutions such as competition policy. Stigler argued that regulation will favor producers because they are a smaller group, implying the per capita benefits will be greater than for the diffuse – and larger – group of consumers. Thus, producers are better able to organize and lobby for preferred policies. Peltzman's model allows for a more realistic set of outcomes to emerge; namely, producers do not always prevail. The effects of interest groups on competition within democracy is the subject of future research.

2.4 Research Design and Variables

This section presents the identification strategy and the main variables used to test the hypothesis developed in the previous section. I constructed a new dataset on competition (antitrust) agency design and independence in 156 developing countries.[6] My dataset is unique in its coverage of competition laws passed during the period 1975-2007. The primary sources are the World Bank Competition Policy database,[7] and various issues of the annual Handbook of Competition Enforcement Agencies (Campbell, 2006, 2007, 2008). Supplementary sources include individual country's competition agency websites.

The analysis proceeds in two stages. First, to measure the effects of democracy on the timing of competition reform, I record the year of passage of laws delegating authority to competition agencies. Since I am interested in identifying the affect of democracy on the speed with which governments delegate regulatory authority to a competition agency, I estimate a series of proportional hazards models:

$$h_j(t|\mathbf{x}_j) = h_0(t)\exp(\mathbf{x}_j\beta_x) \tag{2.1}$$

Hazard models are used to estimate the hazard rate $h_j(t)$, or the probability that a government in a particular country j passes legislation delegating regulatory authority to a competition agency in year t, given that it had not done so in the previous year. The models are proportional since the hazard that faces country j is proportional to the baseline hazard $h_0(t)$. The exponential function is chosen to avoid negative hazard functions $h_j(t)$. A nice feature of hazard models is that they do not exclude countries that do not pass competition legislation by the end of the period. Countries are observed from the beginning of the sample period (the year 1975) up until when they pass legislation, or the end of the period of study (2007)—whichever comes first.

[6] Due to limitations in the data coverage of the explanatory variables, the models include up to 131 countries.

[7] The database can be found at http://web.worldbank.org.

Second, since laws on the books do not necessarily reflect the government's commitment to a robust competition policy, I also create an original index measuring the governments' commitments to antitrust enforcement. The index has two independent components: one gauges *de jure* commitment to effective policy by coding several indicators of agency independence; the second measures *de facto* commitment by incorporating resource allocations, expert assessments, and actual regulatory decisions. I provide full details on the construction of the index in section 6. I model the correlates of competition policy effectiveness using a Tobit model.

2.4.A Independent Variables

To test the effects of democracy and political competition, I incorporate the following variables. The level of democracy is measured using the familiar *Freedom House Political Rights* and *Polity* scores. I also include two measures of political competition. One, *Political Competition* (or Polcomp) is the sub-component of *Polity* that measures political competition. Two, the variable *Parties in the Legislature*, from Gandhi (2008), captures de facto political competition by looking at party representation in the legislature (0=no parties; 1=one political holds all the seats; 2=two or more parties hold seats within the legislature). I also include the Polcon index developed by Henisz (2000), which measures the empirically correlated yet theoretically distinct concept of veto points, or the number of institutional constraints on the policymaking discretion of the executive (North and Weingast, 1989; Tsebelis, 2002; Cox and McCubbins, 2001).

I control for several factors that may affect political competition as well as the state's institutional capacity. *GDP/capita* proxies for institutional development. *Population* measures the size of the domestic market.[8] Imports and exports as a percentage GDP (*Trade/GDP*) captures the effects of external competitive pressures on competition policy reform. The effect of trade on competition policy is ambiguous: openness to competition from international sources may substitute for domestic competition; or

[8]The variables *GDP/capita* and *Population* are logged.

governments' commitments to international competition may coincide with a commitment to behind the border competition.[9] Finally, some of my models include regional dummy variables to capture the diffusion of political and policy reform that has been shown to occur systematically within regional clusters (Henisz et al., 2005; Levi-Faur, 2005).

Table 2.1 reports overall summary statistics. Table 2.2 reports correlation coefficients. Country averages appear in Table 2.10.

2.5 Models of Competition Policy Reform

This section reports the results of an estimation of the effects of democracy on the timing of delegation to competition agencies. Assuming data availability, the sample period covers 1975-2007. Countries drop out of the model upon the year of delegation. The analysis includes up to 131 developing countries, of which up to 62 passed competition laws during the period of study. I begin by looking at the unconditional Kaplan-Meier estimates of the hazard rate, reported in Figure 2.1. The hazard rate is increasing over time, which suggests that I chose a parameterization of $h_0(t)$ that allows it to grow.

Thus, my preferred specification is the Weibull model, which parameterizes $h_0(t)$ as:

$$h_0(t) = \alpha t^{\alpha-1} \exp(\beta_0) \tag{2.2}$$

This implies that the proportional hazard model is specified as:

$$h_j(t|\mathbf{x}_j) = \alpha t^{\alpha-1} \exp(\beta_0 + \mathbf{x}_j \beta_x) \tag{2.3}$$

This model allows for monotonic changes in the the underlying hazard over time; these changes are determined by the evolutionary parameter α. For example, when $\alpha = 1$, the hazard is constant; for values of $\alpha > 1$, the hazard is increasing; for $\alpha < 1$, the hazard is decreasing.

[9] The economic control variables are from the World Development Indicators.

The Weibull model has the advantage of providing theoretically useful information about the effects of diffusion (or contagion) on a country's propensity to reform the competition regime through the evolutionary parameter α. Positive and significant values of α can be interpreted as evidence of external influence or policy diffusion. The evolutionary parameter thus provides an empirical substitute for time trends or variables that capture the percentage of countries in the region that have passed reforms in a given year.

I estimate a Cox proportional hazard model (CPH) as a robustness test.[10] Unlike the Weibull specification, The CPH model makes no *a priori* assumptions about the distribution of the hazard function. The CPH model is specified as follows:

$$h_j(t|\mathbf{x}_j) = h_0(t)\exp(\mathbf{x}_j\beta_x) \tag{2.4}$$

In this model, the baseline hazard is left unspecified, and as such the model makes no assumptions about the shape of the hazard over time. The only assumption is that the general shape of the hazard is invariant across countries.

The estimations produced using the Weibull and the CPH models are directly comparable. That is, both models produce estimations of β_x, which have a standard interpretation: $\exp(\beta_i)$ is the hazard ratio for the ith coefficient, or the proportional increase in the hazard rate corresponding to a one-unit increase in the explanatory variable x_i. The Weibull specification produces an additional estimate of the evolutionary parameter α.

Table 2.3 reports the regression results of a set of Weibull proportional hazard models measuring the effect of democracy on the passage of law establishing a competition agency. I include several alternative proxies for democracy. I begin in column 1 by introducing the Freedom House Political Rights Index. The estimated coefficient, which is positive and statistically significant at the 99% level, can be interpreted as follows: a one standard deviation (1.98) increase in *FH Political Rights* increases the hazard rate

[10] As with the Weibull specification, I estimate robust standard errors, adjusted for clustering at the country level. Under the CPH specification, the Efron method is used to handle ties, in which two or more countries adopt during the same year.

for delegation by $exp(.19 \times 1.98) = 1.46$ points (around 46%). This implies that more democratic countries are more likely to adopt competition policy reforms sooner.

Models 2-3 test the robustness of this result by introducing other well-known measures of democracy. Model 2 includes *Polity*, and the results suggest that more democratic countries pass competition law earlier: a one point increase in the Polity score increases the hazard by around $\exp(.06)$, or 6%; a one standard deviation increase in the Polity score (6.85) increases the hazard by nearly 51%. Column 3 includes the variable *Freedom House/Polity*, which represents the average of the Freedom House and Polity scores, taken from the Quality of Government dataset (Teorell et al., 2009).[11] The estimates reported in column 3 indicate that a one standard deviation increase in *Freedom House/Polity* increases the hazard by approximately 50%.

To illustrate the result, I divide the sample according the Freedom House/ Polity democracy index. I define democracies as country-years above the median score, and autocracies as scores below the median. Figure 2.2 illustrates the survival functions of these two groups. By the end of the period, the cumulative probability that a democracy passes competition policy reform is over twice the cumulative probability of reform in a non-democracy.

I introduce alternative indicators of democracy and political competition in models 4-6. Column 4 includes the political competition concept (Polcomp), a component of the more general Polity index. A one-standard deviation increase in this index results in a 52% increase in the hazard rate. Model 5 includes an indicator, developed by Gandhi (2008), measuring of the number of political parties represented in the legislature. Figure 2.3 graphs the survival functions corresponding to the results in column 5. The graph illustrates that the cumulative probability of reform is much lower where only one party controls the legislature; countries without parties are extremely unlikely

[11] This variable ranges from 0-10 where 0 is least democratic and 10 most democratic. It is generated by transforming the average values of the Freedom House measures of democracy and the Polity score along a scale 0-10. These transformed values are then averaged. Since the coverage of Freedom House is more extensive than that of Polity, the index relies on imputed values of Polity for the approximately 8 countries where Polity is missing. The imputation is the result of regressing Polity on the average Freedom House measure.

to reform. Model 6 introduces an alternative conceptualization of democratic veto points (*Political Constraints*). Interestingly, veto players do not significantly increase the probability of competition policy reform. This suggests that the mechanism driving reform in democracies has more to do with political competition and the expansion of the franchise to include consumers, rather than constraints on executive policymaking discretion. Finally, model 7 demonstrates the effect of democracy remains robust to the inclusion of regional dummy variables.

Other differences across countries appear to affect the probability of competition policy reform. In particular, wealthier countries are more likely to reform sooner. I find the probability of early reform increases with the size of the population. I also find some evidence suggesting that external donors push countries to adopt competition enforcement agencies: the amount of foreign aid that the country receives appears to contribute to regulatory reform, though the estimated coefficient is not significant in all specifications. Trade openness, on the other hand, does not appear to matter. The estimated coefficients are generally positive, but never statistically significant. This result conforms with the argument that the interests and incentives concerning external (e.g., trade) and behind-the-border (e.g., competition policy) reforms are fundamentally distinct.

Along with the effects of democracy, there is strong evidence of policy diffusion. Indeed, as reported in Table 2.3, the evolutionary parameter enters each model positive, with a value above 2, and in each case is statistically significant at the 99% level. This result suggests that the hazard function for passing competition policy reform increases during the sample period. To demonstrate this effect, consider the baseline hazard rates in the years 1985 (t=10) and 2005 (t=30) based on the estimate of α from model 1 ($\alpha = 2.23$):

$$h_0(2005)/h_0(1985) = (30/10)^{\alpha-1} = (30/10)^{2.23-1} = 3.86 \qquad (2.5)$$

This means that a country is over 3 times more likely to pass competition policy reform in 2005 than in 1985, and provides evidence of policy contagion over time. The mechanisms driving this phenomenon deserves attention and is left for future research.

Table 2.4 probes the robustness of the main findings, and indeed the results are very similar when I estimate a Cox model of the hazard rate. In line with my theory, competition policy reforms occur sooner in democracies. The results also confirm that richer countries and those with larger populations are more likely to pass competition policy laws.

2.6 Determinants of Competition Agency Commitment

Since the passage of laws does not necessarily reflect a government's commitment to effective competition policy, in this section I develop an original index of commitment, which I model as a function of the identical set of independent variables used to explain the decision to delegate. The motivation behind the construction of the index is to provide an easily replicable proxy for antitrust policy commitment that can be extended to a large sample of countries. The variable *Agency Commitment* measures features of the statute, as well as how the law is actually applied. Specifically, *Agency Commitment* represents the average of the standardized values of two sub-indexes: *De Jure Independence* captures institutional features relating to the legal independence of the regulatory body based on the law; *De Facto Commitment* measures resource allocations, expert assessments, and actual regulatory decisions. I detail the construction of each sub-index in turn. Table 2.5 provides a summary of the index components, and Table 2.10 reports the *Agency Commitment* scores for each country in the sample.

De Jure Independence

The construction of the sub-index of competition agency independence follows previous work on central bank independence (CBI) by Cukierman et al. (1992) and

others. The sub-index *De Jure Independence* has four components. The first component concerns the relationship between the government and the head of the competition agency. In particular, I measure the rules governing the tenure of the agency head. Following the CBI literature, I assume that a fixed term in which the agency head cannot be removed to be indicative of greater political independence. I code a dummy variable equal to 1 if the term of the agency head is fixed. I also assume that independence increases with length of the term, and so I code an indicator variable equal to one if the term exceeds 5 years. I sum these dummy variables to create a measure of the independence of the agency head, ranging from 0 to 2 (0 = no fixed term; 1 = fixed term < 5 years; 2 = fixed term $\geqslant 5$ years).

The second component of *De Jure Independence* concerns the stated independence of the agency. I generate a dummy variable equal to 1 if the language of the law establishing the competition agency stipulates agency "independence." The third indicator variable is coded equal to one if the competition agency represents a unique entity, meaning that it does not fall under the authority of another government agency (regardless of whether the overarching entity is itself independent). Finally, I code a dummy variable equal to one if the agency has been in existence for over ten years as of 2007. The four components are averaged to create *De Jure Independence*.[12] Countries without competition agencies receive scores of zero.

De Facto Commitment

The sub-index *De Facto Commitment* attempts to operationalize the government's actual commitment to agency effectiveness. The variable incorporates four main components: budget commitments, staffing commitments, expert assessments, and actual regulatory actions.

[12]To ensure that data limitations are not skewing the results, I only include in my sample countries for which data on at least two of the subcomponents of *De Jure Independence* are not available. As a result, approximately 11 countries with competition agencies drop out of the sample.

To capture the government's resource commitment to the competition agency, I gathered data on agency staffing and budgets over the period 2002-2007. Using these data, I ran a regression of the (logged) number of employees as a function of the (logged) population for each year for which data were available, and computed the average residuals for each country. The motivation for this approach is to capture the distinction between what a government actually allocates toward competition policy and the mean allocation based on the size of the country. Similarly, I ran regressions of the (logged) the agency budget as a function of (logged) GDP and computed the average residuals over the period.

The third component of the index captures expert opinions using data from the World Economic Forum's (WEF) Global Competitiveness Report. The report provides the average response among practitioners, business persons, and academics to a variety of questions regarding the economic and institutional environment for 125 countries. My index incorporates the country average for the following question regarding the effectiveness of antitrust policy: "Anti-monopoly policy in your country is: (1 = lax and not effective at promoting competition, 7 = effective and promotes competition)."

The fourth component of *De Facto Commitment* measures actual antitrust actions by the competition agency. I code a dummy variable equal to one if the agency has ever intervened over a proposed merger, regardless of the outcome of the legal action.

The variable *De Facto Commitment* is the average of the standardized values of: the average residuals of the staffing and budget regressions, the WEF score, and the dummy variable for antitrust regulatory action.[13] Countries without competition agencies are assigned the minimum value.

[13]To ensure that data limitations are not skewing the results, I only include in my sample countries for which data on at least two of the four subcomponents of *De Facto Commitment* are not available. As a result, approximately 19 countries with competition agencies are coded as missing.

2.6.A Political Competition and Agency Commitment

In this section, I estimate the correlates of my index of competition agency commitment. The index *Agency Commitment* represents the average of the standardized values of the *De Jure Independence* and *De Facto Commitment* subindexes. I am interested in estimating the following relationship:

$$Y_i = \beta_0 + \beta_1 \mathbf{X}_i + \beta_2 I_i + \varepsilon_i \tag{2.6}$$

where Y_i represents *Agency Commitment* in country i; I_i are the various democracy variables; and $\mathbf{X}_i$ is a vector of economic controls. All of the independent variables are averaged over the period of study (1975-2007). A one-boundary Tobit model is used due to the censoring at the minimum value of the dependent variable (i.e., countries without competition agencies).

Table 2.6 reports the results of models testing the relationship between democracy and competition agency commitment. Model 1 includes the Freedom House Political Rights score, and the results are consistent with the proposition that more democratic governments are more strongly committed to competition policy. I successively introduce various alternative indicators of political competition in columns 2-6; the results are consistently supportive of the hypothesis that democratic political competition is positively associated with competition policy effectiveness, and the results are substantively significant. Table 2.7 reports the marginal effects based on model 3, with the control variables **x** set at their mean values. Columns 7-12 replicate the estimations while including regional dummy variables. The correlation between democracy and competition policy commitment retains statistical significance to the inclusion of regional indicators.

Several of the control variables are also strongly significant. Consistent with the hazard models, the commitment to competition policy increases with country wealth and population. External factors also appear to correlate strongly with a commitment to competition policy effectiveness. In particular, *Aid per Capita* and *Trade* enter with

positive and significant coefficients. These results are consistent with the view that international actors are salient constituents in favor of a robust competition policy; while they do not support the view that trade openness substitutes for competition policy.

2.7 Conclusion

This paper introduced democracy into the debate over the determinants of regulation. I provided an overlooked extension to the classical positive theory of regulation, arguing that democracy will lead to regulatory policies that favor consumers. An empirical implication of the argument is that competition policy will improve with the level of democracy.

The empirical contribution offers one of the first direct tests of the political economy determinants of regulatory reform in developing countries. Using an original dataset covering 156 developing countries over the period 1975-2007, I tested the determinants of regulatory policy in two stages. First, I estimated duration models on the timing of competition policy reform. Second, since laws on the books do not necessarily reflect effective policy, I created of an original index of competition policy commitment. The results of both tests are strongly supportive of the argument linking democratic political competition to policies that promote economic competition.

The results shed new light on the politics of globalization and suggest avenues for future research. In particular, the theory and statistical evidence presented here are consistent with a nascent body of research that focuses on the influence of consumers in shaping economic policy (Baker, 2005; Trumbull, 2006). This work suggests that political economists can gain analytical traction by extending the standard paradigm in international political economy, which focuses almost exclusively on conflicts between supply-side coalitions that compete for influence according to factor- or industry-based cleavages. We will gain new insights into the origins of economic and regulatory policies

through the development of models that incorporate consumer interests and illustrate the ways in which political institutions determine the influence of these demand-side actors.

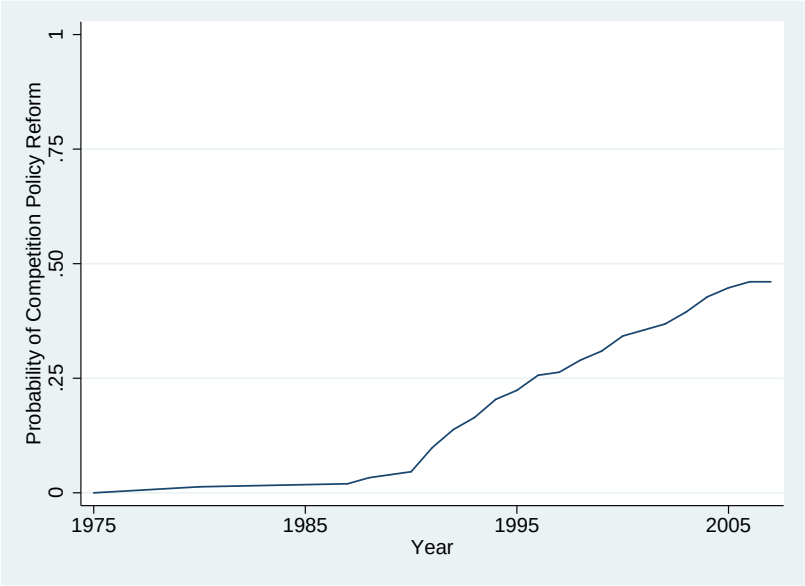

Figure 2.1: Kaplan Meier Estimates of Competition Policy Reform

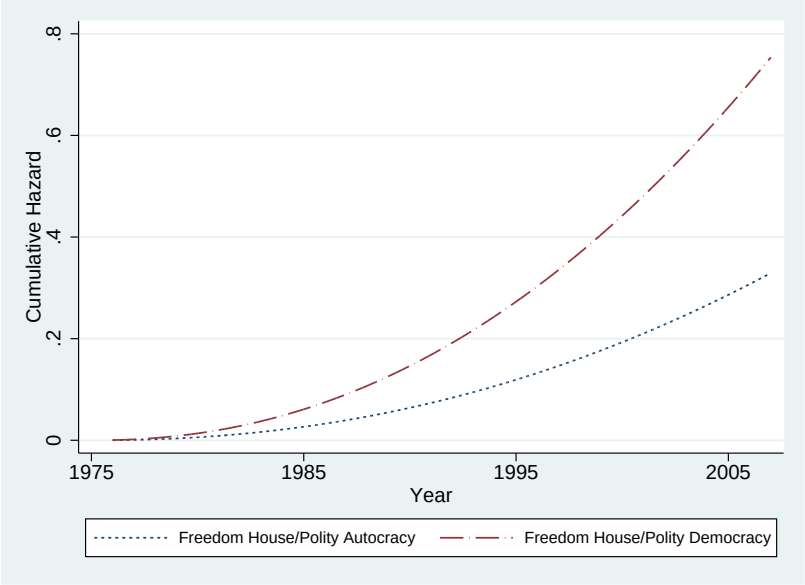

Figure 2.2: Effect of Democracy on Competition Policy Reform

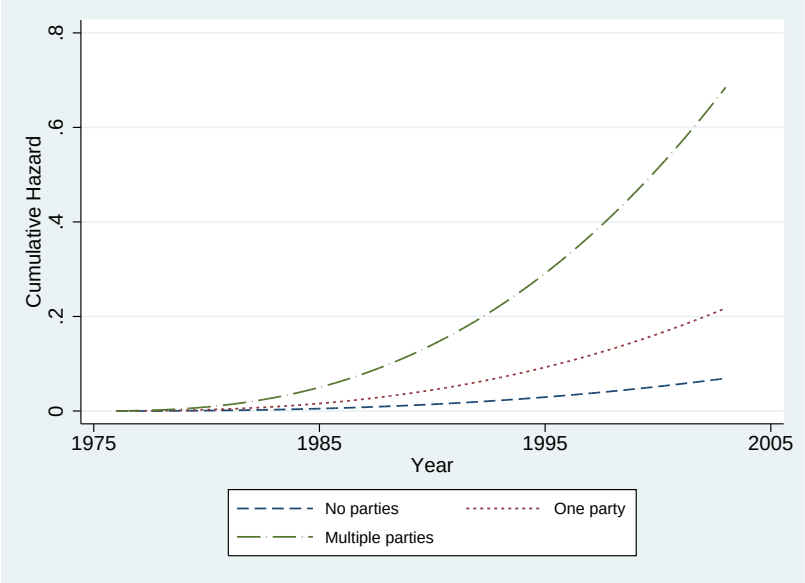

Figure 2.3: Effect of Party Competition on Competition Policy Reform

Table 2.1: Summary Statistics

variable	N	mean	sd	min	max
Agency Commitment	2535	-0.352	0.697	-0.712	2.150
De Jure Independence	2663	-0.315	0.813	-0.736	2.190
De Facto Commitment	2535	-0.341	0.722	-0.689	2.455
GDP per capita	2820	6.931	1.366	4.395	10.749
Population	2820	15.315	1.760	11.014	20.994
Aid per capita	2820	3.133	1.503	-6.103	7.645
Trade	2820	0.804	0.466	0.063	3.973
FH Political Rights	2622	3.540	1.978	1	7
Polity	2466	-1.398	6.849	-10	10
Political Competition	2370	4.373	3.388	1	10
Freedom House/Polity	2622	4.464	3.104	0	10
Parties in Legislature	2478	1.323	0.832	0	2
Political Constraints	2517	0.159	0.198	0	0.667

