FIRM SIZE AND GOVERNMENTAL POLICYMAKING INFLUENCE^{*}

JEFFREY T. MACHER

McDonough School of Business Georgetown University Washington, DC 20057 202-687-4793 (O) jtm4@georgetown.edu

and

JOHN W. MAYO*

McDonough School of Business Georgetown University Washington, DC 20057 202-687-6972 (O) mayoj@georgetown.edu

ABSTRACT – A commonly held assumption is that large firms are more influential in shaping governmental policies than their smaller counterparts. But the ability to rigorously examine this conjecture is hampered by inabilities to secure suitable measures of firms' influence. We overcome this impediment by offering a systematic analysis using a novel and global database that measures firms' perceived influence over different branches of government. The paper develops and tests a conceptual model that captures the firm size-governmental policymaking influence relationship, along with other direct and moderating influences from industry-level and country- institutional level determinants. While firm size impacts governmental policymaking influence, so too do variations in industry-level structures and country-level political institutions. Non-market strategy implications that follow from this refined understanding are discussed.

Keywords: firm size, industry structure, institutional environment, firm influence, non-market strategy

^{*} We thank Witold Henisz, Brad Jensen, Catherine Tinsley, Dennis Quinn and Rick Vanden Bergh for preliminary discussions and comments that helped shape this paper. We also thank seminar participants at Georgetown University for useful comments. Finally, we gratefully acknowledge the research support provided by the McDonough School of Business and the Georgetown Center for Business and Public Policy (CBPP). All errors and omissions are our own.

INTRODUCTION

The perceived relationship between firm size and governmental policymaking influence has alternatively intrigued, fascinated, and infuriated industry practitioners, academics, and the general public alike. For instance, annual Harris Interactive polls routinely report that nearly 85 percent of respondents believe 'big companies' have too much influence, while approximately 90 percent of respondents believe small businesses have too little.¹

Despite the popular assumption of a firm size-governmental policymaking influence relationship, several factors have inhibited researchers' abilities to explore and document this relationship in sufficient detail. First, direct measures of firms' governmental policymaking influence are not widely available across industries, countries or different government branches. Most prior empirical studies instead examine influence using indirect measures that are relatively poor proxies or are derived from either a single industry or single country. Second, several academic disciplines examine firms' governmental policymaking influence—including strategy, economics, and political science—but these domains have remained largely distinct from each other. Moreover, each academic domain tends to examine governmental policymaking influence are often examined in isolation from the industry- and country-level determinants of influence (and vice versa). Third and relatedly, given the disparate academic disciplines among these levels that may exist.

In this paper, we provide a conceptual and empirical framework that alleviates most of these historical constraints and subsequently improves understanding of the firm size-governmental policymaking influence relationship. We do so by drawing upon a novel survey database of more than 6,000 firms from 60 countries that reports firms' perceived influence over different governmental decision-making entities, including the executive, legislative, and ministerial branches. These data permit us to test empirically the effect of firm-, industry-, and country-level determinants on firms' policymaking influence, as well as explore any interrelationships that may exist than has previously been achieved in the extant literature. Our approach allows us to add to understanding of firms' non-market strategy—an important but

¹ See <u>http://www.harrisinteractive.com/vault/Harris-Interactive-Poll-Research-Power-&-Influence-2009-03.pdf</u>

relatively less understood and understudied component of firms' overall strategy (Baron, 1995; Bonardi, Hillman, and Keim, 2005).

At the most basic level, our empirical results confirm the common presumption of a direct relationship between firm size and governmental policymaking influence. Large firms report more influence over governmental policymaking than their smaller counterparts do across the executive, legislative, and ministerial branches. But we also find empirical support that the structure of the industry in which the firm competes in and the institutional environment of the country in which the firm operates in profoundly affect this relationship. Firms perceive that they have more influence in industries with fewer competitors and in countries with more political institution constraints (i.e., number and party composition of institutional players interacting to constrain policy changes).