Table 2.2: Correlation Matrix

	Agency Commitment	De Jure Independence	De Facto Commitment	GDP per capita	Population	Aid per capita	Trade	FH Political Rights	Polity	Political Competition	Freedom House/Polity	Parties in Legislature	Political Constraints
Agency Commitment	1												
De Jure Independence	0.9293*	1											
De Facto Commitment	0.9294*	0.7275*	1										
GDP per capita	0.2481*	0.1797*	0.2622*	1									
Population	0.2998*	0.2139*	0.3450*	-0.3835*	1								
Aid per capita	-0.0986*	-0.0395	-0.1275*	-0.2011*	-0.4217*	1							
Trade	-0.0302	-0.0096	-0.0449	0.4370*	-0.5113*	0.1565*	1						
FH Political Rights	0.2816*	0.2545*	0.2570*	0.3719*	-0.2046*	0.1885*	0.1955*	1					
Polity	0.3408*	0.3268*	0.2978*	0.2281*	0.0054	0.1522*	0.1032*	0.8692*	1				
Political Competition	0.3318*	0.3320*	0.2831*	0.2390*	-0.0114	0.1759*	0.1213*	0.8488*	0.9428*	1			
Freedom House/Polity	0.2934*	0.2767*	0.2593*	0.3277*	-0.1836*	0.2038*	0.1979*	0.9576*	0.9723*	0.9315*	1		
Parties in Legislature	0.3491*	0.3220*	0.3177*	0.1068*	0.0838*	0.1515*	0.1019*	0.6147*	0.6234*	0.6568*	0.6395*	1	
Political Constraints	0.3460*	0.2984*	0.3267*	0.2522*	0.0595*	0.0810*	0.1020*	0.6891*	0.7506*	0.7455*	0.7286*	0.5544*	1

Note: The table presents pairwise correlation coefficients. * $p < 0.01$.

Table 2.3: Hazard Models of Competition Policy Reform (Weibull)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GDP per capita	0.487***	0.541***	0.493***	0.511***	0.523***	0.496***	0.769***
	(0.134)	(0.124)	(0.133)	(0.128)	(0.154)	(0.133)	(0.158)
Population	0.520***	0.369***	0.511***	0.370***	0.294***	0.435***	0.743***
	(0.103)	(0.112)	(0.101)	(0.112)	(0.112)	(0.108)	(0.130)
Aid per capita	0.252**	0.172	0.242**	0.155	0.061	0.236**	0.378***
	(0.110)	(0.109)	(0.111)	(0.109)	(0.129)	(0.117)	(0.118)
Trade	0.378	0.145	0.352	0.165	-0.096	0.277	0.419
	(0.311)	(0.331)	(0.316)	(0.356)	(0.331)	(0.311)	(0.431)
FH Political Rights	0.198***						0.182**
	(0.071)						(0.084)
Polity		0.059***					
		(0.020)					
Freedom House/Polity			0.130***				
			(0.046)				
Political Competition				0.124***			
				(0.042)			
Parties in Legislature					1.147***		
					(0.315)		
Political Constraints						1.063	
						(0.668)	
Regional dummies	No	No	No	No	No	No	Yes
Observations	2622	2466	2622	2370	2478	2517	2622
Countries	129	121	129	120	131	128	129
Countries reforming	62	61	62	61	54	60	62
Chi-squared	35.455	37.308	38.296	33.708	32.843	30.278	206.474
Evolutionary parameter α	2.229	2.242	2.155	2.214	2.542	2.461	2.183

Note: The table presents the results of the hazard models of the timing of competition policy reform. Variable definitions and sources are provided in the text. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 2.4: Hazard Models of Competition Policy Reform (Cox Proportional Hazards)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GDP per capita	0.494***	0.551***	0.504***	0.509***	0.504***	0.487***	0.803***
	(0.144)	(0.135)	(0.143)	(0.139)	(0.164)	(0.142)	(0.167)
Population	0.541***	0.383***	0.533***	0.378***	0.282***	0.424***	0.806***
	(0.109)	(0.113)	(0.107)	(0.113)	(0.110)	(0.109)	(0.139)
Aid per capita	0.245*	0.169	0.241*	0.143	0.023	0.199	0.428***
	(0.125)	(0.117)	(0.124)	(0.114)	(0.128)	(0.124)	(0.131)
Trade	0.440	0.196	0.406	0.211	-0.034	0.326	0.534
	(0.308)	(0.335)	(0.315)	(0.359)	(0.345)	(0.331)	(0.409)
FH Political Rights	0.212***						0.193**
	(0.071)						(0.085)
Polity		0.061***					
		(0.020)					
Freedom House/Polity			0.139***				
			(0.046)				
Political Competition				0.126***			
				(0.040)			
Parties in Legislature					1.166***		
					(0.315)		
Political Constraints						1.090*	
						(0.662)	
Regional dummies	No	No	No	No	No	No	Yes
Observations	2622	2466	2622	2370	2478	2517	2622
Countries	129	121	129	120	131	128	129
Countries reforming	62	61	62	61	54	60	62
Chi-squared	33.499	34.281	35.639	31.434	33.487	27.976	187.175

Note: The table presents the results of the hazard models of the timing of competition policy reform. Variable definitions and sources are provided in the text. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 2.5: Index of Competition Agency Commitment

De Jure Independence		
Component	Levels of Independence	Numerical Coding
Agency Head	1. Fixed term greater than or equal to 5 years	2
	2. Fixed term less than 5 years	1
	3. No fixed term	0
Stated Independence	1. Agency independence is formally stated in the law	1
	2. No mention of agency independence	0
Agency Organization	1. Agency is a unique entity	1
	2. Agency is part of another bureaucracy, department, or regulatory body	0
Agency Tenure	1. Agency is at least 10 years old as of 2007	1
	2. Agency is less than 10 years old as of 2007	0
De Facto Commitment		
Agency Budget	The variable represents the average residuals from regression models in which the logged value of the competition agency budget is regressed on log of GDP for years 2002-2007.	
Agency Staff	The variable represents the average residuals from regression models in which the logged value of the competition agency staff is regressed on log of country population for years 2002-2007.	
Expert Assessment	The World Economic Forum country score regarding the effectiveness of antitrust policy. The variable is the average response to the following: "Anti-monopoly policy in your country is: (1 = lax and not effective at promoting competition, 7 = effective and promotes competition)."	
Antitrust Activity	A dummy variable equal to one if the agency has ever intervened over a proposed merger, regardless of the outcome of the legal action.	

Note: The Competition Agency Commitment Index represents the mean of the standardized values of the two sub-indexes: De Jure Independence and De Facto Commitment. The sub-indexes De Jure Independence and De Facto Commitment are calculated as the average value of their respective components. The four components of De Facto Commitment are standardized before averaging.

Table 2.6: Determinants of Competition Policy Commitment (One-Boundary Tobit Estimates)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
GDP per capita	0.602***	0.644***	0.589***	0.622***	0.640***	0.582***	0.729***	0.752***	0.711***	0.722***	0.721***	0.714***
	(0.151)	(0.135)	(0.142)	(0.139)	(0.142)	(0.144)	(0.167)	(0.159)	(0.160)	(0.153)	(0.146)	(0.161)
Population	0.805***	0.745***	0.797***	0.768***	0.654***	0.672***	0.781***	0.766***	0.774***	0.782***	0.703***	0.710***
	(0.121)	(0.126)	(0.119)	(0.129)	(0.130)	(0.127)	(0.132)	(0.150)	(0.132)	(0.150)	(0.145)	(0.127)
Aid per capita	0.483***	0.482***	0.463***	0.449***	0.395**	0.420**	0.467***	0.496***	0.448***	0.482***	0.400**	0.443***
	(0.163)	(0.162)	(0.161)	(0.166)	(0.170)	(0.169)	(0.162)	(0.169)	(0.164)	(0.170)	(0.172)	(0.150)
Trade	0.523**	0.505**	0.549**	0.608***	0.282	0.515**	0.367	0.370	0.387	0.452*	0.276	0.363
	(0.219)	(0.226)	(0.217)	(0.231)	(0.221)	(0.224)	(0.258)	(0.263)	(0.257)	(0.270)	(0.273)	(0.266)
FH Political Rights	0.331***						0.145*					
	(0.091)						(0.082)					
Polity		0.103***						0.041*				
		(0.024)						(0.025)				
Freedom House/Polity			0.235***						0.108**			
			(0.055)						(0.054)			
Political Competition				0.229***						0.112**		
				(0.051)						(0.051)		
Parties in Legislature					1.398***						0.756***	
					(0.235)						(0.283)	
Political Constraints						3.759***						1.845**
						(0.800)						(0.752)
Regional dummies	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Countries	120	111	120	110	121	119	120	111	120	110	121	119
Pseudo R^2	0.211	0.219	0.223	0.220	0.263	0.223	0.320	0.328	0.322	0.333	0.335	0.327

Note: The table presents the results of tobit models. The dependent variable is the competition policy commitment index. Variable definitions and sources are provided in the text. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 2.7: Marginal Effects of Independent Variables (based on results from Table 6, Model 3)

variable	dy/dx	Std. Err.	z	P>z	95% C.I.		mean
GDP per capita	0.212	0.057	3.700	0.000	0.100	0.324	7.174
Population	0.287	0.045	6.410	0.000	0.199	0.375	15.515
Aid per capita	0.167	0.059	2.850	0.004	0.052	0.281	3.006
Trade	0.198	0.118	1.680	0.094	-0.034	0.429	0.829
Freedom House/Polity	0.085	0.022	3.910	0.000	0.042	0.127	4.934

Table 2.8: Summary Statistics by Country

Country	Law	Agency Commitment	De Jure Independence	De Facto Commitment	GDP per capita	Population	Aid per capita	Trade	FH Political Rights	Polity	Political Competition	Freedom House/Polity	Parties in Legislature	Political Constraints
Albania	1995	1.147	2.190	0.104	6.739	14.991	2.973	0.536	3.143	-0.143	4.571	4.190	1.714	0.094
Algeria	1995	0.621	1.020	0.222	7.515	16.882	2.032	0.547	2.053	-7.650	1.900	1.570	0.850	0.000
Angola	.	-0.712	-0.736	-0.689	6.563	16.350	3.127	1.124	1.619	-3.524	4.750	2.274	1.588	0.195
Argentina	1980	0.621	0.435	0.808	8.861	17.106	0.133	0.142	2.800	-6.000	2.200	2.583	0.400	0.000
Armenia	2000	0.866	1.605	0.126	6.213	14.997	3.358	0.898	3.889	3.222	7.000	5.759	2.000	0.239
Aruba	.	-0.712	-0.736	-0.689	9.832	11.253	5.637	2.358	.	.	.	.	.	.
Azerbaijan	1993	0.612	0.435	0.789	6.973	15.807	-0.788	1.138	3.000	-1.000	6.000	3.917	1.500	0.000
Bahamas	.	-0.712	-0.736	-0.689	9.593	12.454	2.327	1.148	6.654	.	.	9.126	2.000	.
Bahrain	.	-0.712	-0.736	-0.689	9.297	13.159	4.627	1.758	2.227	-9.174	1.304	1.409	0.000	0.000
Bangladesh	.	-0.712	-0.736	-0.689	5.610	18.557	2.389	0.251	4.129	0.188	4.406	5.078	1.429	0.183
Barbados	2002	1.511	1.020	2.002	8.962	12.443	2.846	1.158	7.000	.	.	9.946	2.000	0.244
Belarus	1992	.	0.044	.	7.239	16.137	2.909	0.703	4.000	7.000	7.000	6.750	2.000	0.000
Belize	.	-0.712	-0.736	-0.689	7.871	12.239	4.483	1.173	6.960	.	.	9.715	2.000	0.272
Benin	.	-0.712	-0.736	-0.689	5.746	15.398	3.474	0.469	3.467	-0.484	5.000	4.531	1.321	0.234
Bhutan	.	-0.712	-0.736	-0.689	6.289	13.187	4.447	0.773	1.880	-9.692	1.308	1.030	0.000	0.000
Bolivia	.	-0.712	-0.736	-0.689	6.888	15.723	3.959	0.508	5.355	5.469	6.938	7.234	1.571	0.351
Bosnia and Herzegovina	2000	0.512	1.020	0.004	6.765	15.046	5.445	1.082	2.667	0.000	.	3.251	2.000	0.000
Botswana	.	-0.712	-0.736	-0.689	7.676	14.104	4.078	1.021	6.129	7.938	9.000	8.524	2.000	0.197
Brunei	.	-0.712	-0.736	-0.689	9.953	12.436	0.912	1.074	1.565	.	.	2.226	0.000	0.000
Bulgaria	1991	1.465	2.190	0.741	7.450	15.981	0.446	0.698	5.000	8.000	7.000	7.417	2.000	0.274
Burkina Faso	1994	.	.	.	5.143	15.842	3.346	0.367	2.389	-4.684	1.944	2.843	0.421	0.000
Burundi	.	-0.712	-0.736	-0.689	4.870	15.504	3.293	0.346	1.645	-3.531	2.292	2.317	0.679	0.000
Cambodia	.	-0.712	-0.736	-0.689	5.676	16.344	3.489	0.995	2.214	1.071	6.929	3.929	2.000	0.325
Cameroon	1998	.	.	.	6.568	16.197	3.247	0.464	1.818	-6.913	2.304	1.682	1.261	0.000
Cape Verde	.	-0.712	-0.736	-0.689	6.941	12.905	5.617	0.723	5.905	.	.	7.851	1.706	0.215
Central African Republic	.	-0.712	-0.736	-0.689	5.605	14.926	3.564	0.459	2.516	-2.438	3.625	3.298	0.929	0.165
Chad	.	-0.712	-0.736	-0.689	5.217	15.660	3.234	0.539	1.645	-3.531	3.625	2.395	0.429	0.000
China	.	-0.712	-0.736	-0.689	6.247	20.865	0.048	0.388	1.333	-7.000	1.000	1.167	2.000	0.000
Colombia	1992	1.330	0.435	2.224	7.558	17.179	0.967	0.296	5.875	8.059	9.000	8.135	2.000	0.424
Comoros	.	-0.712	-0.736	-0.689	5.991	13.040	4.384	0.566	3.192	-0.185	4.846	4.529	1.304	0.096
Congo	.	-0.712	-0.736	-0.689	6.983	14.695	3.856	1.146	2.097	-4.656	2.323	2.586	0.964	0.101
Costa Rica	1994	0.259	0.435	0.083	8.012	14.777	3.687	0.669	7.000	10.000	10.000	9.977	2.000	0.397
Cote d'Ivoire	1991	.	.	.	6.737	16.047	2.942	0.716	2.133	-8.875	1.063	1.589	1.063	0.000
Croatia	1995	1.634	2.190	1.078	8.241	15.333	-1.471	1.028	4.000	-3.000	6.000	4.250	2.000	0.349
Cyprus	1989	1.560	2.190	0.929	8.629	13.349	4.100	1.077	6.000	10.000	10.000	8.846	2.000	0.239
Czech Republic	1991	1.878	2.190	1.566	8.582	16.154	0.278	0.878	.	8.000	7.000	.	2.000	.
Democratic Republic of the Congo	.	-0.712	-0.736	-0.689	5.078	17.466	2.344	0.442	.	-4.313	1.500	.	0.893	.
Djibouti	.	-0.712	-0.736	-0.689	6.759	13.435	4.915	0.977	2.941	-2.706	4.412	3.270	1.000	0.000
Dominican Republic	.	-0.712	-0.736	-0.689	7.646	15.799	2.494	0.658	5.833	5.774	7.613	7.789	2.000	0.364
Ecuador	.	-0.712	-0.736	-0.689	7.200	16.125	2.577	0.556	5.226	6.469	7.813	7.565	1.714	0.240
Egypt	2005	0.031	-0.151	0.213	6.981	17.837	3.511	0.538	2.621	-6.033	1.967	2.500	1.857	0.235
El Salvador	.	-0.712	-0.736	-0.689	7.549	15.482	3.609	0.601	5.097	4.375	7.741	6.745	1.607	0.312
Equatorial Guinea	.	-0.712	-0.736	-0.689	7.160	13.020	4.254	1.412	1.048	-5.762	1.619	1.218	1.412	0.004
Eritrea	.	-0.712	-0.736	-0.689	5.190	15.127	3.869	0.901	1.429	-6.429	2.000	1.845	0.000	0.000
Ethiopia	2003	-0.419	-0.736	-0.103	4.833	17.738	2.617	0.230	2.238	-3.045	3.222	2.817	1.136	0.083
Fiji	1998	0.100	0.435	-0.235	7.490	13.444	3.993	1.019	4.591	6.043	7.174	7.235	1.565	0.303
French Polynesia	.	-0.712	-0.736	-0.689	9.544	12.290	7.430	0.291	.	.	.	.	.	.
Gabon	.	-0.712	-0.736	-0.689	8.485	13.733	4.149	0.947	2.567	-6.484	2.000	2.442	1.464	0.000
Gambia	.	-0.712	-0.736	-0.689	5.808	13.721	4.023	1.063	4.194	2.281	6.406	5.761	1.786	0.140
Georgia	1996	.	1.020	.	6.392	15.469	1.700	1.028	3.200	4.200	6.400	5.300	1.600	0.300
Ghana	.	-0.712	-0.736	-0.689	5.460	16.526	3.244	0.538	3.548	-1.094	4.733	4.519	0.929	0.114
Grenada	.	-0.712	-0.736	-0.689	7.924	11.488	4.757	1.137	5.862	.	.	8.026	1.538	0.222
Guatemala	.	-0.712	-0.736	-0.689	7.363	16.013	2.820	0.461	4.258	2.125	6.548	5.605	1.786	0.327
Guinea	.	-0.712	-0.736	-0.689	5.851	15.726	3.492	0.545	1.654	-4.333	3.370	2.423	0.870	0.130

Table 2.9: Summary Statistics by Country (continued)