Our investigation also importantly reveals three nuanced—and more profound—insights into non-market strategy in general and these relationships in particular. First, small firms and large firms report decreasing policymaking influence in more competitive industries. Second, large firms report increasing policymaking influence in more politically constrained countries, while small firms report constant (or slightly decreasing) influence in more politically constrained countries. Third, increases in the number of industry players or in country political institution constraints effectively increase the perceived governmental 'influence gap' between large and small firms. The above results are largely consistent across the executive, legislative, and ministerial government branches. Depending upon the industry-level structural characteristics and the country-level institutional characteristics, our results suggest relatively limited situations in which large and small firms are equally influential in affecting governmental policies. Much more common across different industry- and country institutional-level conditions are outcomes where large firms possess relative advantages over small firms in influencing government policy-making and shaping their non-market strategies.

The rest of this paper is organized as follows. The next section reviews the academic literature that examines firms' influence over governmental decision-making. Section 3 develops a theoretical model and several testable hypotheses that tease out the direct relationships and interrelationships of firm-, industry-, and country-level factors on firms' governmental policymaking influence. Section 4 describes the data, provides variable definitions, and specifies summary and correlation statistics. Section 5 presents empirical analyses and figures of the

determinants of firms' governmental policymaking influence, and then discusses these results. The final section provides concluding comments.

BACKGROUND AND MOTIVATION

Research that examines firms' influence over governmental decision-making derives from several academic disciplines-including strategy, economics, and political science.² Three features largely characterize the extant literature. First, measuring the antecedents and outcomes of firms' political activity in meaningful ways is a major research challenge (Hillman, Keim, and Schuler, 2004). Bonardi, Holburn and Vanden Bergh (2006) suggest that this difficulty results from limited data available that accurately relates firms' nonmarket strategies to the performance impact of their public policies. The absence of direct firm influence measures has subsequently resulted in the use of either ancillary or highly aggregated data. For instance, many researchers examine governmental influence using proxies, including measures of political action committee (PACs) activity, campaign contributions, congressional testimonies, petition filings, and lobbying efforts (Bonardi et al., 2005; Hillman et al., 2004). Other researchers use even more indirect measures—such as cross-industry variations in effective tax rates paid or particular regulatory outcomes (Lenway and Rehbein, 1991; Salamon and Siegfried, 1977; Schuler, Rehbein, and Cramer, 2002)-or highly aggregated (and thereby indirect) data-such as corporate financial profitability (Hillman, Zardkoohi, and Bierman, 1999; Shaffer, Quasney, and Grimm, 2000). Finally, most studies examine governmental policymaking influence solely within the confines of a single industry or single country. While these approaches have advanced considerably understanding of firms' corporate political activity, more direct and more comprehensive (i.e., across industries and countries) measures of governmental policymaking influence are desired.

Second, a variety of country institutional-level, industry-level, and firm-level characteristics are found important in affecting firms' abilities to wield influence important to setting non-market strategy. But the academic disciplines that examine these determinants have predominantly proceeded independently. Most studies consider particular characteristics exclusively within a single 'level,' providing limited theoretical or empirical accounting for determinants at other levels that may also affect firms' abilities to influence or shape

² See Baron (1995) and Bonardi, Hillman and Keim (2005) for comprehensive reviews.

governmental policies. For example, despite its seminal contribution to understanding the industry structure and regulator influence relationship, Stigler (1971) does not account for the potentially important effect of firm-level factors. Failure to develop a more integrated and comprehensive picture of the varied determinants of firms' governmental policymaking influence, however, creates the risk that academic scholars and industry practitioners operate from a series of incomplete analyses.

Third, potential interrelationships between and among the firm-, industry-, and countrylevel determinants of governmental policymaking influence are relatively underexplored. While scholars are beginning to consider multiple levels by which governmental influence manifests (Chong and Gradstein, 2010; Macher, Mayo, and Schiffer, 2011; Weymouth, 2011), existing research is largely silent on the potential interrelationships among levels. The development of a more comprehensive model that takes into consideration how firm-level factors interrelate with country institutional-level and industry-level factors to jointly determine governmental policymaking influence is nevertheless required. It is to such an approach that we turn.

THEORETICAL MODEL AND HYPOTHESES

Firm-Level Determinants

The academic literature commonly perceives a positive relationship between firm size and governmental policymaking influence. Early examinations recognize that large firms are more political active, with size an important antecedent to corporate political activity (Boddewyn and Brewer, 1994; Masters and Keim, 1985). For instance, lobbying is one mechanism by which firms utilize to develop, maintain or improve policymaking influence. If lobbying manifests itself as a purely public good in an industry, large firms are more likely to participate in such efforts (Olson, 1965). If lobbying represents a purely private good (with no or limited free rider problems), however, large firms are still better able to engage in these influence-seeking activities because the productivity of and benefits received from such efforts are higher in comparison to small firms. Stigler (1974) further suggests that large firms are more likely to lobby to create political influence than small firms—in activities both independent from and in concert with trade associations.