Country	Law	Agency Commitment	De Jure Independence	De Facto Commitment	GDP per capita	Population	Aid per capita	Trade	FH Political Rights	Polity	Political Competition	Freedom House/Polity	Parties in Legislature	Political Constraints
Guinea-Bissau	.	-0.712	-0.736	-0.689	5.099	13.859	4.280	0.557	2.935	-2.781	3.300	3.358	1.179	0.100
Guyana	.	-0.712	-0.736	-0.689	6.668	13.541	4.322	1.744	4.567	0.097	5.290	5.625	2.000	0.203
Haiti	.	-0.712	-0.736	-0.689	6.333	15.774	3.243	0.435	1.935	-3.667	3.778	2.534	1.250	0.103
Honduras	2005	.	1.605	.	6.994	15.368	3.933	0.818	4.828	4.667	7.964	6.917	1.571	0.263
Hong Kong	.	-0.712	-0.736	-0.689	9.799	15.564	0.561	2.382	.	.	.	.	.	.
Indonesia	2000	1.290	1.020	1.559	6.275	18.937	1.838	0.514	2.458	-6.400	2.280	2.260	2.000	0.027
Iran	.	-0.712	-0.736	-0.689	7.344	17.781	0.181	0.404	2.267	-3.900	3.037	2.497	0.385	0.079
Israel	1988	1.027	-0.151	2.205	9.465	15.182	5.557	1.030	6.000	9.000	9.000	8.847	2.000	0.490
Jamaica	1993	1.120	1.605	0.634	7.979	14.619	4.009	0.942	6.118	10.000	10.000	8.971	2.000	0.295
Jordan	2004	0.220	-0.736	1.176	7.478	14.981	5.187	1.196	3.074	-5.750	4.964	2.846	0.593	0.185
Kazakhstan	2001	.	0.044	.	7.034	16.563	1.595	0.886	2.111	-3.667	6.000	2.926	2.000	0.000
Kenya	1988	0.458	-0.151	1.068	6.024	16.644	2.942	0.600	2.667	-6.769	1.231	2.410	1.000	0.000
Kuwait	.	-0.712	-0.736	-0.689	9.776	14.355	0.398	0.978	3.083	-8.320	1.400	2.309	0.000	0.222
Kyrgyz Republic	1994	.	.	.	5.799	15.329	2.431	0.789	3.500	-3.000	3.000	4.667	1.000	0.000
Laos	2004	.	.	.	5.553	15.337	3.541	0.500	1.200	-7.000	1.000	1.104	1.000	0.004
Latvia	1997	1.211	1.020	1.403	7.829	14.760	2.641	1.039	5.500	8.000	9.000	8.250	2.000	0.387
Lebanon	.	-0.712	-0.736	-0.689	8.341	15.083	4.124	0.711	2.167	4.667	6.000	3.329	0.000	0.152
Lesotho	.	-0.712	-0.736	-0.689	5.834	14.274	3.910	1.423	3.645	-1.063	3.536	4.513	1.071	0.026
Liberia	.	-0.712	-0.736	-0.689	5.851	14.661	3.548	0.960	2.810	-2.773	3.368	3.484	0.944	0.000
Libya	.	-0.712	-0.736	-0.689	8.789	15.502	0.319	0.561	1.000	-7.000	1.000	0.750	0.000	0.000
Lithuania	1992	1.586	1.605	1.567	8.316	15.125	0.067	0.507	6.000	10.000	10.000	8.750	2.000	0.315
Macau	.	-0.712	-0.736	-0.689	9.467	12.845	0.027	1.843	.	.	.	.	.	.
Macedonia	1999	0.754	1.605	-0.097	7.384	14.493	3.341	0.860	4.333	6.000	9.000	7.056	2.000	0.474
Madagascar	.	-0.712	-0.736	-0.689	5.638	16.263	3.218	0.458	4.129	0.688	5.387	5.065	1.286	0.291
Malawi	1998	.	.	.	4.978	15.856	3.338	0.600	2.455	-6.348	2.435	2.004	1.174	0.055
Malaysia	.	-0.712	-0.736	-0.689	7.897	16.703	1.967	1.480	4.069	3.667	6.000	5.756	2.000	0.358
Mali	.	-0.712	-0.736	-0.689	5.459	15.879	3.755	0.539	3.452	-0.531	4.226	4.516	1.214	0.118
Malta	1994	0.038	0.435	-0.358	8.486	12.777	4.069	1.749	6.400	.	.	8.437	2.000	0.338
Mauritania	.	-0.712	-0.736	-0.689	6.075	14.502	4.647	1.030	1.677	-6.375	1.563	1.745	0.893	0.071
Mauritius	2003	0.315	0.435	0.195	7.844	13.891	3.540	1.192	6.455	9.913	9.913	9.314	2.000	0.387
Mexico	1992	1.741	1.605	1.878	8.476	18.089	0.302	0.276	4.375	-2.647	5.765	4.578	2.000	0.183
Moldova	2000	.	.	.	5.878	15.274	2.284	1.027	4.500	6.750	7.000	6.792	1.750	0.268
Mongolia	.	-0.712	-0.736	-0.689	6.159	14.594	2.983	1.116	4.280	3.346	6.192	6.023	1.591	0.117
Morocco	2001	.	-0.151	.	7.027	16.935	3.189	0.541	3.560	-7.615	2.115	2.650	1.846	0.174
Mozambique	.	-0.712	-0.736	-0.689	5.315	16.554	3.839	0.485	3.385	-0.852	4.963	4.135	1.391	0.138
Namibia	2003	.	.	.	7.596	14.234	3.539	1.100	5.857	6.000	9.000	7.660	2.000	0.337
Nepal	.	-0.712	-0.736	-0.689	5.198	16.781	2.626	0.399	4.226	-0.844	3.906	4.825	0.857	0.142
Nicaragua	2006	0.421	1.020	-0.177	6.747	15.223	4.171	0.645	3.900	2.097	5.586	5.514	1.929	0.271
Niger	.	-0.712	-0.736	-0.689	5.283	15.890	3.478	0.454	2.300	-1.935	3.533	3.378	0.857	0.117
Nigeria	.	-0.712	-0.736	-0.689	5.937	18.373	0.424	0.614	2.968	-1.313	3.267	3.987	0.643	0.108
Oman	.	-0.712	-0.736	-0.689	8.817	14.363	3.265	0.912	1.966	-9.367	1.133	1.083	0.000	0.000
Panama	1996	1.668	2.190	1.146	8.086	14.643	3.109	1.621	3.533	0.125	5.500	5.117	1.500	0.305
Papua New Guinea	2002	1.141	1.605	0.677	6.497	15.187	4.374	0.966	5.962	10.000	10.000	8.862	2.000	0.522
Paraguay	.	-0.712	-0.736	-0.689	7.205	15.240	2.725	0.717	3.774	0.063	4.813	4.987	2.000	0.231
Peru	1991	1.462	2.190	0.733	7.662	16.724	2.425	0.354	4.733	3.625	5.714	6.378	1.375	0.269
Philippines	.	-0.712	-0.736	-0.689	6.839	17.944	2.194	0.713	4.806	2.313	6.065	6.164	1.679	0.236
Qatar	.	-0.712	-0.736	-0.689	10.271	13.448	0.671	0.911	2.000	-10.000	1.000	0.917	0.000	0.000
Romania	1996	2.150	2.190	2.110	7.416	16.946	2.301	0.516	3.500	5.000	7.000	6.042	2.000	0.501
Russia	1991	1.363	0.435	2.291	7.864	18.815	0.538	0.361	3.000	0.000	2.000	4.583	1.000	0.000
Rwanda	.	-0.712	-0.736	-0.689	5.464	15.668	3.683	0.329	1.613	-6.031	1.438	1.793	1.036	0.013
Saint Lucia	.	-0.712	-0.736	-0.689	8.096	11.844	4.700	1.383	6.880	.	.	9.354	2.000	0.253
Saudi Arabia	2004	.	-0.151	.	9.273	16.468	0.036	0.744	1.464	-10.000	1.000	0.327	0.000	0.000
Senegal	1994	0.751	2.190	-0.689	6.180	15.661	4.033	0.645	4.000	-1.947	6.789	4.616	1.842	0.123
Seychelles	.	-0.712	-0.736	-0.689	8.612	11.185	5.436	1.437	3.567	.	.	4.597	1.333	0.000
Sierra Leone	.	-0.712	-0.736	-0.689	5.449	15.168	3.297	0.471	2.935	-3.500	2.444	3.347	1.071	0.054

Table 2.10: Summary Statistics by Country (continued)

Country	Law	Agency Commitment	De Jure Independence	De Facto Commitment	GDP per capita	Population	Aid per capita	Trade	FH Political Rights	Polity	Political Competition	Freedom House/Polity	Parties in Legislature	Political Constraints
Singapore	2004	0.846	0.435	1.258	10.030	15.237	-0.166	3.779	3.000	-2.000	2.000	3.944	2.000	0.032
Slovak Republic	1991	1.686	1.605	1.767	8.213	15.480	0.258	0.621	.	.	.	.	.	.
Slovenia	1999	0.470	0.435	0.505	9.018	14.501	3.004	1.072	7.000	10.000	10.000	9.583	2.000	0.564
South Africa	1998	1.960	1.605	2.316	7.996	17.483	2.200	0.446	6.000	8.800	9.000	8.617	2.000	0.399
South Korea	1980	1.445	0.435	2.455	8.016	17.410	1.679	0.613	3.400	-8.000	2.000	2.250	2.000	0.365
Sri Lanka	1987	.	0.825	.	6.090	16.523	3.077	0.694	5.545	6.083	6.583	7.417	2.000	0.231
Sudan	.	-0.712	-0.736	-0.689	5.727	17.117	2.926	0.254	1.774	-5.188	1.710	1.836	0.679	0.012
Suriname	.	-0.712	-0.736	-0.689	7.683	12.928	4.553	0.820	4.700	.	.	6.459	1.571	0.000
Swaziland	.	-0.712	-0.736	-0.689	6.972	13.621	3.699	1.575	2.161	-9.563	1.188	1.417	0.536	0.000
Syria	.	-0.712	-0.736	-0.689	6.979	16.344	3.294	0.581	1.548	-8.563	1.000	0.659	2.000	0.040
Tajikistan	2000	.	.	.	5.060	15.575	2.375	1.132	1.500	-4.625	3.125	1.760	2.000	0.188
Tanzania	2003	1.197	1.020	1.374	5.561	17.235	3.532	0.494	2.923	-2.615	3.154	3.641	1.615	0.273
Thailand	1999	0.058	-0.736	0.852	7.019	17.780	2.135	0.641	4.652	3.542	7.304	6.246	1.667	0.444
Togo	.	-0.712	-0.736	-0.689	5.606	15.178	3.242	0.894	1.806	-4.750	3.333	2.285	1.179	0.000
Trinidad and Tobago	1996	.	.	.	8.616	13.957	1.845	0.787	6.667	8.579	8.158	9.236	1.947	0.396
Tunisia	1991	.	1.605	.	7.204	15.732	3.545	0.775	2.400	-7.625	1.875	2.128	1.000	0.000
Turkmenistan	.	-0.712	-0.736	-0.689	6.614	15.312	1.860	1.377	1.000	-9.000	1.000	0.250	1.000	0.000
Uganda	.	-0.712	-0.736	-0.689	5.363	16.816	3.281	0.314	2.875	-3.600	2.542	3.354	0.286	0.128
Ukraine	1993	1.819	1.605	2.033	7.140	17.767	2.015	0.508	5.000	6.000	7.000	7.333	2.000	0.184
United Arab Emirates	.	-0.712	-0.736	-0.689	10.264	14.329	0.993	1.179	2.478	-8.000	1.000	1.913	0.000	0.000
Uruguay	.	-0.712	-0.736	-0.689	8.675	14.948	1.808	0.419	5.484	4.469	7.188	7.379	1.286	0.351
Venezuela	1992	0.884	1.020	0.748	8.565	16.647	0.061	0.479	6.923	9.000	10.000	9.205	2.000	0.422
Vietnam	2004	0.254	0.435	0.074	5.696	18.082	2.036	0.788	1.111	-7.000	1.000	0.889	1.000	0.054
Yemen	.	-0.712	-0.736	-0.689	6.180	16.591	2.941	0.785	2.714	-2.429	6.000	3.232	1.538	0.000
Yugoslavia	2005	1.106	1.605	0.607	7.168	15.834	4.456	0.558	3.875	1.875	6.125	5.521	2.000	0.165
Zambia	1994	0.545	0.435	0.655	6.080	15.694	3.833	0.747	3.278	-6.632	1.947	2.704	1.158	0.020
Zimbabwe	1996	0.722	0.435	1.009	6.412	15.979	2.664	0.489	3.100	-0.857	2.800	3.996	2.000	0.246

3

Organized Business, Affiliated Labor, and Competition Policy Reform in Developing Democracies

Abstract

This paper examines the effects of interest groups on governments' commitments to competition (antitrust) policy in developing democracies. I argue that competition policy enforcement reflects the relative political strength of two contending groups: a rent-preserving alliance of incumbent producers and affiliated labor opposes competition policies that erode its market dominance; a pro-competition coalition of consumers, unorganized workers, and entrepreneurs favors regulatory oversight. A simple model illustrates that policymakers' commitments to competition policy vary according to the distributive effects of reform. Where the anticompetitive interest group is concentrated and encompassing, commitments to antitrust regulatory reform are weakened. The empirical portion of the paper relies upon one of the first cross-national measures of anticompetitive interest groups. I test the relationship between anticompetitive interests and competition policy using an original dataset measuring competition agency design over the period 1975-2007. The results suggest that anticompetitive interest groups slow

down the process of reform and weaken governments' commitments to a robust regulatory regime.

3.1 Introduction

My explanation for variation in regulatory institutions among developing democracies builds upon a well-known political economy cleavage: increases in economic competition from a non-competitive status quo imply a redistribution of wealth from organized incumbent oligopolists ("producers") to diffuse consumers (Stigler, 1971; Peltzman, 1976; Rogowski and Kayser, 2002). Competition policy enforcement weakens the ability of incumbents to capture and maintain rents; this benefits consumers through favorable price and employment effects. The redistribution implies political conflict: incumbent interests will lobby to maintain and expand their rents, and consumers will support greater competition policy enforcement. This conflict will be particularly robust in democracies, where politicians are held electorally accountable for the policies that they support.

In this paper, I extend the model to include a more comprehensive set of interest groups, allowing for political alliances to emerge across factors of production. A pro-competition coalition is rooted in the interests of consumers, unorganized workers, and small business owners, who favor the effects of competition on lower prices, greater product choice, and lower unemployment. The competing group is a rent-preserving alliance anchored in the interests of incumbent producers and allied labor. This group seeks to maintain anticompetitive rents by opposing competition policy reform. The political cleavage that emerges is thus one of insiders versus outsiders. This prediction is distinct from most production-based approaches in the political economy literature, where cleavages are drawn along class (factors of production) or industry lines (Gourevitch, 1986; Rogowski, 1987, 1989; Frieden, 1991b; Hiscox, 2001).[1]

[1]For a recent exception see Baker (2003, 2005), who incorporates consumer interests into a model of trade policy preferences.

Variation in competition policy reflects the interests of the winner of the political conflict between these two groups. When the pro-competition coalition prevails, governments invest in effective antitrust oversight. When the rent-preserving alliance wins out, no such regulatory institutions emerge. Thus, competition policy reflects the political weight of the organized interest group (the rent preserving alliance) relative to the unorganized set of pro-competition forces.

My model holds political institutions constant, highlighting the demand-side determinants of competition policy. I explain that the political weight of the anticompetitive group depends on the congruence of interests between industry and labor. I contend that incumbent firms in highly concentrated industries are better able to organize and to lobby against effective competition policy, but that prevailing labor market institutions also matter because they affect the strength of the alliance between incumbent capital and labor. In particular, the political weight of the rent-preserving alliance increases when workers share in the anticompetitive rents. I argue that rigidities in labor markets enable organized workers to extract a portion of these rents, thereby strengthening the alliance with incumbent capital in opposition to a competition policy that promotes entry and competition.

The empirical contribution of the paper uses actual policy outputs as the dependent variable, providing one of the first direct tests of the politics of regulation.[2] Using an original dataset on competition policy in 88 developing democracies over the period 1975-2007, I test the theory in two stages. The first is to measure the effect of interest groups on the timing of laws delegating regulatory authority to competition agencies. I also create an original index that gauges the effectiveness of these regula-

[2]The use of policy contrasts with much of the existing research, which employs broad economic aggregates as the dependent variable. The important contribution by Rogowski and Kayser (2002), for instance, makes inferences about the effect of institutions on the relative strength of producers by measuring the correlation between electoral institutions and prices. But prices are far down the causal chain. Similarly, Rosenbluth and Schaap (2003) study the effects of political institutions on interest rate spreads; and Persson et al. (2003) and Kuniková and Rose-Ackerman (2005) use subjective corruption indices as the dependent variable. My work is closer in spirit to Djankov et al. (2002), Scartascini (2002), and Pagano and Volpin (2005), who also use policy outputs as the dependent variable.

tory bodies, and the second test measures its political covariates. The results retain their robustness to instrumental variables specifications.

3.2 Related Literature

The study of the role of interest groups in shaping policy outcomes has a long tradition in the literature. Early work recognized the importance of interest groups in the political process (Schattschneider, 1935), while modern classics probe the determinants lobbying activity (Olson, 1965; Stigler, 1971) and the influence of organized interests on policy and economic outcomes (Olson, 1982; Grossman and Helpman, 1994; Mitchell and Munger, 1991). At its core, this literature explains how the characteristics of the interest group affect its ability to organize in pursuit of preferred policies. In a paper closely related to this one, Ramirez and Eigen-Zucchi (2001) document the influence of interest groups in the passage of the Clayton antitrust law in the US.

The characteristic most often highlighted is the size of the interest group. Olson (1965) argues that smaller groups have distinct collective action advantages that often lead policies that favor them at the expense of larger, unorganized groups. The reason is that as the number of participants in the group increases, the per-unit benefits derived from the transfer decline, and the costs of organizing increase.

There are two related strands of literature studying the role of interest groups in the policymaking process. One analyzes how firm- and industry- characteristics explain the nature of corporate political activity (lobbying) (Hillman and Hitt, 1999; Ozer and Lee, 2009; Grier et al., 1994). The other related strand looks at the determinants of interest groups' political influence, or the efficacy of lobbying. The mechanism operates through the ways in which industry and market characteristics affect the demand for particular policies. For example, a prominent argument in the literature emphasizes how the intensity of demand for policy increases with the specificity of assets (Alt et al., 1999; Frieden, 1991a).

Empirical work studies the relationship between industry characteristics and the nature of corporate political activity, usually relying on data from the U.S. The characteristic most often linked to influence is the concentration of markets (Ozer and Lee, 2009), and several studies find that industry concentration increases lobbying efficacy (Esty and Caves, 1983; Kroszner and Strahan, 1999). With the exception of Demirgüç-Kunt et al. (2008), who link industry characteristics to banking sector regulation, almost no research studies the direct effects of interest groups on policy outcomes outside of the U.S. This paper aims to address this gap in the literature.

3.3 A Theory of Regulatory Policy in Democracies

In this section, I present a simple model illustrating the incentives of the individual politicians ("legislators") to produce competition policy. The equilibrium of the model is a "supply price" of policy favorable to the rent-preserving alliance; as the supply price increases, outcomes are less likely to benefit this interest group at the expense of the pro-competition coalition. That is, a higher supply price encourages commitment to effective competition agencies.

3.3.A Preferences

The economics of competition highlights the friction between two competing interests, who represent the core of the contending alliances in my theory: consumers, who favor competition and lower prices; and incumbent producers, who prefer less competition in order to maintain oligopolistic rents. Producer gains entail consumer losses, and vice versa.

Rent-free competition is represented by the familiar intersection of industry supply and demand curves, which determine market price and quantity.[3] The fundamental assumption of this model is free entry of new firms into the market. To see why

[3]The supply curve in a competitive industry is the horizontal aggregation of each firm's individual supply curve. Under perfect competition, individual supply curves represent the cost of producing one

this assumption is vital, consider the alternative case in which economic rents exist in the form of economic profits—price in excess of marginal cost. In such a case, new firms have the incentive to enter the market in order to compete for rents. If entry is free, new firms will enter up to the point where rents dissipate, driving down price equal to marginal cost.

Thus, restrictions on entry and competition have distinct distributional implications. Restricting entry of potential competitors transfers wealth from consumers to incumbent producers. Consider a firm that is able to charge a price that exceeds marginal cost (a monopoly price) without inducing new firms to enter the market. This firm has what is known as *market power*. Market power exists when barriers to potential competitors enable incumbent firms to restrict output. An important point of emphasis is that producers need not be monopolists in the strict sense in order to have market power: barriers to competition may bestow market power on more than one firm, enabling each to set price above marginal cost. Market power implies a transfer of wealth from consumers to producers in the form of a monopoly rent.

The distributional implications of market power result in a cleavage between incumbent firms and consumers (Stigler, 1971; Peltzman, 1976). On one hand, incumbents benefit from market power in the form of economic rents, and they therefore have an incentive to oppose antitrust oversight.[4] One the other hand, a reduction of market power—greater product market competition—favors consumers by lowering prices. Consumers will support delegation of antitrust authority to competition agencies.

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additional unit—the marginal cost of production. Thus, the supply curve can also be thought of as the industry's marginal cost curve.

[4]I assume that incumbent firms' opposition will exist in spite of the fact that antitrust agencies have not necessarily pursued policies that improve consumer welfare (Long et al., 1973; Siegried, 1975; Asch, 1975); one reason being that regulatory agencies may be captured by incumbent firms, who use them perversely to deter competition (Shughart, 1990; McChesney and Shughart, 1995). Other empirical work suggests that the agencies regulate according to partisan political interests of the chief executive. There is reason to believe, therefore, that the formal *independence* of regulatory bodies is a crucial factor in the extent to which they are opposed by incumbent interests. If the government can make a credible commitment to delegate independent regulatory authority to the competition agency, then entrenched businesses are more likely to oppose its existence. This is why a portion of my contribution is to create an index that incorporates a measure of agency independence.

Building upon the assumption that workers prefer lower unemployment and higher salaries, I argue that workers' attitudes toward competition policies are determined by the effects of these policies on employment and wages. My analysis demonstrates a cleavage between labor insiders and labor outsiders. Insiders are the group of workers that share in incumbent rents. These workers are organized in trade unions and afforded significant bargaining power as a result of rigid labor market institutions that make firing costly. Labor insiders are likely to join incumbent firm owners in a rent-preserving alliance in opposition to competition policy that promotes new firm entry. Outsiders, on the other hand, are made up of the much larger subset of labor that includes unemployed, non-union, or informal sector workers.[5]

Employment and wage considerations cause labor outsiders to favor competition policy that promotes new firm entry and erodes market power. The principle reason that most workers favor a robust competition policy is that product market competition increases employment growth (Blanchard and Giavazzi, 2003; Gersbach, 2000; Griffith et al., 2007; Commendatore and Kubin, 2008). The intuition proceeds as follows. Firms with market power restrict output in order to increase price, resulting in their monopoly rents. The reduction in output lowers the demand for labor, reducing employment (Blanchard and Giavazzi, 2003). Empirical research confirms that increased product market competition does indeed reduce unemployment (Bertrand and Kramarz, 2002; Kaplan et al., 2007).

3.3.B A Simple Model of Competition Policy Reform

I introduce a simplified version of a model developed by Bawn and Thies (2003) to illustrate the logic of my argument. The model produces a "supply price" of policy that benefits an organized interest group (in this case, the rent-preserving al-

[5]Note that unionized workers under more flexible labor market institutions may also be a part of the group of outsiders.

liance) at the expense of the broader population.[6] I assume that the absence of any antitrust agency benefits incumbent firms and affiliated labor, who are organized; a lack of oversight hurts the pro-competition coalition, the relatively unorganized group. The intuition behind the model is that as the supply price of maintaining the status quo (i.e., no effective regulatory oversight) increases, policymakers are more likely to commit to effective competition policy institutions.

The model illustrates several insights. First, holding constant the effects of political institutions on policymaker incentives, I show that countries will be slower to adopt meaningful competition policy reforms where the rent-preserving alliance is well organized and encompassing. That is, countries with concentrated industries and rigid labor market institutions will be reluctant to reform, since reform erodes the rents of a large and powerful group of economic insiders. The model illustrates that sensitivity of votes to economic competition is lower in countries where the interest group is strong. Second, the model predicts that competition policy reform is subject to the level of corruption: the probability of reform decreases with the sensitivity of votes to bribes.

Consider a legislator who maximizes the number of votes (V) that he receives in the election. The legislator votes for one policy measure while in office: the level of regulatory laxity (Θ), which represents a continuation of the status quo (i.e., no effective competition agency).

The legislator's vote share depends on two factors: bribes (B), and the level of competition (C) in the economy:

$$V = V(B(\Theta), C(\Theta)) \tag{3.1}$$

There are two sources of political support. The rent-preserving alliance is the smaller, organized interest group;[7] the pro-competition coalition is the larger, unorganized group. I assume that incumbent producers and allied workers in the rent-

[6]The model was originally developed by Denzau and Munger (1986). The extension by Bawn and Thies (2003) accounts for differences in electoral institutions; Scartascini (2002) uses a similar framework to explain the regulation of entry.

[7]The rent-preserving alliance is the "privileged" group according to Olsonian terminology.

preserving alliance are able to organize into a lobby, but that consumers, unemployed, and informal sector workers (the pro-competition coalition) are too large and dispersed to organize. As in Denzau and Munger (1986), the smaller group provides monetary bribes, and members of the larger group vote.[8]

I make the following set of assumptions. First, the degree of competition in the economy is a decreasing function of regulatory laxity.

Assumption 1 $C = C(\Theta)$*; with* $\frac{dC}{d\Theta} < 0$.

Bribes, on the other hand, increase with regulatory laxity.

Assumption 2 $B = B(\Theta)$*; with* $\frac{dB}{d\Theta} > 0$.

Next, I assume that votes increase with economic competition and bribes. Economic competition leads to votes through the following channels: lower prices, greater product choice, and lower unemployment (call this the "competition effect"). And bribes help a legislator increase vote share by providing resources that the candidate can use to attract the votes of rationally ignorant voters (a "resource effect").

Assumption 3 $\frac{\partial V}{\partial C} > 0$ *and* $\frac{\partial V}{\partial B} > 0$.

The legislator votes on the degree of regulatory laxity while in office. In particular, the legislator solves:

$$\max_{\Theta} V(B(\Theta), C(\Theta)) \tag{3.2}$$

The first order condition implies the following:

$$\frac{\partial V}{\partial B}\frac{dB}{d\Theta} + \frac{\partial V}{\partial C}\frac{dC}{d\Theta} = 0 \tag{3.3}$$

Rearranging terms, I derive the supply price of regulatory laxity, which represents the increase in bribes that a legislator will demand in exchange for a marginal increase in laxity:

[8]Note that this distinction is a modeling convenience. Allowing that the rent-preserving alliance votes (or the pro-competition coalition gives bribes) does not change the main result (see Denzau and Munger, 1986; Rogowski and Kayser, 2002).

$$\frac{dB}{d\Theta} = -\frac{\frac{\partial V}{\partial C}\frac{\partial C}{\partial \Theta}}{\frac{\partial V}{\partial B}} \tag{3.4}$$

The supply price in equation 3.4 illustrates the induced propensity of the legislator to serve the interest group, and from it we derive the comparative statics. In particular, $\frac{dB}{d\Theta}$ increases (i.e., competition policy becomes more favorable to the pro-competition coalition) as:

- votes become more responsive to the level of economic competition (i.e., as $\frac{\partial V}{\partial C}$ increases);
- economic competition becomes more responsive to regulatory laxity (i.e., as the absolute value of $\frac{\partial C}{\partial \Theta}$ increases);
- votes become less responsive to bribes (i.e., as $\frac{\partial V}{\partial B}$ decreases).

The political success of concentrated incumbent producers in maintaining regulatory laxity depends crucially on the strength of their alliance with labor. As discussed above, the preferences of organized labor for competition policy depend on the ability of workers to extract a portion of incumbent producer rents. I argue here that labor bargaining power in this regard derives from the rigidity of labor market institutions, which I take to be exogenously determined.[9] Where firing costs are high, workers can credibly threaten firm owners; and a credible threat of noncompliance enables workers to extract a portion of the oligopolistic rents.[10] When rents are shared between capital and labor, opposition to competition reform is particularly intense.

That is, the larger the proportion of workers that can be thought of as "insiders," the lower the sensitivity of votes to economic competition. Referring to equation

[9]Labor institutions tend to be very sticky over time, and empirical research suggests that these institutions can be explained by exogenous "legal origin," or the set of legal traditions carried over since colonization (Botero et al., 2004; Heckman and Pages, 2004; Nickell and Layard, 1999).

[10]Consistent with this view, empirical research by Padilla et al. (1996) and Nickell et al. (1994) finds a positive correlation between the market share of a firm and the wages that it pays its employees in countries with relatively inflexible labor market institutions.

3.4, in countries where labor rigidities are particularly strong, workers share in incumbent rents, and votes become less responsive to bribes (i.e., $\frac{\partial V}{\partial B}$ decreases). The result is a lower supply price of laxity, and weaker incentives for competition policy reform.

Hypothesis 1 *All else equal, effective competition policy reform is less likely in countries with rigid labor market institutions.*

I argue that industry structure also affects the propensity for competition policy reform. The reason is that industry structure affects the sensitivity of competition to the degree of regulatory laxity ($\frac{\partial C}{\partial \Theta}$). In particular, I argue that the supply price of regulatory laxity is lower for more highly concentrated industries for the following reasons.[11] Following standard Olsonian logic, a concentrated industry will have distinct advantages in lobbying for a continuation of the status quo compared to the diffuse pro-competition coalition. Concentrated industries are by definition dominated by a small number of firms, implying that the per-firm payoffs are relatively high. Two, highly concentrated industries often exhibit high "natural" entry barriers such as large initial capital outlays. This implies that "natural" levels of competition in these industries may be less responsive to regulation (i.e., $\frac{\partial C}{\partial \Theta}$ is small). For these reasons, I contend that $\frac{dB}{d\Theta}$ decreases with industry concentration.

Hypothesis 2 *All else equal, effective competition policy reform is less likely in countries with concentrated industries.*

[11] I take variation in industry concentration as an exogenous structural feature of the economy. This is not to say that concentration is not influenced by policy choices, as it would be difficult to argue that industrialization strategies that protected domestic industry, or privatization schemes that in many cases transferred state monopolies to private hands, did not contribute to industry structure. However, I downplay the specific role of competition policy for two reasons. One is that competition law in developing countries is a very recent phenomenon, and thus unlikely to have had a significant impact on industry structure. Second, the focus of modern competition policy is on the contestability of markets (freedom of entry), rather than market concentration. Indeed, experts argue against the use of Herfindahl and other concentration measures as triggers for regulatory action (Gal, 2003). Rather, modern competition policy focuses on preventing anticompetitive behavior, such as abuse of dominance, that reduces aggregate welfare.

Lastly, expression 3.4 suggests that reform will be less likely in countries where votes are less responsive to bribes (i.e., as $\frac{\partial V}{\partial B}$ decreases). If we equate the responsiveness of votes to bribes with the empirically nebulous concept of corruption, the empirical implication of this term suggests that the commitment to competition policy reform will be weaker in more corrupt countries.

Hypothesis 3 *All else equal, effective competition policy reform is less likely in countries with greater degrees of corruption.*

3.4 Research Design and Variables

This section presents the identification strategy and the main variables used to test the hypotheses developed in the previous section.

I constructed a new dataset on competition (antitrust) agency design and independence in 88 developing democracies. My dataset is unique in its coverage of competition laws passed during the period 1975-2007. The primary sources are the World Bank Competition Policy database[12], and various issues of the annual Handbook of Competition Enforcement Agencies (Campbell, 2006, 2007, 2008). Supplementary sources include individual country's competition agency websites.

The analysis proceeds in two stages. First, to measure the effects of political variables on the timing of competition reform, I record the year of passage of laws delegating authority to competition agencies. Since I am interested in measuring the ways in which political interest groups affect the speed with which governments delegate regulatory authority to a competition agency, I estimate a hazard model. Hazard models are used to estimate the hazard rate $\lambda(t)$, or the probability that a government in a particular country passes legislation delegating regulatory authority to a competition agency in year t, given that it had not done so in the previous year. A nice feature of hazard models is that they do not exclude countries that do not pass competition

[12]The database can be found at http://web.worldbank.org.

legislation by the end of the period. Countries are observed from the beginning of the sample period (the year 1975) up until when they pass legislation, or the end of the period of study (2007)—whichever comes first.

Second, since laws on the books do not necessarily reflect the government's commitment to a robust competition policy, I also create an original index measuring the government's commitment to competition agency effectiveness. The index has two independent components: one gauges *de jure* commitment to effective policy by coding several indicators of agency independence; the second measures *de facto* commitment by incorporating resource allocations, expert assessments, and actual regulatory decisions. I provide full details on the construction of the index in section 6. I model the correlates of competition policy effectiveness using a tobit model.

3.4.A Independent Variables

To explore the effects of industrial organization on policy, I rely on a unique cross-national measure of industry concentration. In particular, I use a Herfindahl index of employment concentration, measured for country j as:

$$H_j = \sum_{f=1}^{F_j} \left(\frac{E_{fj}}{\sum_{k=1}^{F_j} E_{kj}} \right)^2 \tag{3.5}$$

where E_{fj} represents the number of employees in firm f in country j. The total number of firms in the country is F_j. Thus, H_j would equal 1 if one firm employed every worker. The index approaches 0 as the number of firms approach infinity. Herfindahl data comes from Mitton (2008), who calculated these measures of industrial concentration using firm-level data from the Dun and Bradstreet Worldbase dataset, which contains employment data from over one million public and private firms in 2002.[13]

Since I am also interested in the impact of labor market rigidities on competition policy reform, the second variable of interest is an objective index measuring labor's

[13]Mitton (2008) also includes Herfindahl indices of sales concentration. I use employment concentration for two reasons. One, employment concentration is less likely to introduce endogeneity bias into the model than is sales concentration. Two, employment concentration coverage extends to a larger number of countries. The main results hold to sales Herfindahl.

ability to extract a portion of the anticompetitive rents. These data are from the World Bank's Doing Business Project to measure the flexibility of labor market institutions. In particular, I use the measure of firing costs, an objective indicator of the "notice requirements, severance payments and penalties due when terminating a redundant worker, expressed in weeks of salary." The data reflect firing costs in 2004.

To test the effect of the rent-preserving alliance of incumbent industry and affiliated labor on competition policy, I construct a theoretically grounded measure of the anticompetitive interest group. I combine industry concentration with labor rigidities into a unique composite measure of the political weight of the interest group. The variable *Rent Preserving Alliance* is the sum of the standardized values of the employment Herfindahl and firing costs.

I control for variables that may affect political dynamics as well as the state's institutional capacity. *GDP/capita* proxies for institutional development. *Population* measures the size of the domestic market. [14] Note that the inclusion of *GDP/capita* and *Population* helps assuage concerns about the endogeneity of industry concentration by capturing the economies of scale determinants of concentration. Indeed, Mitton (2008) shows that these two variables alone explain half of the variation in industry concentration across countries.

Table 3.1 reports overall summary statistics. Table 3.2 reports correlation coefficients.

3.5 Empirical Models of Regulatory Delegation

This section reports the results of models measuring the impact of interest groups on the timing of delegation to competition agencies in democracies. Assuming data availability, the sample period covers 1975-2007. I classify regime type using the Polity index. My classification of democracy-years are those in which the Polity 2

[14] The variables *GDP/capita* and *Population* are logged.

score is greater than or equal to 5.[15] Countries drop out of the model upon the year of delegation. The analysis includes up to 88 developing countries, of which up to 38 passed competition laws during the period of study.

Since the hazard rate is increasing over time, I chose a parameterization of $h_0(t)$ that allows it to grow. My preferred specification is the Weibull model, which parameterizes $h_0(t)$ as:

$$h_0(t) = \alpha t^{\alpha-1} \exp(\beta_0) \tag{3.6}$$

This implies that the proportional hazard model is specified as:

$$h_j(t|\mathbf{x}_j) = \alpha t^{\alpha-1} \exp(\beta_0 + \mathbf{x}_j \beta_x) \tag{3.7}$$

The model produces estimations of β_x, which have a standard interpretation: $\exp(\beta_i)$ is the hazard ratio for the ith coefficient, or the proportional increase in the hazard rate corresponding to a one-unit increase in the explanatory variable x_i.

The model allows for monotonic changes in the the underlying hazard over time; these changes are determined by the evolutionary parameter α. For example, when $\alpha = 1$, the hazard is constant; for values of $\alpha > 1$, the hazard is increasing; for $\alpha < 1$, the hazard is decreasing. The Weibull specification produces an estimate of the evolutionary parameter α. Thus, the Weibull model has the advantage of providing theoretically useful information about the effects of diffusion (or contagion) on a country's propensity to reform the competition regime through the evolutionary parameter α. Positive and significant values of α can be interpreted as evidence of external influence or policy diffusion. The evolutionary parameter thus provides an empirical substitute for time trends or variables that capture the percentage of countries in the region that have passed reforms in a given year.

I begin by looking at the individual components of the rent preserving alliance index. Table 3.3 reports the regression results of a set of Weibull proportional hazard models measuring the effect of interest groups on the passage of law establishing

[15] I also experiment with alternative classifications, including Polity 2 greater than or equal to 6, and the Gandhi-Przeworski regime type dummy variable. My results are robust to alternative classifications.

a competition agency. The results in columns 1 and 2 of Table 3.3 suggest that the effects of labor market rigidities and industry concentration are substantively similar: both appear to deter delegation, although only labor rigidity is statistically significant. The estimated coefficient corresponding to *Firing Costs* can be interpreted as follows: a one standard deviation (.82) increase in *Firing Costs* lowers the hazard rate for delegation by $exp(-.87 \times .82) = .49$ points (around 51%). This implies that reform is less likely where labor shares in incumbent rents.

The results reported in column 3 of Table 3.3 are consistent with my expectation that an alliance of concentrated incumbent firms and affiliated labor makes delegation to competition agencies less likely. The effect of the *Rent Preserving Alliance* is statistically significant, and the magnitude of the effect is larger than that of labor market rigidities alone. In particular, a one standard deviation increase in the *Rent Preserving Alliance* lowers the hazard rate by around $exp(-1.45 * .72) = .35$, or nearly 65%. These results conform with the proposition that competition policy reform is delayed in countries where labor allies with concentrated incumbent firms.

Along with the interest group results, these findings represent strong evidence of policy diffusion. Indeed, as reported in Table 3.3, the evolutionary parameter enters each model positive, with a value above 2, and in each case is statistically significant at the 99% level. This result suggests that the hazard function for passing competition policy reform increases during the sample period.

3.5.A Robustness

While it is reasonable to include time-invariant covariates in a hazard model, a preferable specification would introduce a proxy for interest groups that varies on a yearly basis. A time-variant interest group variable alleviates some of the concern about endogeneity bias, since the model approximates the probability of passage of competition reform, conditional on not passing reform in the previous year. Endogeneity (or simultaneity) bias in this case would imply that the strength of the interest group in

year *n* is affected by the lack of law in year *n* (but not in previous years), and so on for each year. So for endogeneity to bias the results, one would have to believe that the effects of passage of competition law on interest group strength are immediate (within the current year); I do not believe that is the case.

While no perfect time-varying proxy exists, I turn to an economic outcome variable that is highly correlated with the presence of anticompetitive interests. Figure 3.1 shows the relationship between value added in manufacturing as a percent of GDP (averaged over the period 1975-2006)[16] and *Rent-Preserving Alliance*. The p-value of estimated coefficient of the interest group variable regressed on manufacturing value added is -.3.73; the R^2 is .20. I include this time-varying proxy for interest groups in model 4, and the results are consistent with prior estimates.

Model 5 tests the hypothesis that corruption slows competition policy reform.[17] The coefficient is positive, but not statistically significant. The models reported in columns 6-10 introduce two additional control variables. I find no evidence that *Aid per capita* or *Trade* influence the timing of regulatory reform in democratic countries, but the main finding that interest groups slow reform retains significance to the inclusion of these additional control variables.

3.6 Determinants of Competition Policy Commitment

Since laws on the books do not necessarily reflect a government's commitment to effective competition policy, in this section I develop an original index of antitrust agency effectiveness, which I model as a function of the identical set of independent variables used to explain the decision to delegate. The motivation behind the construction of the index was to provide a transparent and easily replicable proxy for antitrust policy commitment that could be extended to as large a sample of developing countries

[16]Value added is defined as the net output of a sector after adding up all outputs and subtracting intermediate inputs. Data from the World Development Indicators.

[17]The corruption index comes from citetKaufmannKraayZoido2003.

as possible. The variable *Agency Commitment* measures features of the statute, as well as how the law is actually applied. Specifically, *Agency Commitment* represents the average of the standardized values of two sub-indexes: *De Jure Independence* captures institutional features relating to the legal independence of the regulatory body based on the law; *De Facto Commitment* measures resource allocations, expert assessments, and actual regulatory decisions. I detail the construction of each sub-index in turn. Table 3.4 provides a summary of the index components.

De Jure Independence

The construction of the sub-index of competition agency independence follows previous work on central bank independence (CBI) by Cukierman et al. (1992) and others. The sub-index *De Jure Independence* has four components. The first component concerns the relationship between the government and the head of the competition agency. In particular, I measure the rules governing the tenure of the agency head. Following the CBI literature, I assume that a fixed term in which the agency head cannot be removed to be indicative of greater political independence. I code a dummy variable equal to 1 if the term of the agency head is fixed. I also assume that independence increases with length of the term, and so I code an indicator variable equal to one if the term exceeds 5 years. I sum these dummy variables to create a measure of the independence of the agency head, ranging from 0 to 2 (0 = no fixed term; 1 = fixed term < 5 years; 2 = fixed term $\geqslant 5$ years).

The second component of *De Jure Independence* concerns the stated independence of the agency. I generate a dummy variable equal to 1 if the language of the law establishing the competition agency stipulates agency "independence." The third indicator variable is coded equal to one if the competition agency represents a unique entity, meaning that it does not fall under the authority of another government agency (regardless of whether the overarching entity is itself independent). Finally, I code a dummy variable equal to one if the agency has been in existence for over ten years.

The four components are averaged to create *De Jure Independence*. Countries without competition agencies receive scores of zero.

De Facto Commitment

The sub-index *De Facto Commitment* attempts to operationalize the government's actual commitment to agency effectiveness. The variable incorporates four main components: budget commitments, staffing commitments, expert assessments, and actual regulatory actions.

To capture the government's resource commitment to the competition agency, I gathered data on agency staffing and budgets over the period 2002-2007. Using these data, I ran a regression of the (logged) number of employees as a function of the (logged) population for each year for which data were available, and computed the average residuals for each country. The motivation for this approach is to capture the distinction between what a government actually allocates toward competition policy and the mean allocation based on the size of the country. Similarly, I ran regressions of the (logged) agency budget as a function of (logged) GDP and computed the average residuals over the period.

The third component of the index captures expert opinions using data from the World Economic Forum's (WEF) Global Competitiveness Report. The report provides the average response among practitioners, business persons, and academics to a variety of questions regarding the economic and institutional environment for 125 countries. My index incorporates the country average for the following question regarding the effectiveness of antitrust policy: "Anti-monopoly policy in your country is: (1 = lax and not effective at promoting competition, 7 = effective and promotes competition)."

The fourth component of *De Facto Commitment* measures actual antitrust actions by the competition agency. I code a dummy variable equal to one if the agency has ever intervened over a proposed merger, regardless of the outcome of the legal action.

The variable *De Facto Commitment* is the average of the standardized values of: the average residuals of the staffing and budget regressions, the WEF score, and the dummy variable for antitrust regulatory action.[18] Countries without competition agencies are assigned the minimum value.

3.6.A Interest Groups and Regulatory Commitment

This section reports the results of models measuring the relationship between interest groups and governments' commitments to effective competition policy. I estimate variations of the following model:

$$Y_i = \beta_0 + \beta_1 \mathbf{X}_i + \beta_2 RPA_i + \varepsilon_i \tag{3.8}$$

where Y_i represents *Agency Commitment* in country i; RPA_i is the interest group *Rent-Preserving Alliance*; and $\mathbf{X}_i$ is a vector of economic controls. The independent variables are averaged over the period of study (1975-2006). I define democracies as countries with Polity 2 scores greater than or equal to 5 at the end of the period. A one-boundary Tobit model is used due to the censoring at the minimum value of the dependent variable (i.e., countries without competition agencies). I also fit OLS models as a test of the robustness of the main results.