The theoretical underpinnings of this relationship stem largely from several observations and examinations that correlate firm size with political activity involvement.³ First, size is often a proxy for resources available, and thereby an indicator of firms' abilities to become politically engaged (Schuler and Rehbein, 1997). Second, establishing the firm-level infrastructure required above minimum scale and necessary to influence governmental policymaking entails substantial (fixed) costs. As such, large firms are more likely to possess the requisite resources to warrant such efforts. Third, large firms offer more to governmental decision-makers in the way of votes, income or post-governmental employment, in comparison to their smaller counterparts. In short, large firms are better able to capture public policy participation rents than small firms (Hillman *et al.*, 2004), given their resource commitments and infrastructure in place. With these theoretical underpinnings as a base, the extant literature largely documents a substantial and positive firm size-corporate political activity relationship using various measures, including sales (Schuler *et al.*, 2002), assets (Meznar and Nigh, 1995), market share (Schuler, 1996) and number of employees (Hillman, 2003).

More recent empirical research examines directly the firm-size governmental influence relationship. Macher et al. (2011) find firm-level factors—such as size and age—are positively associated with influence across several government branches and within regulatory agencies. Chong and Gradstein (2010) similarly document a firm size-governmental influence relationship across these government entities. Weymouth (2011) examines firms' political activity and influence, and finds that large and well-organized oligopolists are more likely to lobby and influence government policy—effectively increasing their political power. In short, economic power (i.e., firm size) translates directly into political power. Given the extant theoretical and empirical literature, we examine the following base hypothesis:

H1: Large firms have more governmental policymaking influence than small firms, ceteris paribus.

Industry-Level Determinants

While size is likely to improve firms' abilities to influence governmental policymaking, so too should variations in the organization of industries in which firms compete. Industry structural

³ See Hillman, Keim and Schuler (2004) and the references provided therein for a comprehensive review of the firm-, industry- and issue-specific antecedents to political activity involvement (PAI).

factors—in particular, the number of competitors—should affect firms' non-market strategies and political organization abilities (Getz, 1997; Hillman *et al.*, 2004). Olson (1965) notes that more participants (e.g., firms) in a group (e.g., industry) erode the effectiveness of members successfully securing outcomes that are in the collective interest, given increasing free rider problems. In our context, questions arise as to whether firms in less competitive industries are better able to overcome free rider problems to achieve influence over governmental policymaking than firms in more competitive industries, *ceteris paribus*. The most obvious proxy for the propensity of free rider problems to beset an industry—the number of firms—is however isomorphic to the perceived extent of competition—similarly proxied by the number of firms. Any test of the free rider proposition based on firm number thereby confounds potentially with the independent impact that may arise from competitive landscape changes. For example, as the number of industry competitors grows it is entirely possible that the likelihood of political involvement and the likelihood of success in that domain vary separately from changes in influence that may arise from free riding.

Not surprisingly, empirical examinations of the relationship between industry structure and firms' political involvement and influence yield mixed results. Potters and Sloof's (1996:417) survey of empirical political influence studies indicates that "most scholars indeed find an increased scope for political influence with higher degrees of concentration, but there are many that find no effect or even a negative effect." Salamon and Siegfried (1977) find a negative relationship between industry concentration and firm influence (but ineffectively measured by effective tax rates), while Pittman (1976) finds a positive relationship between industry concentration and campaign contributions. Schuler et al. (2002) find firms in more concentrated industries are more likely to lobby and engage in campaign contributions than firms in more fragmented industries. Grier et al. (1994) find industry concentration positively affects political contribution levels and the probability of forming political action committees. Lenway and Rehbein (1991:901-902) find that "firms in industries with a large number of firms are likely to choose a leader or a follower rather than a free-rider strategy." In light of these mixed results, Pecorino (1998) develops a theoretical model in which the industry equilibrium yields no necessary relationship between the number of firms, the degree of concentration, and the ability to overcome free-riding problems. In summary, two rather tenuous findings emerge: first,

industry structure may affect the level of influence that firms are able to achieve over governmental decision-makers; and second, the nature of this relationship is poorly understood.