The results reported in Table 3.5 are consistent with Hypotheses 1 and 2. Column 1 introduces *Firing Costs* and *Herfindahl Index* simultaneously, and both variables enter with negative and significant coefficients. Models 2 and 3 respectively include (*Firing Costs*) and *Herfindahl Index*. The main interest group variables in each case enter with negative coefficients, significant at the 99% level of confidence. I combine the two variables into an index *Rent-Preserving Alliance*, and introduce this variable into the model in column 4. The estimated coefficient is negative and highly significant.

[18] To ensure that data limitations are not leading to spurious results, I only include countries for which data on at least two of the four subcomponents of *De Facto Commitment* and *De Jure Commitment* are available.

I test the proposition that corruption is associated with a weaker commitment to competition policy effectiveness in model 5 of Table 3.5. The variable enters strongly significant and with the expected negative coefficient.

I probe the robustness of these relationships, controlling for heterogeneity in country wealth and size in columns 6-7, and trade openness and aid in column 7. The interest group variable *Rent-Preserving Alliance* retains significance to the inclusion of the control variables. The test is particularly rigorous given Mitton's (2008) finding that economies of scale effects (represented by the variables GDP per capita and population size) explain half of the variation in industry concentration across countries. The index of corruption does not retain statistical significance to the inclusion of the additional controls.

3.6.B Robustness

I attempt to address concerns about the endogeneity of the interest group variable with a set of instrumental variable regressions. Let Z_i denote an instrument for *Rent-Preserving Alliance*. A valid instrument must meet two criteria. One, instrument relevance means that the instrument explains cross-national variation in interest groups; that is, $Cov(Z_i, RPA_i) \neq 0$. Two, instrument exogeneity requires that the instrument not explain *Agency Commitment* other than through its effect on interest groups; namely, $Cov(Z_i, \varepsilon_i) = 0$. Instrumental variables (IV) regressions address the potential endogeneity of the interest group by employing a two-stage estimation technique using exogenous sources of contemporaneous variation in interest group influence (instruments). The first-stage model regresses *Rent-Preserving Alliance* on the instrument; the second-stage regression tests the relationship between *Agency Commitment* and the exogenous component of the interest group variation—the first-stage estimated coefficient.

Bates (1981) argues that the salient political economy cleavage in developing countries emerges according to the divergent interests of the urban population and rural workers. Coupling these insights with the model developed in this paper, it is reasonable

to assert that the strength of the pro-competition coalition, anchored in the interests of consumers, increases where consumers are highly concentrated. This logic would imply that countries with large urban concentrations have a relatively strong pro-competition coalition, whereas the political weight of the rent-preserving alliance is enhanced in countries where greater portions of the population reside in rural settings. Under this logic, I argue that the rural share of the total population represents a potential instrument for the rent-preserving alliance. Indeed, the scatterplot in Figure 3.2 strongly supports the relevance of the instrument. I experiment with initial rural population (1975) and the period average rural population share (1975-2006) in instrumental variables tobit models, and report the results in columns 9 and 10. In both cases, *Rent-Preserving Alliance* retains a negative and highly significant coefficient.

The results reported in Table 3.6 probe the robustness of the tobit estimates to an OLS specification. In each case, the estimates remain consistent with those produced by the Tobit model. It is particularly interesting to note the results from the simple model reported in column 4, which suggest that the interest group explains nearly 29% of the variation in the government's commitment to competition policy effectiveness. The results of the IV models are also consistent with the instrumental variables tobit estimates, and Wooldridge (1995) tests of regressor endogeneity do not reject the null that the variable is exogenous.

As a further test of the robustness of the results reported here, I turn to an alternative measure of antitrust agency independence developed by Voight (2009) as the dependent variable.[19] I use the Voigt index measuring the de jure independence of the competition agency, a comprehensive measure that includes up to 13 objective features of the institutional design. Higher values indicate greater competition agency independence from the government. The results of this robustness test, reported in Table 3.7, are consistent with those using my index of competitive agency commitment: a

[19]I thank Stefan Voigt for graciously sharing his index with me.

strong Rent-Preserving Alliance weakens governments' commitments to the quality of the competition authority.

3.7 Conclusion

This paper examined the influence of interest groups on regulatory reform in developing democracies. I introduce an extension of the existing models of regulation that accounts for inter-class (cross-cutting) political cleavages. The results are supportive of the view that insiders resist reforms that threaten to diminish their existing rents. Consistent with my theory, the policy influence of incumbent producers appears to depend on their organizational capacity and the cooption of workers into the alliance. In particular, countries with strong anticompetitive interest groups are less likely to pass competition laws and to commit to the effectiveness of antitrust regulatory oversight.

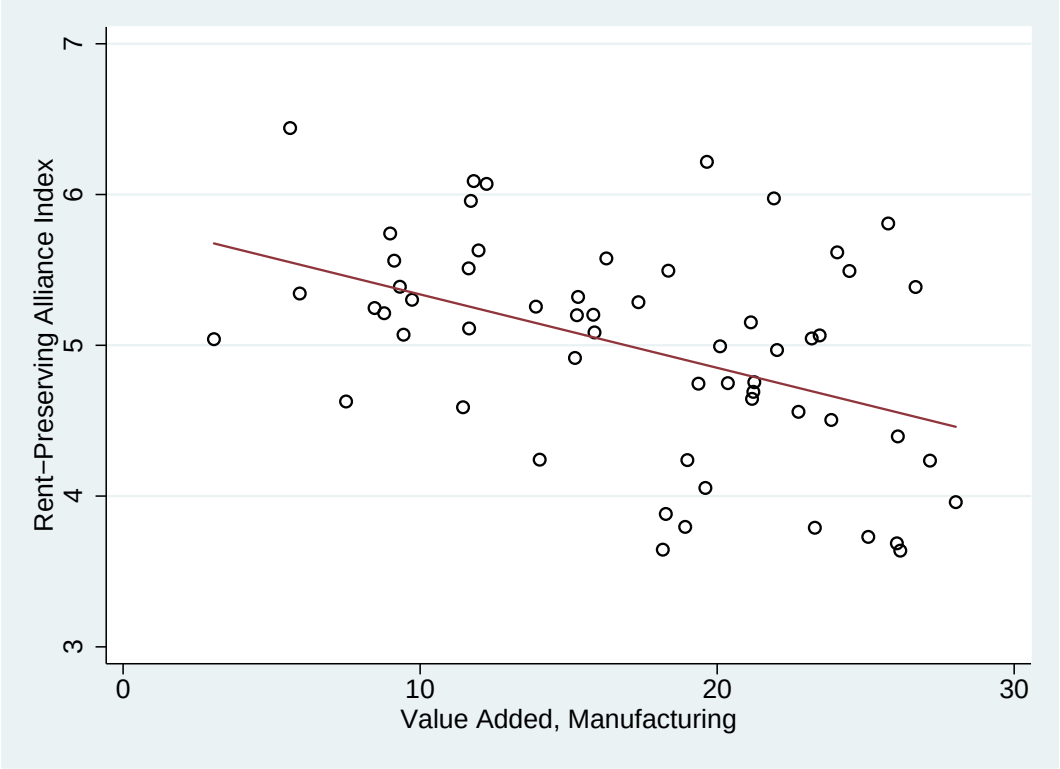

Figure 3.1: Anticompetitive Interests and Value-Added in Manufacturing

Figure 3.2: Rural Population Share an Instrument for Rent-Preserving Alliance

Table 3.1: Summary Statistics

variable	N	mean	sd	min	max
GDP per capita	1108	7.224	1.161	4.673	9.746
Population	1108	14.946	1.770	11.014	19.132
Aid per capita	1080	3.485	1.275	-2.159	6.217
Trade	1099	0.858	0.405	0.115	2.804
Manufacturing Value Added	955	14.874	7.816	2.580	45.280
Agency Commitment	69	0.401	1.029	-0.712	2.150
De Jure Independence	69	0.409	1.133	-0.736	2.190
De Facto Commitment	69	0.392	1.126	-0.689	2.692
Voigt Competition Policy	42	0.323	0.269	0.000	0.769
Firing Costs	67	5.194	0.815	3.215	6.682
Herfindahl Index	58	4.735	1.032	2.467	6.761
Rent-Preserving Alliance	56	4.947	0.722	3.638	6.441
Corruption	69	0.290	0.659	-1.362	1.471
Rural Population (%), 1975	67	59.021	21.116	13.400	96.800
Manufacturing Value Added	65	16.430	6.998	3.059	28.035

Note: The table presents summary statistics for the variables used in the study.

Table 3.2: Correlation Table

	Agency Commitment	De Jure Independence	De Facto Commitment	Voigt Competition Policy	GDP per capita	Population	Aid per capita	Trade	Firing Costs	Herfindahl Index	Rent-Preserving Alliance	Corruption	Rural Population (%), 1975	Manufacturing Value Added
Agency Commitment	1.0000													
De Jure Independence	0.9117*	1.0000												
De Facto Commitment	0.9105*	0.6601*	1.0000											
Voigt Competition Policy	0.8869*	0.7159*	0.8278*	1.0000										
GDP per capita	0.5494*	0.4175*	0.5722*	0.5806*	1.0000									
Population	0.2852	0.1301	0.3850*	0.0611	-0.0533	1.0000								
Aid per capita	-0.2655	-0.1294	-0.3368*	-0.1688	-0.2798	-0.6911*	1.0000							
Trade	0.0885	0.1254	0.0396	0.0453	0.2665	-0.5573*	0.3462*	1.0000						
Firing Costs	-0.3518*	-0.3457*	-0.2766	-0.2624	-0.1073	0.0312	-0.0737	-0.1980	1.0000					
Herfindahl Index	-0.4153*	-0.2086	-0.5232*	-0.4669*	-0.4703*	-0.3411*	0.3039	0.1246	0.1519	1.0000				
Rent-Preserving Alliance	-0.5378*	-0.3925*	-0.5601*	-0.5229*	-0.4416*	-0.2258	0.1771	-0.0114	0.6901*	0.8201*	1.0000			
Corruption	-0.3502*	-0.2192	-0.3983*	-0.4017*	-0.6432*	0.1623	0.0469	-0.3192*	0.0989	0.2931	0.2958	1.0000		
Rural Population (%), 1975	-0.5122*	-0.3855*	-0.5304*	-0.5740*	-0.7554*	-0.0950	0.3050*	-0.0806	0.2171	0.5000*	0.4870*	0.3856*	1.0000	
Manufacturing Value Added	0.5654*	0.4687*	0.5632*	0.5622*	0.6245*	0.2437	-0.3379*	0.1448	-0.2197	-0.4765*	-0.4440*	-0.4405*	-0.6610*	1.0000

Note: * $p < 0.01$.

Table 3.3: Hazard Models of Competition Policy Reform (Weibull)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GDP per capita	0.559***	0.407*	0.256	0.288	0.662***	0.664***	0.421	0.266	0.321	0.761***
	(0.214)	(0.242)	(0.225)	(0.222)	(0.212)	(0.247)	(0.284)	(0.251)	(0.225)	(0.240)
Population	0.510***	0.274**	0.264***	0.174	0.326***	0.616***	0.315*	0.346**	0.221	0.436***
	(0.102)	(0.131)	(0.096)	(0.127)	(0.104)	(0.167)	(0.188)	(0.161)	(0.152)	(0.135)
Firing Costs	-0.869***					-0.886***				
	(0.173)					(0.166)				
Herfindahl Index		-0.396					-0.433			
		(0.250)					(0.271)			
Rent-Preserving Alliance			-1.454***					-1.542***		
			(0.325)					(0.321)		
Manufacturing Value Added				0.080***					0.094***	
				(0.026)					(0.027)	
Corruption					0.220					0.278
					(0.351)					(0.364)
Aid per capita						0.136	0.056	0.062	0.116	0.161
						(0.216)	(0.200)	(0.200)	(0.167)	(0.151)
Trade						0.325	0.391	0.768	-0.194	0.188
						(0.538)	(0.567)	(0.523)	(0.594)	(0.486)
Observations	862	862	862	955	1108	840	840	840	930	1073
Countries	67	67	67	81	88	67	67	67	80	87
Countries reforming	29	29	29	31	38	29	29	29	30	37
Chi-squared	39.844	15.191	29.798	22.049	18.896	44.528	16.378	33.345	29.243	20.020
Evolutionary parameter α	2.635	2.603	3.026	2.804	2.390	2.526	2.536	2.886	2.759	2.270

Note: The table presents the results of hazard models of the timing of competition policy reform. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3.4: Index of Competition Agency Commitment

De Jure Independence		
Component	Levels of Independence	Numerical Coding
Agency Head	1. Fixed term greater than or equal to 5 years	2
	2. Fixed term less than 5 years	1
	3. No fixed term	0
Stated Independence	1. Agency independence is formally stated in the law	1
	2. No mention of agency independence	0
Agency Organization	1. Agency is a unique entity	1
	2. Agency is part of another bureaucracy, department, or regulatory body	0
Agency Tenure	1. Agency is at least 10 years old as of 2007	1
	2. Agency is less than 10 years old as of 2007	0
De Facto Commitment		
Agency Budget	The variable represents the average residuals from regression models in which the logged value of the competition agency budget is regressed on log of GDP for years 2002-2007.	
Agency Staff	The variable represents the average residuals from regression models in which the logged value of the competition agency staff is regressed on log of country population for years 2002-2007.	
Expert Assessment	The World Economic Forum country score regarding the effectiveness of antitrust policy. The variable is the average response to the following: "Anti-monopoly policy in your country is: (1 = lax and not effective at promoting competition, 7 = effective and promotes competition)."	
Antitrust Activity	A dummy variable equal to one if the agency has ever intervened over a proposed merger, regardless of the outcome of the legal action.	

Note: The Competition Agency Commitment Index represents the mean of the standardized values of the two sub-indexes: De Jure Independence and De Facto Commitment. The sub-indexes De Jure Independence and De Facto Commitment are calculated as the average value of their respective components. The four components of De Facto Commitment are standardized before averaging.

Table 3.5: Determinants of Competition Policy Commitment (One-Boundary Tobit Estimates)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Firing Costs	-0.560**	-0.705***								
	(0.215)	(0.220)								
Herfindahl Index	-0.509***		-0.602***							
	(0.157)		(0.161)							
Rent-Preserving Alliance				-1.059***		-0.648***		-0.537*	-1.687***	-1.440***
				(0.219)		(0.237)		(0.268)	(0.543)	(0.543)
Corruption					-0.897***		0.059			
					(0.267)		(0.315)			
GDP per capita						0.468***	0.818***	0.528***		
						(0.156)	(0.164)	(0.185)		
Population						0.222**	0.334***	0.493**		
						(0.096)	(0.089)	(0.217)		
Trade								0.878		
								(0.765)		
Aid per capita								0.220		
								(0.221)		
First Stage										
Rural Population (1975)									0.018***	
									(0.005)	
Rural Population										0.019***
										(0.005)
Countries	56	56	56	56	69	55	68	55	54	55
Pseudo R^2	0.097	0.049	0.061	0.097	0.043	0.151	0.170	0.171	-	-

Note: The table presents the results of Tobit models. The dependent variable is the competition policy commitment index. Variable sources and definitions are provided in the text. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3.6: Robustness: Determinants of Competition Policy Commitment (OLS Estimates)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Firing Costs	-0.385***	-0.478***								
	(0.139)	(0.136)								
Herfindahl Index	-0.380***		-0.440***							
	(0.097)		(0.096)							
Rent-Preserving Alliance				-0.765***		-0.498***		-0.445**	-1.164***	-1.026***
				(0.123)		(0.162)		(0.184)	(0.337)	(0.347)
Corruption					-0.547***		-0.002			
					(0.159)		(0.194)			
GDP per capita						0.290***	0.465***	0.306**		
						(0.099)	(0.087)	(0.118)		
Population						0.153**	0.208***	0.312**		
						(0.064)	(0.053)	(0.146)		
Trade								0.614		
								(0.526)		
Aid per capita								0.110		
								(0.152)		
Countries	56	56	56	56	69	55	68	55	54	55
R^2	0.289	0.147	0.197	0.289	0.123	0.396	0.393	0.430	0.219	0.271
First Stage										
Rural Population (1975)									0.018***	
									(0.005)	
Rural Population										0.019***
										(0.005)
R^2									0.245	0.245
F-Statistic									15.621	16.322
RMSE									0.642	0.639

Note: The table presents the results of OLS models. The dependent variable is the competition policy commitment index. Variable sources and definitions are provided in the text. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3.7: Robustness: Determinants of Competition Policy, Voight Index (One-Boundary Tobit Estimates)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rent-Preserving Alliance	-0.308***		-0.176*		-0.183*	-0.692***	-0.605***
	(0.092)		(0.095)		(0.096)	(0.232)	(0.215)
Corruption		-0.284***		-0.011			
		(0.092)		(0.119)			
GDP per capita			0.167***	0.214***	0.188***		
			(0.060)	(0.058)	(0.063)		
Population			0.013	0.038	0.004		
			(0.038)	(0.041)	(0.090)		
Trade					-0.205		
					(0.209)		
Aid per capita					0.037		
					(0.073)		
First Stage							
Rural Population (1975)						0.017***	
						(0.006)	
Rural Population							0.019***
							(0.007)
Countries	38	43	37	42	37	37	37
Pseudo R^2	0.213	0.130	0.367	0.333	0.389	-	-

Note: The table presents the results of Tobit models. The dependent variable is the Voight (2009) index of competition agency design. Variable definitions and sources are provided in the text. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

4

Oligopolists Rule: The Microeconomic Determinants of Lobbying and Political Influence

Abstract

This paper develops a multilevel model of firms' political activity and influence. Whereas most existing research examines how market structure determines the extent of collective political action, my approach highlights the firm-level determinants of political power. In particular, I argue that economic power translates directly into political power: large, well-organized oligopolists are more likely to lobby and to influence government policy in their favor, especially in countries where democratic political institutions create incentives for policymakers to respond to organized interest groups. Unlike much of the existing research on lobbying and corporate political activity, which makes inferences based on campaign contributions or more distant economic and policy outcomes, this paper directly tests lobbying activity and policy influence using firm-level survey data from over 20,000 firms operating in 41 countries. The results suggest that the political power of the firm increases with its size, market power, and participation in business as-

sociations. There is some evidence that the substantive impact of these microeconomic determinants of political influence depends on the level of democracy.

4.1 Introduction

Why do some firms engage in explicit political behavior such as lobbying while others do not? What factors account for firms' influence over policy outcomes? These questions form the foundation of modern political economy, and have important implications for outcomes as diverse as international trade and investment (Grossman and Helpman, 1994; Alt et al., 1996; Pinto and Pinto, 2008); taxation and social welfare policies (Haggard and Kaufman, 2008; Richter et al., 2009); the stability and growth of financial markets (Rajan and Zingales, 2003b,a; Haber and Perotti, 2008); and economic development (Henisz, 2000; Acemoglu and Robinson, 2008; Acemoglu, 2008). While a rich theoretical literature highlights how industry structure affects interest groups' political behavior,[1] this paper draws upon insights from the political economy and management literatures to examine an overlooked set of firm-level factors that directly determine lobbying and policy influence. I argue that political power emerges out of economic strength. Lobbying is a costly strategic behavior, and therefore firms will only engage in lobbying if the expected benefits outweigh the costs. I suggest that the potential benefits of favorable policy increase with the firm's degree of market power, and that firm size and membership in business associations lower the costs of political activity, increasing the incentives to lobby, and the ability to exert political "weight" on public policy outcomes.

My paper offers a two main methodological contributions over much of the existing research. First, I test the determinants of political activity and influence directly using a large firm-level survey covering over 21,000 firms in 41 countries. This method represents a significant improvement over more indirect approaches, which, in large

[1] Classics include Stigler (1971); Olson (1965); Peltzman (1976) and Frieden (1991b).

part due to the complexities of measuring firms' political activities, usually attempt to capture interest group influence by relating policy outcomes to the structural characteristics of these groups.[2] Second, I build a multilevel statistical model that accounts for the hierarchical structure of the dataset (Rabe-Hesketh and Skrondal, 2008). Firms are embedded in unique institutional environments that are determined by the political institutions of the country in which they operate. My model accounts for this environment while controlling for a host of firm-, sector-, and country-level factors in order better identify the determinants of lobbying and firms' perceived effect on policy outcomes.

The results from the analysis are strongly supportive of individual firm-based explanations of political power. In particular, I show that the lobbying activity and political influence of the firm increases with its size, market power, and participation in business associations. Consistent with a multilevel approach, I also find some evidence that the substantive impact of these microeconomic determinants of political influence depends on the institutional environment in which the firm operates, and in particular, on the level of democracy.

The paper proceeds as follows. Section 2 develops the theoretical framework leading to the main hypotheses. Section 3 describes the research design and variables. I present the results of models of lobbying activity and political influence in Section 4. Section 5 concludes.

4.2 Political Activity and Influence

While the determinants of interest group's political influence are foundational to inquiries in political economy, most of the research to date suffers from two main problems. First, the literature relies upon industry-level approaches, which focus almost exclusively on how particular industry characteristics affect the ability of interest groups to overcome the hurdles inherent in collective political action (Olson, 1965;

[2]For an example of the use of survey data to explore these questions, see Mayo et al. (2010).

Stigler, 1971). This rich theoretical literature provides insightful explanations of the role of the firm in policymaking processes, but it ignores how firm-specific factors shape the incentives for political engagement. A second shortcoming in the literature is the lack of rigorous empirical scrutiny. I attempt to address both of these concerns in this paper. This section offers a theoretical framework leading to several firm-level hypotheses regarding interest group behavior and political influence.

My model builds upon political economy approaches, which conceive of a political "market" for policy, in which policy outcomes are subject to supply and demand conditions (Bonardi et al., 2005; Hillman and Keim, 1995; Naoi and Krauss, 2009). On the demand side, firms and other social actors seek to persuade governments to pursue policies in their favor. In order to achieve their goals, these policy "demanders" may lobby the government using their available resources. Lobbying is the process of offering votes, campaign contributions, or bribes in exchange for favorable policies (Denzau and Munger, 1986; Grossman and Helpman, 1994). Policy "suppliers" are candidates, elected leaders, and de facto rulers who advocate and support a set of policies that maximize their probability of achieving or maintaining political power.

Corporate political strategies are defined as proactive actions taken by firms to influence the policy market in ways that increase the expected profits of the firm (Baysinger, 1984). In this way, I assume that firms' political (or "non-market") strategies, like firms' market strategies, represent the outcome of the firm's cost-benefit analysis (Baron, 1995). Simply put, a profit-maximizing firm will lobby government officials if the expected benefits of lobbying outweigh the costs (Mitchell et al., 1997; Mayo et al., 2010). Since profits are defined as revenues minus costs, profit maximization implies that an individual firm will engage in lobbying and other non-market strategies if the expected outcome of the activity is an increase in revenues or a reduction in costs (Hansen and Mitchell, 2000). The actual influence that a firm exudes over policymaking depends on the stake that the firm has in the policy outcome, as well as its ability persuade policymakers to adopt policies that favor the firm.

Political strategies can be directed toward increasing revenue and lowering costs through a number of channels, and the specific strategy that a firm pursues will often depend on the characteristics of the firm and those of the industry in which it operates. For instance, all firms may seek lower taxes or a reduction of costly labor regulations (Hansen and Mitchell, 2000), whereas the pursuit of other goals may be more idiosyncratic. For example, large oligopolists may lobby to maintain their market power, opposing reforms to competition policy or trade liberalization (Weymouth, 2010b), while small, financially-constrained firms may seek reforms that lead to the development of equity markets, which provide access to capital required for expansion (Rajan and Zingales, 2003b; Pinto and Pinto, 2008). Even in a competitive industry, firms may pursue cartel agreements, tariffs, or price supports to restrict competition and maintain the price of their products (Olson, 1965). If the industry is characterized by assets that are highly specific to the production of a certain good or service, firms may lobby to maintain the status quo, since policy change could necessitate a costly transfer of resources to alternative uses (Alt and Gilligan, 1994; Alt et al., 1999; Frieden, 1991a).

In addition, firms are embedded in unique institutional environments defined by the political system of the country in which they operate. Recent contributions highlight how these country-level political institutions affect the incentives of policymakers to respond to social groups, including corporations (Bonardi et al., 2005; Mayo et al., 2010; Hillman and Keim, 1995; Hillman and Hitt, 1999; Hillman and Wan, 2005; Weymouth, 2010a). Since the suppliers of policy are political leaders, we look to the ways in which political institutions alter their incentives for supporting various policies. We assume that political leaders seek to maintain power by appealing to the support of a selectorate, or the portion of the population that participates in choosing the political leadership (Bueno de Mesquita et al., 2003). Political institutions, such as democracy, affect the size of the selectorate, and so they alter the strategies by which leaders appeal for support. Weymouth (2010), for example, argues that democratization increases the proportion of the selectorate made up of consumers, thereby increasing their influence

over competition policy. Other work highlights the specific role of veto players institutions, which represent constraints on executive policymaking discretion (Tsebelis, 2002; North and Weingast, 1989; Henisz, 2000; Cox and McCubbins, 2001; Shugart and Haggard, 2000). The veto players argument suggests that veto players represents entry points into the policymaking process for a variety of social actors, such that the potential opportunities for influencing policy increase with the number of veto players in government (Mayo et al., 2010).

The setup thus far defines firms' political activity L as a function of the costs and benefits of lobbying policymakers $L = f(B,C)$. The benefits to firm i of engaging in a political strategy are:

$$B_i = B(F_i, I_i, C_i) \tag{4.1}$$

The costs are:

$$C_i = C(F_i, I_i, C_i) \tag{4.2}$$

where F, I, and C are firm-, industry-, and country-level factors.

The decision rule for any firm i is:

$$L_i = \begin{cases} yes & \text{if } y^* > 0; \\ no & \text{otherwise.} \end{cases} \tag{4.3}$$

where $y_i^* = B_i - C_i$ represents the benefits of lobbying minus the costs of lobbying. Firms are expected to engage in political strategies up to the point where the marginal costs of further activity equals the expected marginal benefit of influencing policies in their favor (Anderson, 1980).

I focus on three firm-level factors F_i that reduce the costs and raise the benefits of engaging in political activity. Simply put, these factors map economic characteristics of the firm into political influence. First, I argue the political "weight" of the firm increases with its market power. Market power exists when a firm can restrict output and raise prices without inducing competitors to offer similar products at lower prices. A firm with market power is able to charge a price that exceeds marginal cost (a monopoly price) without losing customers to competitors, resulting in monopoly rents.

Firms with market power earn monopoly rents through their ability to charge prices in excess of marginal costs, and these rents are selective by nature. That is, monopoly rents are exclusive to the small number of firms with market power. These rents represent powerful incentives for firms with market power to seek to maintain the political and regulatory status quo. Olson (1965) shows that small groups will engage in collective action, such as lobbying, if at least one member of the group obtains a personal gain in excess of the cost of collective action. The probability of collective action decreases with the size of the group since the individual benefits decrease with group size. If we conceive of monopoly rents as the particular collective good that accrues to firms with market power, firms will lobby for policies that allow them to maintain these collective goods as long as the value of the rent exceeds the cost of lobbying. The greater the market power of the particular firm, the more likely this becomes.

There are a number of policy channels through which oligopolists maintain their market power. For instance, firms with market power may seek to prevent antitrust regulatory oversight, since robust competition policy can erode existing anticompetitive rents (Weymouth, 2010b). Similarly, incumbent firms may push for expansive licensing requirements and other forms of entry regulations in order to restrict competition and maintain market power (Djankov et al., 2002). More indirectly, dominant incumbent firms may oppose financial sector regulatory reforms, since the development of sound and stable financial markets may enable otherwise financially-constrained entrepreneurs to enter the market (Rajan and Zingales, 2003b). Finally, firms with market power may gain substantial benefits by restricting foreign sources of competition, and will therefore pursue tariffs and other restrictions on international commerce and investment.

Since oligopolists can use their available resources to influence policymakers through various forms of monetary persuasion (Schuler, 1996; De Figueiredo and De Figueiredo, 2002), the direct link between market power and political power is clear: monopoly rents translate into political influence through campaign contributions, bribes,

or other non-market strategies. This explicit mechanism is agnostic to the ultimate objective of the firm in its use of lobbying resources. That is, the argument holds even if one takes the view that lobbying is not a means of exchanging money for policy but instead serves to subsidize like-minded legislators (Hall and Deardorff, 2006). A firm with market power can use the monopoly rents extracted from its favorable market position to contribute to, or subsidize, political leaders in the pursuit of policies that extend its ability to extract monopoly rents into the future. The observable outcome is that firms with market power will be more active and influential in the policymaking process.

Hypothesis 1 *The probability of lobbying and influencing government increases with a firm's market power.*

The second proposition builds upon the intuition that a firm is more likely to engage in political strategies to the extent that it is able to overcome free-rider problems that otherwise deter groups from engaging in collective political actions (Olson, 1965). Olson explains that the costs of lobbying depend on the number of actors that stand to gain from the lobbying effort. In a stylized setting in which groups compete for collective goods (such as a subsidy to a particular industry), smaller groups are "privileged" because the per-unit benefits of obtaining the good are higher and the costs of organization are lower compared with larger groups. Firms in industries with a smaller number of firms are "privileged" because the costs of organizing are lower and the per-firm benefits of a policy subsidy are higher.

This logic has lead to the hypothesis that firms in more concentrated industries are more likely to lobby the government (Schuler et al., 2002; Grier et al., 1994; Ozer and Lee, 2009; Mayo et al., 2010). Interestingly, the empirical support for the link between industry concentration and political activity is mixed (Ozer and Lee, 2009). One of the earliest cross-national tests of the link between industry concentration and political activity is Kennelly and Murrell (1991), who find no evidence that interest groups are more prevalent in concentrated industries using data from 10 countries. However, studying the U.S. case, Grier et al. (1994) show that contributions to political action

committees (PACs) are higher among more concentrated industries. Stigler (1974) observes that firms organize into industry associations—a form of collective action—quite often, but the propensity to organize into industry groups does not appear to be related to industry concentration.

With these arguments in mind, I present a straightforward proposition that focuses on the incentives for political behavior by the individual firm. In particular, I suggest that firms that have overcome the initial hurdle of collective action by organizing a business or trade association will be more politically active and influential for a few reasons. First, as members of a business association or chamber of commerce, firms will likely have greater information about the costs and benefits of a particular policy. Second, business associations may address the problem of free-riding by threatening sanctions for firms that do not engage in the political process in ways beneficial to other members of the group. Finally, through their representation of multiple firms, business associations provide a source of political support for vote-maximizing politicians. Membership within an influential business association may thereby increase the political influence of the individual firm. This logic leads to the proposition that firms that participate in business associations will be more active and influential in the policymaking process.

Hypothesis 2 *Firms participating in business associations are more likely to be politically active and influential.*

A third characteristic of firms that drives their political influence is their size (Boddewyn and Brewer, 1994; Schuler et al., 2002; Lenway and Rehbein, 1991; Salamon and Siegfried, 1977; Alt et al., 1999). One reason is that—to the extent that firms offer votes in exchange for favorable policy—larger firms offer greater payoffs to vote-maximizing politicians. Indeed, if the size of the firm is characterized by the number of employees, larger firms provide politicians with a greater pool of potential support, increasing the incentives of politicians to provide favorable policies (Alt et al., 1999; Hillman, 2003). To the extent that favorable policies increase jobs and politicians have

incentives to reduce unemployment, firms' expectation of lobbying success will increase with the size of the firm.(Alt et al., 1999)

Furthermore, Mayo et al. (2010) note that size may directly affect the costs of the lobbying effort, which, like other types of strategic investment, is subject to economies of scale considerations. These authors argue that smaller firms often do not have sufficient scale to cover a lobbying infrastructure that is characterized by fixed costs. Consider, for example, a firm that raises money for contributions to a PAC. Larger firms have a larger pool of employees from which to raise these funds, and are thus better able to pay the startup costs related to the formation of the PAC (Grier et al., 1994). For smaller firms, the costs of organizing to lobby may simply outweigh the benefits. For these reasons, large firms will be more likely to lobby and exert influence over policy.

Hypothesis 3 *The probability of lobbying and influencing government increases with a firm's size.*

Finally, I contend that the effects of firm size on political influence may be subject to the political system in which the firm operates. I focus on the distinct implications of democratic governance. Relative to autocracy, democracy represents an increase in the degree to which policymakers have incentives to appeal for the support of large groups (Bueno de Mesquita et al., 2003). To the extent that firms provide a cross-cutting coalition of individuals with similar policy preferences (Gourevitch, 1986; Gourevitch and Shinn, 2005), the political influence of large firms will be more pronounced in democracies. That is, if the interests of labor and capital align in support of the profit-maximizing objectives of the firm, then these organizations provide a mechanism by which to meld cross-class coalitions of political support (Weymouth, 2010b). The larger the firm, the more political weight this coalition will carry.

A related logic suggests that a firm's geographic dispersion will increase its political weight, and that the effect will be particularly pronounced in democracies. Consider a political system featuring a national legislature made up of representatives from districts representing the various regions of the country. A firm with operations

in multiple districts is likely to gain influence over policy outcomes to the extent that its interests coincide with those of a non-trivial portion of the voters in its district. The greater the number of districts in which this condition holds, the greater the national political influence of the firm. Democracy will increase the incentives of political parties to appeal to the interests of these geographically-dispersed firms.

Hypothesis 4 *The political influence of large firms will increase in democracies.*

4.3 Research Design and Variables

To test the hypotheses developed in the previous section, I rely on data from the World Bank's Enterprise Survey, a firm-level survey of a representative sample of a country's private sector. Face to face interviews of firm owners and managers are conducted by private contractors hired by the World Bank. The Enterprise Surveys are designed to cover a broad range of business environment topics including corruption, infrastructure, competition, and performance. Enterprise Surveys began in 2002, and I draw on the standardized iteration conducted over the period 2002-2005. The sample includes over 21,000 respondents in up to 41 countries.

4.3.A Dependent Variables

To measure the determinants of lobbying and perceived influence over policy, I use responses from a portion of the survey designed to probe the relationship between the firm and the government of the country in which it operates. Respondents were prompted to think about national laws and regulations enacted in the last two years that had a substantial impact on their business. The first question, which I call *Lobby* asks:

> *"Did your firm seek to lobby government or otherwise influence the content of laws or regulations affecting it?"*

Responses are binary and coded 0 = no, 1 = yes. The average value of *Lobby* is .15, indicating that 15% of firms in the sample lobbied the government. Figure 4.4 displays the average responses for each country in the sample.

The follow-up question measures the perceived influence of the firm on national laws and regulations. The variable *Political Influence* represents firm-level responses to the following question :

> *"How much influence do you think [your firm] actually had on recently enacted national laws and regulations that have a substantial impact on your business?" (0 = No impact, 1 = Minor influence, 2 = Moderate influence, 3 = Major influence, 4 = Decisive influence)*

Since I am interested in measuring the sources of political influence among firms that actually lobby, my variable *Lobby Influence* is restricted to the sample of firms who lobbied (i.e., those for which *Lobby* = 1). Most firms report minimal influence over policy outcomes: the average value of *Political Influence* is .98. Summary statistics for all variables used in the study appear in Table 4.1; Figure 4.5 displays the average value of *Political Influence* for each country in the sample.

Variance Components Model

The unique structure of the cross-national survey data has important implications for my research design. The units of observations are firms, but firms in the same country are clustered within a common institutional framework. As a result, the standard assumption of independent observations is likely violated due to correlation of the error terms among firms operating within the same country. It is possible to alleviate this source of bias and exploit the richness of the data by estimating a multilevel model (Rabe-Hesketh and Skrondal 2008). Multilevel (or hierarchical) models allow for dependence among the responses of units within the same cluster.

To get a sense of the structure of the data, I begin by estimating a variance components model. The purpose of the model is to estimate within-country correlations in survey responses. Following the discussion in Rabe-Hesketh and Skrondal (2008,

chapter 2), consider firm-level survey response y_{ij} for firm i operating in country j. This response can be modeled without covariates as:

$$y_{ij} = \beta + \phi_{ij} \tag{4.4}$$

where β is the population mean response, and the residual or error term is represented by ϕ_{ij}. This model assumes that the errors are independent over countries and firms, which is unlikely the case.

We can model the dependence among firms in the same country by splitting ϕ_{ij} into two components: ζ_j, the random effect (or random intercept) specific to each country j, which we assume has a population mean equal to zero and a variance ψ; and the term ε_{ij}, a firm-specific component, which also has a population mean equal to zero and a variance θ.

A simple two-level model of each firm's response is:

$$y_{ij} = \beta + \zeta_j + \varepsilon_{ij} \tag{4.5}$$

where the random intercept ζ_j is shared among firms operating within the same country, and ε_{ij} is unique to each firm i.

The total variance $Var(y_{ij})$ is the sum of the variance components:

$$Var(y_{ij}) = Var(\beta + \zeta_j + \varepsilon_{ij}) \tag{4.6}$$

Since $Var(\beta) = 0$ by assumption, the total variance $Var(y_{ij})$ is equal to $Var(\zeta_j + \varepsilon_{ij})$. We can then compute the proportion of the total variance represented by country-level variance as:

$$\rho = Var(\zeta_j)/Var(y_{ij}) = \psi/(\psi + \theta) \tag{4.7}$$

Since no covariates are present in this model, we refer to ρ as the unconditional intraclass correlation; ρ can be thought of as the fraction of the total variance that is explained by country-level factors. In this way, ρ provides a measure of the extent of between-country heterogeneity.

Table 4.2 reports the results of variance components models of both of the dependent variables, *Lobby* and *Political Influence*. The models suggest that country-level factors explain approximately 5.7% of the variance in the incidence of lobbying, and 7.1% of the heterogeneity in firms' political influence. These results confirm the importance of microeconomic explanations, while offering ample justification for multi-level model that is designed to capture the unobservable country-level determinants of firms' political behavior.

4.3.B Independent Variables

I introduce four main independent variables to test the three firm-specific hypotheses. To test Hypothesis 1, I include a proxy for the firm's market power. The variable *Market Power* represents the response to the following question from the Enterprise Survey:

> *"Now I would like to ask you a hypothetical question. If you were to raise your prices of your main product line or main line of services 10% above their current level in the domestic market (after allowing for any inflation) which of the following would best describe the result assuming that your competitors maintained their current prices?" (1. Our customers would stop buying from us; 2. Our customers would continue to buy from us, but at much lower quantities; 3. Our customers would continue to buy from us, but at slightly lower quantities; 4. Our customers would continue to buy from us in the same quantities as now).*

Figure 4.1 displays the unconditional mean values of *Lobby* and *Political Influence*, according to *Market Power*. These average values suggest that economic power increases political activity, and that firms with dominant positions in the market are more likely to influence government policy.

I test Hypothesis 2 by introducing a dummy variable *Business Association Member* that captures whether the firm is a member of a "business association or chamber of commerce." The results in Figure 4.2 are consistent with the hypothesis that membership substantially increases the incidence of lobbying, but it is less clear whether business association membership increases actual influence.

To measure the effect of firm size on political activity and influence (Hypothesis 3), I include two separate proxies for firm size. The first is a three-way indicator of the number of employees. The variable *Firm Size* takes a value of 1 if there are less than 20 employees; 2 if employees number between 20 and 99; and 3 if there are more than 99 employees. The graphs in Figure 4.3 show that larger firms are more likely to lobby and to influence policy outcomes. A second proxy for firm size, *Establishments in Country*, is a measure of the logged number of establishments that the firm has operating within the country.

A portion of the analysis will test whether the main firm-level effects depend on the political environment in which they operate. Figures 4.7-4.9 report the average values of *Political Influence* by regime type. Consistent with Hypothesis 4, Figure 4.9 suggests that larger firms are particularly influential in democracies.

Control Variables

All of my specifications include a series of covariates to account for initial heterogeneity among firms, sectors, and countries of operation. Beginning with the firm-level controls, one potentially important driver of firms' political activities and influence is the age of the enterprize. Hall and Deardorff (2006) argue that firms lobby to enforce a contract with politicians who are sympathetic to their wishes. Since the policymaker can renege on any agreement with a firm, repeated interaction with the firm improves monitoring and enforcement of the contract (Naoi and Krauss, 2009; Greif et al., 1994). Older firms have an advantage of repeated interactions, leading to lower monitoring costs. With these arguments in mind, all models include the natural log of the age of the firm.

Other research shows that firms' relationships with the government affects their stake in policy outcomes, which in turn affect lobbying behavior (Esty and Caves, 1983). Hall and Deardorff (2006) conceive of lobbying not as a form of exchange (money for policy) or persuasion, but instead as a legislative subsidy: interest groups

lobby to assist natural allies in achieving common policy objectives, rather than changing their minds. Their theory predicts that the confluence of interests between the firm and government would predict lobbying activity and influence. I account for this relationship with two variables. One is a measure the the share of the firm owned by the government. Another accounts for the share of total sales that are made to the government.

Another line of research examines how exposure to and reliance upon international markets drives political behavior, arguing that firms subject to trade regulations are more likely to lobby (Masters and Keim, 1985). Others show that firms operating in diverse international markets are more likely to seek favor (Sundaram and Black, 1992). I account for firms' exposure to international markets with three control variables: the share of foreign ownership, the percentage of output that a firm exports, and a dummy indicator equal to one if the firm has international operations.

An additional set of variables capture idiosyncratic sources of political activity and influence. Since the sector in which the firm operates may affect political behavior, I include a series of sectoral fixed effects in all of my specifications. Publicly-owned firms are subject to pressures from external shareholders, so I include a dummy indicator that equals one if the firm is publicly listed on an exchange. I also introduce a variable measuring the share of inputs from domestic sources to capture how domestic regulation may indirectly affect the firm through supplier channels. Finally, since physical proximity to policymakers may affect the costs of lobbying, I include a dummy variable to account for firms located in the capital city.

To test whether the institutional environment dominates the firm-specific effects, many of my specifications include proxies for political regime type. I use the Gandhi-Przeworski binary regime type classification *Autocracy* to distinguish between democracies and autocracies (Gandhi, 2008; Gandhi and Przeworski, 2007). The variable *Polity* accounts for the level of democracy. Two additional indicators of democracy are from the Freedom House dataset. The variable *FH Political Rights* captures freedom

of political participation, including the right to vote in contested elections; the variable *FH Civil Liberties* measures freedom of expression, associational rights, and the rule of law. Finally, I also introduce a proxy for the distinct yet empirically correlated concept of political checks and balances. The variable *Polcon 3*, developed by Henisz (2000) captures the number of veto players in the government. The index captures the number of checks on executive policymaking discretion, along with the extent to which the political preferences among these checks diverge. Figure 4.6 suggests that the political regime in which the firm operates has very little effect on lobbying behavior and reported levels of influence over policy.