We suggest that more fragmented industries (e.g., more industry competitors) create less favorable bargaining conditions between firms and governmental decision-makers. As Olson (1965) suggests, more fragmented industries limit the abilities and/or effectiveness of any one firm in securing policy outcomes that represent its strategic interests, as governmental decision-makers take into consideration the varied and potentially orthogonal concerns of other industry participants. Firms' abilities to influence governmental decision-makers in ways congruent with their objectives are subsequently compromised (Holburn and Vanden Bergh, 2008).

By contrast, more concentrated industries present more favorable bargaining conditions between firms and governmental decision-makers. A smaller number of competitors allows individual firms either more opportunities to make their case (via more or more frequent facetime), or greater abilities to overcome collective action problems (Getz, 1997). Moreover, in more concentrated industries, governmental decision-makers are in better positions to actually bestow political influence as free rider problems are lessened. We therefore expect that firms in more concentrated industries obtain more governmental policymaking influence than firms in less concentrated industries, and examine the following hypothesis.

H2: Firms in more concentrated industries have more governmental policymaking influence than firms in less concentrated industries, ceteris paribus.

Country-Level Determinants

Similar to industry structure, variation in country institutional-level factors should affect firms' abilities to influence governmental policymaking. The role of comparative economic, political and legal institutions in determining economic performance has a long history (North, 1990). This literature highlights collectively the impact that inter-country institutional variation has across different economic domains, ranging from economic growth (Henisz, 2000a) to (foreign direct) investment (Gastanaga, Nugent, and Pashamova, 1998; Henisz, 2000b; Henisz and Macher, 2004; Henisz and Zelner, 2001; Wei, 2000) and economic organization (Henisz and Williamson, 1999), among others.

We suggest that the role of and differences among country-level institutional characteristics have non-market strategy implications—given their predominant effects on

economic performance and organization—and can be logically extended to examine differences in firms' influence over governmental policymaking. Consider the development of the Henisz (2000a) political constraints measure, which employs a simple spatial model of political actor placement. The more independent political institutions within a country, the greater the ability of any one actor to block (via veto) other actors' discretionary behavior. In short, the larger the number of non-isomorphic political institutions the larger the number of 'veto points' present in the policy-making arena. Henisz (2000a) shows that the greater the extent of independent political institutions and heterogeneity in partisan composition, the greater policy-making and policy changes are constrained.

By straightforward extension, institutional constraints are also likely to alter the level of influence that firms can achieve over governmental policymaking. First consider countries with limited institutional constraints. Such settings most likely simplify firms' influence-seeking strategies, given the policy-making preferences of a smaller number of political actors with relatively homogeneous party composition are more readily observable and understood. If interest alignment between the concentrated polity and the firm exists, governmental policymaking influence most likely obtains. But the likelihood of legitimate alignment between firms and political actors in policy-making is likely limited in these settings, given the smaller number of (available) political actors and limited party fractionalization (i.e., ideology) present. Firms are more likely to encounter relatively 'thin markets' in finding government entities willing to provide policy-making support for their non-market strategies.

Next consider countries with significant political institution constraints. In concordance with the 'veto point' concept in a political discretion model, more political institutions of varied party composition increase the number of potential 'entry points' by which firms may find a sympathetic government official to champion their public policy concerns. We suggest that the additional entry points available in the political institution arena help firms perceive themselves as more able or more effective policy-making influencers. To the extent that a larger number of independent political institutions can act to block policy changes, however, the influence-enhancing effects of additional entry points may be overcome by the influence-deterring effects of additional veto points. In light of these countervailing possibilities, we test empirically whether firms operating in countries with more constrained political institutions provide an environment for greater firm influence over governmental policymaking than firms operating in

countries with less constrained political institutions. In short, we examine the relative strength of additional entry points vis-à-vis additional veto points brought on by increased political institution constraints in shaping firms' non-market strategies via the following hypothesis:

H3: Firms in more politically constrained countries have more governmental policymaking influence than firms in less politically constrained countries, ceteris paribus.