In addition to the political variables, many of my models include a series of country-level economic control variables, each of which is also averaged over the period of the survey, 2002-2005.[3] To account for differences in institutional quality and recent economic performance, I include *GDP/capita* and *GDP/capita Growth*. I also include a proxy for the size of the country (*Population*) and a measure of exposure to international markets, as measured by the value of imports and exports as a share of GDP (*Trade*).[4]

4.4 Empirical Models of Lobbying and Influence

In this section, I report the results of various multilevel models of firms' political activity and influence. The models that I estimate represent an extension of the variance components models reported in the previous section by including observed firm-, sector-, and country-level explanatory variables. The models include country-level random intercepts to account for dependence among firms in the same country. In this section, I model the determinants of *Lobby* and *Political Influence* in turn.

[3]These variables come from the World Development Indicators (2009).
[4]The variables *GDP/capita* and *Population* are logged.

4.4.A Determinants of Lobbying

I begin by modeling the determinants of the variable *Lobby*. Recall that the theoretical model posits that lobbying activity occurs if the benefits of lobbying outweigh costs. I rely on a latent variable formulation of the statistical model. In particular, consider the observed decision to lobby y_i as taking a value of 1 (lobbying occurs) if the excess utility from lobbying as compared to not lobbying is positive.

$$y_{ij} = \begin{cases} 1 & \text{if } y^*_{ij} > 0; \\ 0 & \text{otherwise.} \end{cases} \tag{4.8}$$

where y^*_{ij} is the unobserved (latent) continuous variable representing the excess utility of lobbying as compared to not lobbying the government.

I estimate the following multilevel probit model:

$$y^*_{ij} = \beta_0 + \beta_1 \mathbf{T} + \beta_2 \mathbf{C} + \zeta_j + \varepsilon_{ij} \tag{4.9}$$

where **T** represents the four main treatment variables: *Market Power*, *Business Association*, *Size*, and *Establishments in Country*. The vector **C** represents the control variables, including the institutional indicators. The parameter ζ_j is the country-specific random intercept, which is independent across countries j. The random intercept can be interpreted as the combined effect of unobserved country-specific factors that make lobbying in some countries more likely than in others. The models are estimated using maximum likelihood with adaptive quadrature (Rabe-Hesketh and Skrondal, 2008, see)).

The results reported in Table 4.3 provide strong support for the firm-level hypotheses developed in this paper. The results in column 1 suggest that market power increases the propensity to lobby. The estimated coefficient indicates that, holding the values of all other variables at their means, market power (*Market Power* = 4) increases the probability of lobbying by 2.2% (from 13.3% to 15.5%). Column 2 substitutes the variable indicating whether the firm is a member of a business association or chamber of commerce. The estimate suggests that business association membership raises the

predicted probability of lobbying from to 7.3% to 22.9%. Columns 3-4 tests the hypothesis that the probability of lobbying increases with firm size, measured by the number of employees (column 3), and the number of establishments that the firm maintains in the country (column 4). The results indicate that firms with more than 100 employees are nearly three times as likely to lobby than are firms with less than 20 employees. Model 5 includes all of the main treatment variables in the same model, and each maintains significance at the 99% level of confidence.

Many of the control variables are also strongly associated with a firms' lobbying behavior. The results suggest that age, ties to the government, and international orientation are strongly positively correlated with lobbying. As expected, being located in the capital city also increases the likelihood of lobbying. Finally, services firms are more likely than the reference group (manufacturing) to engage in lobbying.

Columns 6 and 7 of Table 4.3 probe the robustness of the results to alternative specifications. Model 6 follows much of the literature using cross-national survey data (Broz et al., 2008, see, for example,) and estimates a probit model with standard errors adjusted for country-level clustering. Model 7 includes country fixed effects. In both cases, the results are broadly consistent with those using the preferable multilevel specification.

To test whether political regime type dominates the firm-level factors, models 1-5 of Table 4.4 successively introduce alternative proxies for democracy, averaged over the period 2002-2005. In general, the coefficients corresponding to democracy enter with negative signs, but not at standard levels of statistical significance. Models 6-7 of Table 4.4 probe the conditional effects of regime type by dividing the sample according to the Gandhi-Przeworski regime type classification. The results indicate that *Market Power* significantly increases the propensity to lobby in democracies, but not in autocracies.

4.4.B Determinants of Firms' Political Influence

This section reports the results of multilevel models of the determinants of *Political Influence*. The model includes an identical set of covariates as those used in the previous section; the only difference is that I estimate the model using ordered probit due to the ordinal nature of the responses to *Political Influence*.[5] The sample includes that set of firms that lobby the government.[6]

Table 4.5 displays models testing the three hypotheses developed here. The results reported in column 1 are strongly supportive of the argument that economic power translates into political power. In particular, the variable *Market Power* enters positive and strongly significant, indicating that firms with market power are more likely to influence national laws and regulations. Similarly, firms acting within business associations (column 3), and larger firms (columns 4-5) are more likely to report influence over policy. Model 5 includes the four main variables in the same equation, and the results retain their robustness.

I run a series of tests to examine whether political institutions are related to private sector influence over policy and report the results in Table 4.6. The main firm-level treatment variables retain significance to the inclusion of regime type. That is, holding constant the level of democracy, large, well-organized oligopolists are more likely to influence policy than smaller, unorganized firms operating in competitive markets. Furthermore, most of the institutional variables enter the model with positive and statistically significant coefficients, indicating that firms report greater influence over policy in democracies. The results in column 4 are particularly intuitive, as the Freedom House Civil Liberties index captures in part the freedom of interest groups to organize. The results in column 5 indicate that firms are more influential in countries with greater numbers of checks and balances. This result conforms with the view that veto players

[5]Responses to *Political Influence* range along a four-point scale: *"How much influence do you think [your firm] actually had on recently enacted national laws and regulations that have a substantial impact on your business?" (0 = No impact, 1 = Minor influence, 2 = Moderate influence, 3 = Major influence, 4 = Decisive influence).*

[6]The results are consistent when the sample is expanded to include all firms answering the question.

provide entry points into a governments decisionmaking process for a range of social actors, including business firms (Henisz, 2000; Mayo et al., 2010).

Models 6-7 of Table 4.6 provide some preliminary evidence that the electoral incentives of policymakers in democracies affect the political influence of firms. In particular, the two proxies for firm size enter strongly significant in the democracy subsample (column 7), but not when the sample is restricted to autocracies (column 6). That is, firms' influence over policy increases with size, but only in countries with contested elections. This result is consistent with Hypothesis 4.

In sum, the results reported in this section are strongly supportive of the hypotheses linking economic power to political activity and influence. Controlling for a host of other firm-, sector-, and country-level factors, the results suggest that larger firms, well-organized firms, and firms with a significant degree of market power are more likely to lobby the government, and to influence policy decisions in their favor.

4.5 Conclusion

This paper has addressed a central set of questions in political economy by directly examining the role of the firm in the policymaking process. I have argued that political activity and influence derives from economic strength. Large, well-organized firms with market power have a large stake in policy outcomes, and will therefore exert considerable investment into lobbying for preferred outcomes.

To test these hypotheses, I have built a multilevel model to account for firm-, sector-, and country-level sources of lobbying and policy influence. Using a unique dataset based on survey responses from over 21,000 firms operating in diverse institutional environments across 41 countries, the results show that the vast majority of the variance in political power can be explained at the sub-national level. Consistent with my arguments, I find that lobbying activity and influence increase with market power,

firm size, and firms' participation in business associations. I also show that the political weight of large firms is particularly strong in democracies.

Although subnational, microeconomic factors appear most influential in explaining interest group behavior, future research should further probe the conditionality of the theory to the particular institutional setting in which the firm operates. Two findings in particular suggest avenues for future research. One is that firms report more frequent lobbying and greater policy influence in poorer, less-populated countries. This result suggests that firms's political strategies may be conditional on the level of economic development, whereas an alternative approach may argue that the direction of causality runs from lobbying to development. Dealing with the potential endogeneity of economic development could be quite fruitful. Second, while lobbying activity is not necessarily more likely, firms report greater influence in more democratic countries, especially when democracy is defined by the development of civil society and the number of institutional checks and balances. What are the explicit mechanisms driving this result? In what ways do civil society and veto players empower business interests? Further exploration of these questions would represent a timely contribution to the current debates on regulation.

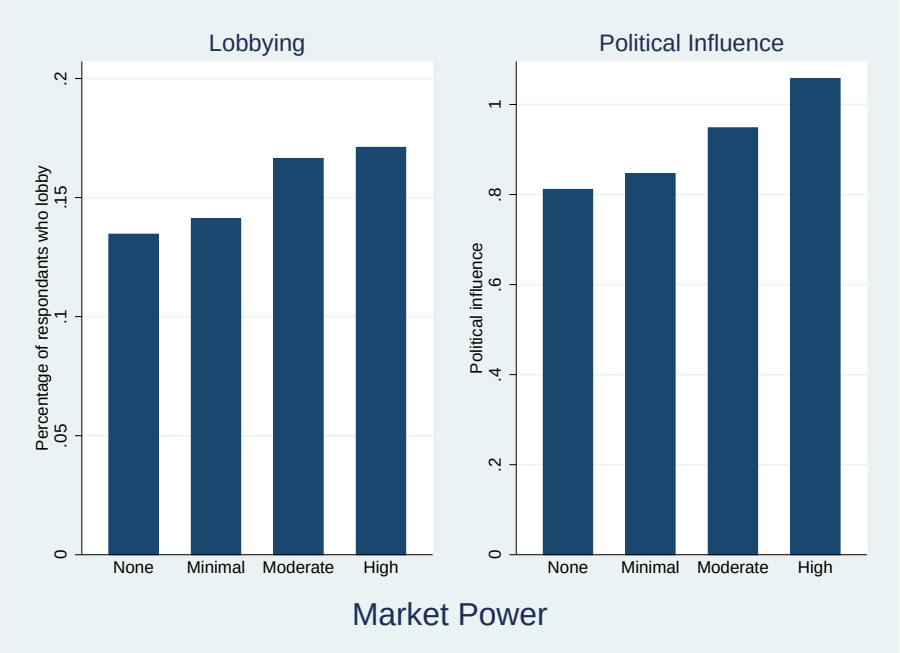

Figure 4.1: Firm-level Determinants of Lobbying and Political Influence: Market Power

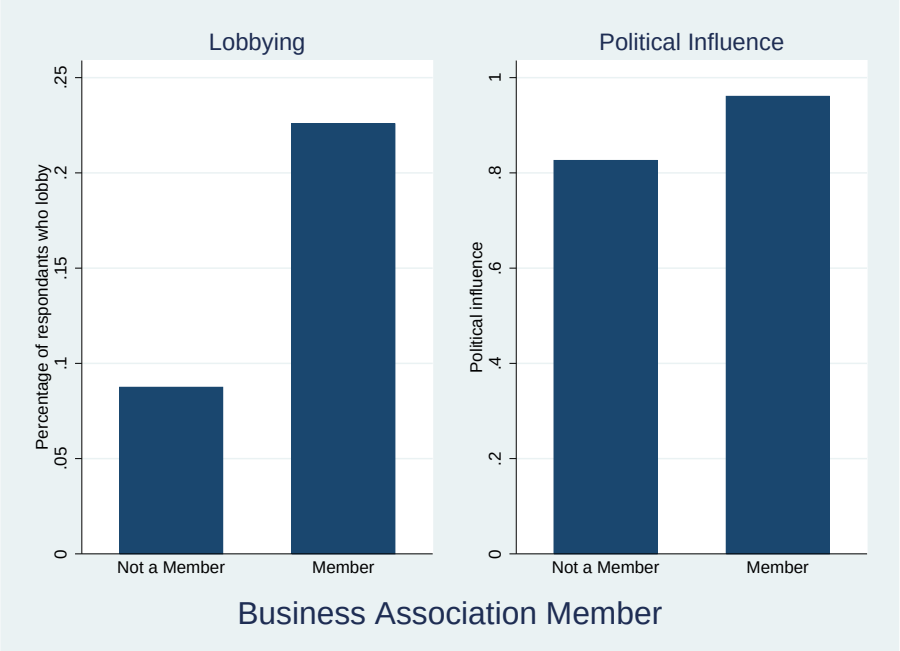

Figure 4.2: Firm-level Determinants of Lobbying and Political Influence: Business Association Membership

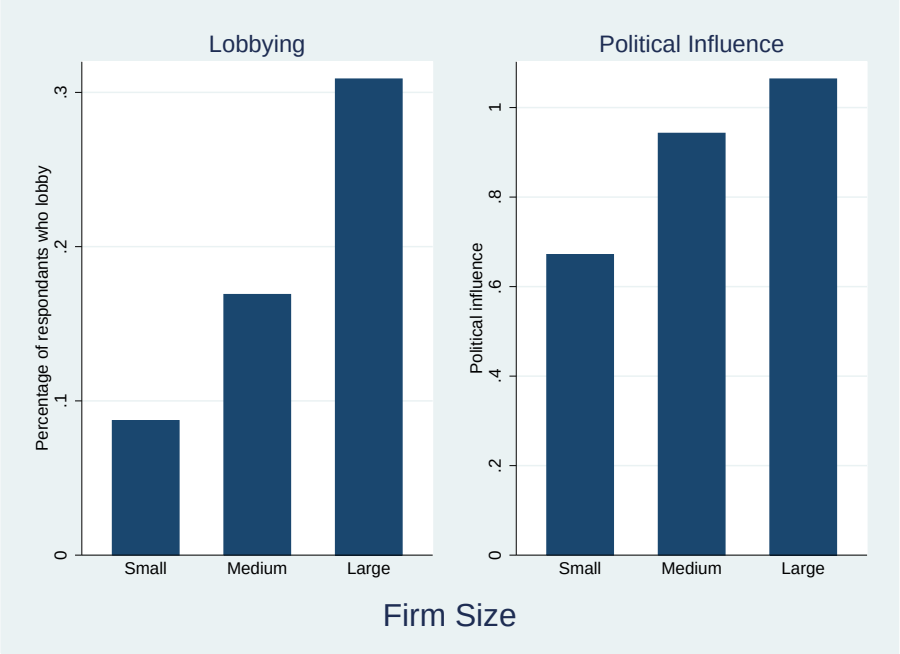

Figure 4.3: Firm-level Determinants of Lobbying and Political Influence: Firm Size

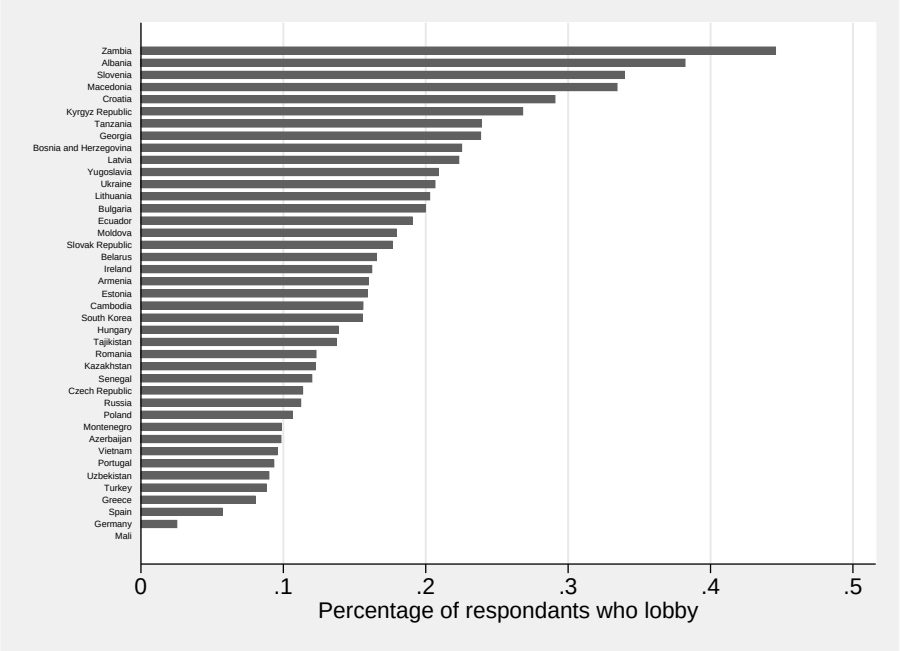

Figure 4.4: Lobbying by Country

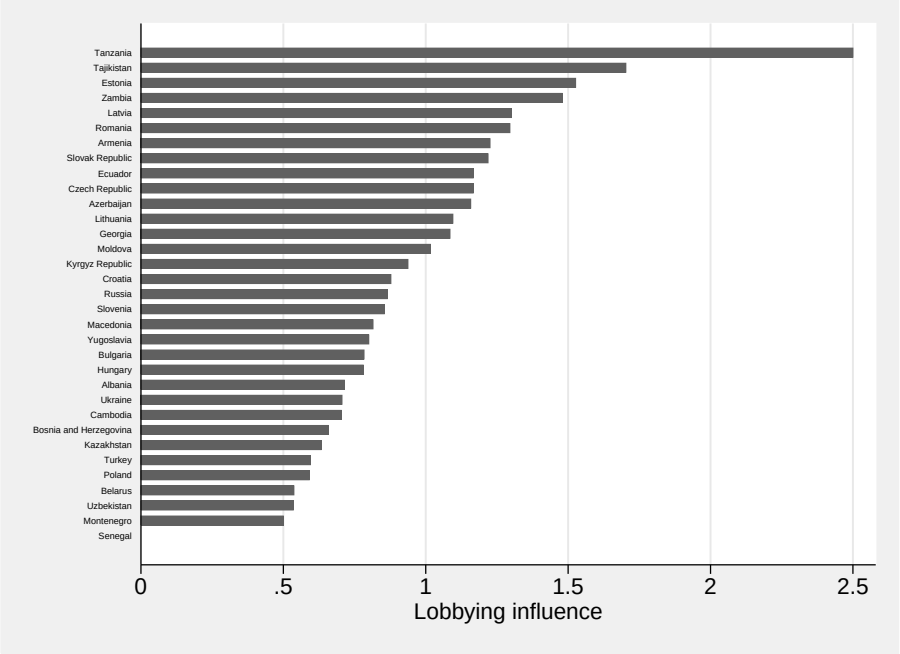

Figure 4.5: Lobbying Influence by Country

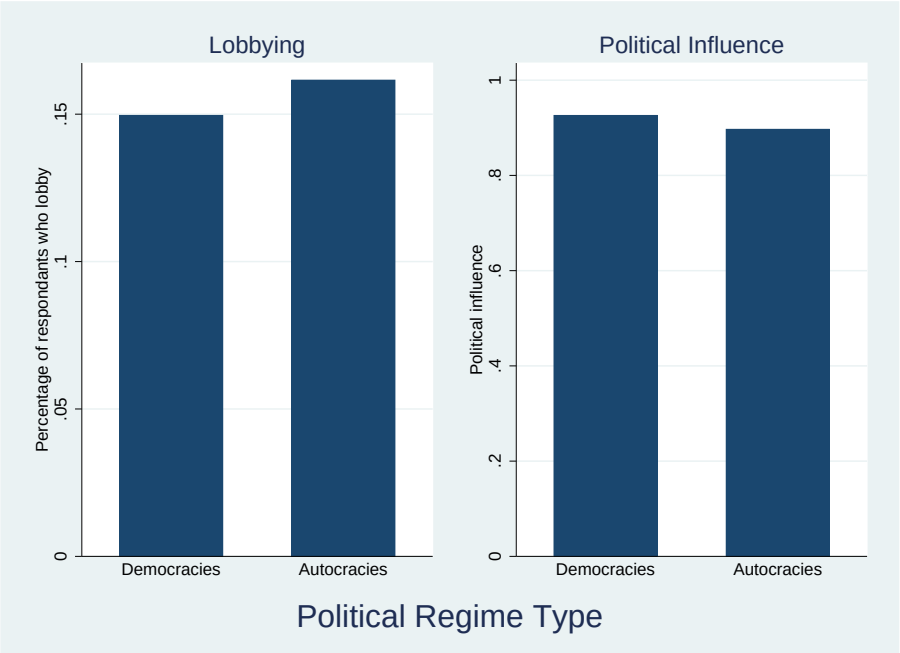

Figure 4.6: Country-level Determinants of Lobbying and Political Influence

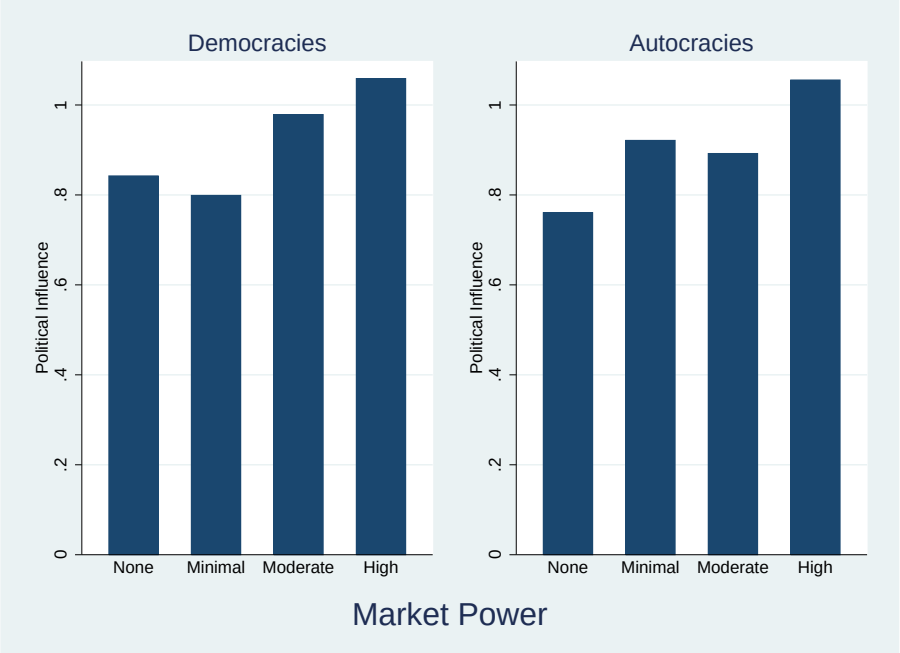

Figure 4.7: Determinants of Lobbying Influence by Political Regimes: Market Power

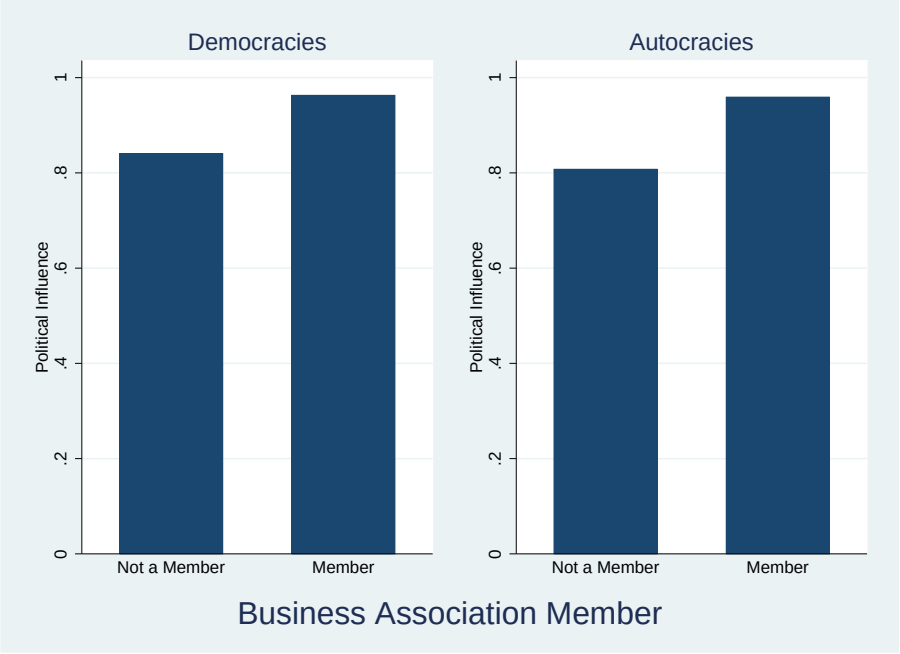

Figure 4.8: Determinants of Lobbying Influence by Political Regimes: Business Association Membership

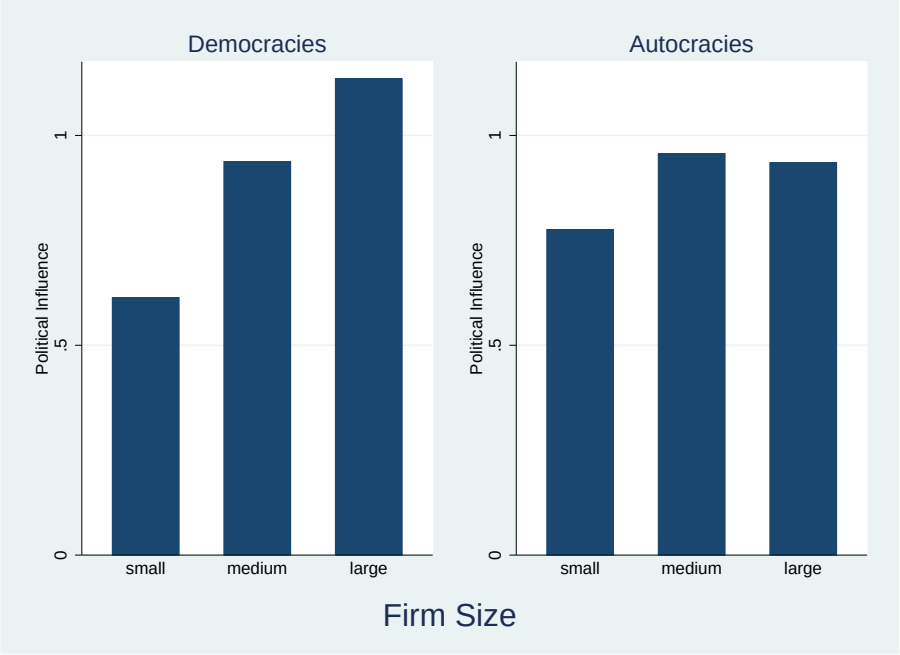

Figure 4.9: Determinants of Lobbying Influence by Political Regimes: Firm Size

Table 4.1: Summary Statistics

Variable	N	Mean	SD	Min	Max
Lobby	21295	0.153	0.360	0	1
Political Influence	1815	0.982	1.084	0	4
Publicly Listed	21295	0.064	0.245	0	1
Age	21295	2.690	0.645	1.386	5.580
Government Ownership (%)	21295	8.484	26.622	0	100
Sales to Government (%)	21295	5.934	17.745	0	100
Foreign Ownership (%)	21295	9.169	26.401	0	100
Exports (%)	21295	8.530	21.161	0	100
Multinational	21295	0.077	0.267	0	1
Domestic Inputs (%)	21295	72.393	36.870	0	100
Located in Capital City	21295	0.299	0.458	0	1
Market Power	21295	2.413	1.097	1	4
Business Association Member	21295	0.473	0.499	0	1
Firm Size (1 if <20; 2 if 20-99; 3 if >99)	21295	1.666	0.780	1	3
Establishments in Country	21038	0.326	0.678	0	4.595
GDP/capita Growth	41	5.876	3.134	-0.038	14.905
GDP/capita	41	7.641	1.330	5.263	10.286
Population	41	16.107	1.227	13.357	18.784
Trade	41	94.840	31.860	47.992	155.631
Autocracy	40	0.325	0.474	0	1
Polity	39	5.308	5.737	-9	10
FH Political Rights	40	4.958	2.044	1	7
FH Civil Liberties	40	5.075	1.584	1.667	7
Political Constraints	40	0.330	0.178	0	0.561

Note: The table presents summary statistics for all variables used in the paper. Variable definitions and sources appear in the text.

Table 4.2: Variance Components Models

	Lobby	*Political Influence*
Fixed Part		
β	0.174	0.960
	(0.014)	(0.058)
Random Part		
ψ	0.007	0.079
θ	0.124	1.037
ρ	0.057	0.071
Log likelihood	-8022.363	-2354.818

Note: The table presents the results of variance components models of two dependent variables: *Lobby* and *Political Influence*.

Table 4.3: Determinants of Lobbying (Multilevel Probit Estimates)

	(1)	(2)	(3)	(4)	(5)	(6) Clustered SE	(7) Country FE
Services	0.126***	0.165***	0.222***	0.102***	0.227***	0.185***	0.229***
	(0.027)	(0.028)	(0.028)	(0.027)	(0.029)	(0.048)	(0.029)
Agriculture	0.128	0.053	0.150	0.145	0.109	0.494***	0.081
	(0.114)	(0.117)	(0.116)	(0.120)	(0.124)	(0.177)	(0.129)
Construction	0.068	0.078*	0.061	0.068	0.080*	0.030	0.083*
	(0.042)	(0.043)	(0.043)	(0.042)	(0.044)	(0.074)	(0.044)
Other Sector	0.554***	0.587***	0.550***	0.554***	0.562***	0.591***	0.559***
	(0.093)	(0.095)	(0.093)	(0.093)	(0.095)	(0.105)	(0.095)
Publicly Listed	-0.046	-0.098*	-0.117**	-0.059	-0.150***	-0.126	-0.152***
	(0.050)	(0.051)	(0.050)	(0.051)	(0.051)	(0.085)	(0.053)
Age	0.273***	0.209***	0.159***	0.246***	0.127***	0.095***	0.129***
	(0.018)	(0.019)	(0.019)	(0.019)	(0.020)	(0.032)	(0.020)
Government Ownership (%)	0.005***	0.005***	0.004***	0.005***	0.004***	0.005***	0.004***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Sales to Government (%)	0.003***	0.003***	0.002***	0.003***	0.003***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Foreign Ownership (%)	0.003***	0.002***	0.002***	0.003***	0.001***	0.001*	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Exports (%)	0.004***	0.003***	0.002***	0.004***	0.002***	0.002***	0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Multinational	0.200***	0.163***	0.121***	0.118***	0.071*	0.049	0.076*
	(0.040)	(0.040)	(0.040)	(0.041)	(0.041)	(0.049)	(0.042)
Domestic Inputs (%)	-0.002***	-0.002***	-0.002***	-0.002***	-0.001***	-0.003***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Located in Capital City	0.097***	0.085***	0.078***	0.094***	0.071***	0.153***	0.067***
	(0.025)	(0.026)	(0.025)	(0.025)	(0.026)	(0.053)	(0.026)
Market Power	0.032***				0.031***	0.033**	0.031***
	(0.010)				(0.011)	(0.015)	(0.011)
Business Association Member		0.708***			0.640***	0.496***	0.646***
		(0.027)			(0.027)	(0.085)	(0.028)
Firm Size (1 if <20; 2 if 20-99; 3 if >99)			0.333***		0.243***	0.254***	0.242***
			(0.017)		(0.018)	(0.027)	(0.018)
Establishments in Country				0.166***	0.057***	0.058**	0.057***
				(0.015)	(0.017)	(0.025)	(0.017)
Random Part							
ρ	0.090	0.114	0.094	0.090	0.108	-	-
Observations	21295	21295	21295	21038	21038	21038	21036
Countries	41	41	41	41	41	41	41
Log Likelihood	-8174.088	-7809.361	-7980.089	-8029.181	-7589.603	-7954.831	-7509.359

Note: The table presents the results of probit models with country-level random effects. The dependent variable is *Lobby*, which represents the firm-level response to the following survey question: *"Did your firm seek to lobby government or otherwise influence the content of laws or regulations affecting it?"* (0 = no, 1 = yes). All variable definitions and sources appear in the text of the paper. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 4.4: Determinants of Lobbying (Multilevel Probit Estimates)

	(1) Full Sample	(2) Full Sample	(3) Full Sample	(4) Full Sample	(5) Full Sample	(6) Autocracies	(7) Democracies
Services	0.229***	0.234***	0.229***	0.229***	0.229***	0.138***	0.260***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.053)	(0.035)
Agriculture	0.091	0.097	0.099	0.099	0.099	0.128	0.073
	(0.123)	(0.123)	(0.123)	(0.123)	(0.123)	(0.168)	(0.182)
Construction	0.083*	0.084*	0.083*	0.083*	0.083*	0.089	0.078
	(0.044)	(0.044)	(0.044)	(0.044)	(0.044)	(0.076)	(0.053)
Other Sector	0.562***	0.556***	0.563***	0.563***	0.563***	0.497***	0.556***
	(0.095)	(0.096)	(0.095)	(0.095)	(0.095)	(0.173)	(0.114)
Publicly Listed	-0.149***	-0.177***	-0.151***	-0.151***	-0.151***	-0.116	-0.186***
	(0.051)	(0.052)	(0.051)	(0.051)	(0.051)	(0.080)	(0.067)
Age	0.128***	0.124***	0.128***	0.128***	0.128***	0.137***	0.133***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.038)	(0.024)
Government Ownership (%)	0.004***	0.004***	0.004***	0.004***	0.004***	0.003***	0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Sales to Government (%)	0.003***	0.003***	0.003***	0.003***	0.003***	0.001	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Foreign Ownership (%)	0.001***	0.001***	0.001***	0.001***	0.001***	0.002***	0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Exports (%)	0.002***	0.002***	0.002***	0.002***	0.002***	0.003***	0.001*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Multinational	0.069*	0.067	0.069*	0.069*	0.069*	0.086	0.055
	(0.041)	(0.042)	(0.041)	(0.041)	(0.041)	(0.073)	(0.051)
Domestic Inputs (%)	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.003***	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Located in Capital City	0.064**	0.067**	0.064**	0.064**	0.064**	0.137***	0.031
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.046)	(0.032)
Market Power	0.031***	0.033***	0.031***	0.031***	0.031***	0.005	0.040***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.019)	(0.013)
Business Association Member	0.642***	0.638***	0.642***	0.642***	0.642***	0.654***	0.633***
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.048)	(0.033)
Firm Size (1 if <20; 2 if 20-99; 3 if >99)	0.242***	0.243***	0.242***	0.242***	0.242***	0.211***	0.255***
	(0.018)	(0.019)	(0.018)	(0.018)	(0.018)	(0.033)	(0.022)
Establishments in Country	0.058***	0.058***	0.058***	0.058***	0.058***	0.069**	0.059***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.032)	(0.019)
GDP/capita Growth	-0.006	-0.003	-0.007	-0.007	-0.004	-0.021	-0.014
	(0.014)	(0.015)	(0.015)	(0.016)	(0.016)	(0.015)	(0.022)
GDP/capita	-0.168***	-0.170***	-0.138***	-0.139***	-0.141***	-0.058	-0.201***
	(0.039)	(0.039)	(0.049)	(0.049)	(0.035)	(0.055)	(0.053)
Population	-0.160***	-0.149***	-0.164***	-0.164***	-0.158***	-0.184***	-0.162***
	(0.035)	(0.038)	(0.040)	(0.040)	(0.039)	(0.047)	(0.048)
Trade	0.001	0.001	0.001	0.001	0.001	0.003*	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Autocracy	-0.141						
	(0.098)						
Polity		0.013					
		(0.009)					
FH Political Rights			0.001				
			(0.033)				
FH Civil Liberties				0.001			
				(0.043)			
Political Constraints					0.117		
					(0.271)		
Random Part							
ρ	0.044	0.045	0.048	0.048	0.048	0.011	0.055
Observations	21023	20690	21023	21023	21023	6054	14969
Countries	40	39	40	40	40	13	27
Log likelihood	-7569.488	-7429.147	-7570.481	-7570.481	-7570.388	-2298.791	-5236.133

Note: The table presents the results of probit models with country-level random effects. The dependent variable is *Lobby*, which represents the firm-level response to the following survey question: *"Did your firm seek to lobby government or otherwise influence the content of laws or regulations affecting it?"* (0 = no, 1 = yes). All variable definitions and sources appear in the text of the paper. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 4.5: Determinants of Political Influence (Multilevel Ordered Probit Estimates)

	(1)	(2)	(3)	(4)	(5)
Services	-0.019	-0.030	-0.004	-0.073	0.012
	(0.069)	(0.069)	(0.070)	(0.070)	(0.072)
Agriculture	0.095	0.000	0.067	0.026	0.135
	(0.191)	(0.191)	(0.193)	(0.195)	(0.197)
Construction	-0.294***	-0.328***	-0.316***	-0.336***	-0.281**
	(0.110)	(0.106)	(0.109)	(0.107)	(0.111)
Other Sector	-0.025	-0.016	-0.003	-0.014	0.030
	(0.167)	(0.167)	(0.167)	(0.167)	(0.168)
Publicly Listed	0.272**	0.272***	0.230**	0.315***	0.224*
	(0.111)	(0.098)	(0.102)	(0.103)	(0.117)
Age	0.055	0.033	0.007	0.042	0.022
	(0.045)	(0.043)	(0.044)	(0.043)	(0.047)
Government Ownership (%)	0.004***	0.004***	0.003***	0.004***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Sales to Government (%)	0.002	0.002*	0.002	0.002	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Foreign Ownership (%)	0.001	0.001	-0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Exports (%)	-0.000	-0.001	-0.001	-0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Multinational	0.093	0.065	0.067	0.018	0.037
	(0.084)	(0.081)	(0.082)	(0.083)	(0.087)
Domestic Inputs (%)	-0.001*	-0.001	-0.001	-0.001*	-0.001*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Located in Capital City	0.002	0.017	0.007	0.026	0.002
	(0.062)	(0.059)	(0.061)	(0.060)	(0.063)
Market Power	0.073***				0.078***
	(0.027)				(0.027)
Business Association Member		0.173***			0.137**
		(0.063)			(0.067)
Firm Size (1 if <20; 2 if 20-99; 3 if >99)			0.158***		0.123***
			(0.039)		(0.044)
Establishments in Country				0.106***	0.066**
				(0.030)	(0.033)
Random Part					
ρ	0.086	0.127	0.115	0.131	0.088
Observations	1653	1815	1758	1768	1622
Countries	33	36	36	36	33
Log likelihood	-2066.889	-2316.985	-2226.998	-2248.990	-2010.596

Note: The table presents the results of ordered probit models with country-level random effects. The dependent variable is *Political Influence*, which represents the firm-level response to the following survey question: *"How much influence do you think [your firm] actually had on recently enacted national laws and regulations that have a substantial impact on your business?"* (0 = No impact, 1 = Minor influence, 2 = Moderate influence, 3 = Major influence, 4 = Decisive influence). All variable definitions and sources appear in the text of the paper. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 4.6: Determinants of Political Influence (Multilevel Ordered Probit Estimates)

	(1) Full Sample	(2) Full Sample	(3) Full Sample	(4) Full Sample	(5) Full Sample	(6) Autocracies	(7) Democracies
Services	0.017	0.013	0.022	0.021	0.010	0.079	-0.063
	(0.073)	(0.074)	(0.073)	(0.073)	(0.073)	(0.138)	(0.090)
Agriculture	0.139	0.148	0.133	0.124	0.200	0.256	0.026
	(0.196)	(0.196)	(0.197)	(0.197)	(0.191)	(0.328)	(0.257)
Construction	-0.273**	-0.243**	-0.265**	-0.264**	-0.269**	-0.247	-0.298**
	(0.111)	(0.112)	(0.111)	(0.111)	(0.110)	(0.190)	(0.140)
Other Sector	0.032	0.023	0.035	0.032	0.040	-0.079	-0.009
	(0.169)	(0.172)	(0.168)	(0.168)	(0.168)	(0.341)	(0.198)
Publicly Listed	0.250**	0.221*	0.223*	0.221*	0.242**	0.516***	0.067
	(0.117)	(0.121)	(0.116)	(0.116)	(0.114)	(0.177)	(0.166)
Age	0.027	0.031	0.024	0.023	0.035	0.041	0.049
	(0.047)	(0.048)	(0.047)	(0.047)	(0.047)	(0.090)	(0.057)
Government Ownership (%)	0.003***	0.003***	0.003***	0.003***	0.003***	0.002	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Sales to Government (%)	0.002	0.002	0.002	0.002	0.002	-0.001	0.003**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Foreign Ownership (%)	0.000	0.000	0.000	0.000	0.000	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Exports (%)	-0.001	-0.001	-0.001	-0.001	-0.001	-0.000	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Multinational	0.041	0.034	0.042	0.039	0.051	0.115	-0.022
	(0.087)	(0.088)	(0.087)	(0.087)	(0.086)	(0.142)	(0.111)
Domestic Inputs (%)	-0.001*	-0.001	-0.001*	-0.001*	-0.001*	-0.001	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Located in Capital City	-0.009	-0.006	-0.014	-0.012	-0.018	-0.188*	0.078
	(0.062)	(0.063)	(0.062)	(0.062)	(0.062)	(0.109)	(0.079)
Market Power	0.078***	0.085***	0.079***	0.079***	0.080***	0.104**	0.070**
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.045)	(0.034)
Business Association Member	0.147**	0.141**	0.143**	0.144**	0.151**	0.187*	0.142*
	(0.068)	(0.068)	(0.068)	(0.068)	(0.067)	(0.112)	(0.085)
Firm Size (1 if <20; 2 if 20-99; 3 if >99)	0.120***	0.123***	0.125***	0.126***	0.124***	0.034	0.185***
	(0.044)	(0.044)	(0.044)	(0.044)	(0.044)	(0.074)	(0.055)
Establishments in Country	0.068**	0.071**	0.065*	0.064*	0.067**	0.038	0.087**
	(0.033)	(0.034)	(0.033)	(0.033)	(0.033)	(0.062)	(0.040)
GDP/capita Growth	0.015	0.016	0.027	0.032	0.044**	0.089***	0.018
	(0.021)	(0.021)	(0.022)	(0.022)	(0.019)	(0.029)	(0.025)
GDP/capita	-0.143**	-0.149**	-0.211***	-0.237***	-0.109**	-0.519***	-0.047
	(0.062)	(0.060)	(0.074)	(0.076)	(0.045)	(0.095)	(0.066)
Population	-0.099*	-0.095*	-0.059	-0.053	-0.031	-0.120	-0.091*
	(0.053)	(0.052)	(0.055)	(0.054)	(0.046)	(0.107)	(0.051)
Trade	-0.000	0.000	-0.000	-0.000	-0.001	-0.010***	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)
Autocracy	-0.189						
	(0.127)						
Polity		0.019*					
		(0.012)					
FH Political Rights			0.096**				
			(0.043)				
FH Civil Liberties				0.149***			
				(0.056)			
Political Constraints					1.132***		
					(0.289)		
Random Part							
ρ	0.055	0.050	0.053	0.052	0.028	0.008	0.036
Observations	1620	1585	1620	1620	1620	581	1039
Countries	32	31	32	32	32	12	20
Log likelihood	-2004.441	-1964.944	-2003.017	-2001.957	-1999.535	-701.253	-1281.762

Note: The table presents the results of ordered probit models with country-level random effects. The dependent variable is *Political Influence*, which represents the firm-level response to the following survey question: *"How much influence do you think [your firm] actually had on recently enacted national laws and regulations that have a substantial impact on your business?"* (0 = No impact, 1 = Minor influence, 2 = Moderate influence, 3 = Major influence, 4 = Decisive influence). All variable definitions and sources appear in the text of the paper. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

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