Interrelationships

Our first three hypotheses establish a foundation for understanding the direct pathways by which firms influence governmental policymaking important to non-market strategy. But it is likely that important moderating interrelationships are also present. While we hypothesize that firms operating in more concentrated industries should realize more policymaking influence than firms operating in less concentrated industries, we now suggest that this effect is not constant across the population of firms. Given their established resources, infrastructure and political relationships in place, large firms in particular should have more influence in comparison to their smaller counterparts. We further suggest that this relationship should hold across all industry structures—i.e., from monopolistic to competitive environments—but consider two structural 'endpoints' in turn.

In concentrated industries, firms of all sizes face limited competition on particular public policy issues. For instance, the number of other industry players seeking governmental support is *de minimis* in monopolistic industries. With small numbers vying for public policy-making support, the incumbent firm can more effectively (and perhaps more completely) limit, control or block other firms' access into the influence-seeking process, across all governmental branches.

In more competitive industries, however, unique challenges are presented to all firms in terms of governmental policymaking influence. Unless there is complete agreement on public policy issues among industry participants, more industry players creates impediments to the influence-seeking process of any one firm. We suggest that large firms are better able to navigate these more competitive environments than their smaller brethren, given their resource endowments. The resource endowments, infrastructure and existing relationships that large firms more likely possess help to either maintain or limit losses in governmental influence as industries become more competitive and firms pursue their idiosyncratic policy-making agendas independently. By contrast, small firms are less likely to possess the requisite resources and

infrastructure or the necessary government relationships required. As the number of competitors grows, moreover, free rider problems increase (Olson, 1965). But free rider problems are unlikely to affect large and small firms equally. While some benefits certainly accrue to small firms from free riding on the influence-seeking efforts of their larger counterparts (who are more likely to continue to invest in policy-making), these benefits likely decrease in more competitive industries as policy-making interests among incumbent firms increasingly diverge.

We therefore suggest that while all firms should experience losses in governmental policymaking influence with additional industry competitors, large firms will better maintain (or experience less degradation in) influence than small firms given their intrinsic advantages.We examine the following hypothesis.

H4 As the number of industry competitors increases, large firms better maintain governmental policymaking influence relative to small firms, ceteris paribus.

Similar to industry structure, the effect of country political institution constraints on firms' success in shaping their non-market strategies via governmental policymaking influence should not be constant across the population of firms. Large firms should possess more influence in comparison to their smaller counterparts across the entire country political institution landscape, given their resource endowments, infrastructure and political relationship advantages. Llarge firms should achieve influence advantages over small firms, moreover, for any given level of political institutional constraints present. We similarly consider two political institution 'endpoints' in turn.

In less constrained political institutions, firms of all sizes should face more limited influence opportunities given the small numbers and homogenous ideologies present. With relatively 'thin' numbers of government entities available and willing to champion political causes, firms' abilities to gain influence for their particular public policy agenda are necessarily suspect. Large firms are nevertheless in better positions to garner any political favors that are available, given their more established relationships, in comparison to small firms. Large firms are also arguably more effective than small firms in navigating through the existing political landscape, given their institutional resource commitments and infrastructure in place more effectively controls, limits or blocks other firms from gaining 'entry' into the public policymaking process. Small firms are correspondingly expected to face greater challenges in less constrained political environments, given their scale disadvantages.

In more constrained political institutions, however, firms of all sizes are provided additional pathways by which to establish, maintain or enhance governmental policymaking influence. But again, more and more diversified political institutions should affect small firms and large firms differently. Large firms should benefit via scale advantages, effectively using their political infrastructure and resources in place. More political actors can usefully be accessed and 'put to work' in directions that support large firms' public policies and interests. But large firms also face particular constraints and potential limitations from increased political institution constraints. Additional entry points increases the likelihood that (at least) one government official disagrees fundamentally with a particular large firm's non-market strategy and public policy agenda-thereby allowing other firms entry and/or participation into the policy-making process. Small firms potentially benefit from more political institutions with heterogeneous party composition, precisely because it offers additional entry points into the policy-making process. In particular, these conditions improve the chances that small firms can find government support for their public policies and interests. But the inherent disadvantages that small firms face suggest particular influence limits obtain, and become especially acute as the political institutional environment is increasingly constrained. In short, small firms are less able to effectively make use of the additional entry points available given their resource disadvantages.

While we still expect large firms to maintain their policymaking influence advantages over small firms, we now hypothesize that increased political constraints poses larger threats to small firms in comparison to their larger counterparts. We examine the following hypothesis.

H5 As the level of country political constraints increases, large firms better maintain governmental policymaking influence relative to small firms, ceteris paribus.

Our conceptual model of firm-, industry-, and country-level factors and governmental policymaking influence is depicted in Figure 1. This figure not only suggests that direct relationships exist between firms' perceived governmental policymaking influence and firm size, industry structure and country institution constraints, but also indicates that interrelationships are present among these levels. In particular, Figure 1 posits that country institutional-level and industry-level factors moderate the firm size-governmental policymaking influence relationship.

--- Insert Figure 1 about here ---

EMPIRICAL SETTING

Having discussed the direct and interdependent determinants of firms' governmental policymaking influence, we now describe the data, specify variable definitions, and provide summary and correlation statistics. The Appendix offers detailed descriptions of the dependent, independent and control variables utilized in the empirical analyses.

Data

The World Bank collected firm and business environment survey information during 1998-2000 from more than 10,000 firms in 80 countries in its World Business Environment Study (WBES).⁴ Firms were selected for the WBES using several factors, including size, ownership, industry and location, geographical distribution of products or services offered, and country representation, among others.⁵ A high survey response rate obtained, although missing values reduce slightly the number of observations for various measures.

The WBES data permit systematic analyses of the determinants of firm influence on governmental decision-making. In particular, survey questions asked firms directly to indicate the extent of their perceived influence over the establishment of new national laws, rules, regulations and decrees—broken out by country of operating location and by branch of government (i.e., executive, legislative, and ministerial). The WBES also includes detailed firmand industry-level information, which we supplement with country institutional-level

⁴ The survey was overseen by the World Bank but administered by Gallop, AC Nielsen, The Confederation of Indian Industries, The Harvard Center for International Development in Africa, The Egyptian Center for Economic Studies in Egypt, Lidee Khmer in Cambodia, The University Chamber of Commerce in Thailand, and The Bangladesh Export Development Project in Bangladesh. See Batra et al. (2002) for more discussion.

⁵ Firms were chosen to comprise a representative sample that reflects the importance of manufacturing, services and commercial firms in particular countries. The guidelines were as follows (Batra *et al.*, 2002):

Sectoral Composition – The number of manufacturing versus service companies were allocated according to their contribution to GDP, with a 15 percent minimum for each.

Size – At least 15 percent of the companies in the sample were in the small category (fewer than 50 employees) and at least 15 percent in the large category (more than 500 employees).

Ownership – At least 15 percent of the companies in the sample would be firms with foreign control (or where the law prohibits this, will have substantial foreign ownership).

Exporters – At least 15 percent of the companies in the sample would export at least 20 percent of their output.

Location – At least 15 percent of the companies in the sample would be located in small towns (with a working definition of a population of less than 50,000), or in the country side.

information using other data sources. The combined data permit novel analysis of the determinants of firms' influence over governmental policymaking.

While the WBES data offer a novel approach to measuring firms' influence over governmental policymaking, they also present particular challenges. One principle concern among these is whether firms' perceptions of influence accurately reflect actual influence, as surveys are sometimes deemed poor predictive indicators. We believe that this concern is largely mitigated in this instance. First, the WBES questions and answers focused on perceptions and not used to predict economic agents' behavioral responses to particular stimuli. Second, there are no incentives to 'game' answers, as there are no respondent benefits for particular answers. Third, a survey-based instrument provides at least as plausible a measure of firms' influence as more indirect measures that have previously been employed in the extant literature. We therefore view the survey responses as unbiased, albeit imperfectly measured, indicators of firms' influence over governmental policymaking.

Variable Definitions

Our main dependent variables measure firms' responses to their perceived level of influence over three government branches. *Executive Branch Influence*, *Legislative Branch Influence* and *Ministerial Branch Influence* measure firms' respective influence in response to new laws, rules, regulations or decrees that potentially have substantial impacts on their businesses, using a 5point Likert scale. A value of one indicates 'never influential,' while a value of five indicates 'very influential.' An alternate set of dependent variables that represent dichotomous transformations of our main dependent variables are also used, and is based on firms that report being 'frequently influential' or 'very influential' over these government branches.

We utilize the number of employees as reported by firms in the WBES as our measure of firm size. *Firm Size* is a tri-chotomous measure of the number of employees, coded as one if firms have less than 50 employees, two if firms have between 51-500 employees, and three if firms have more than 500 employees.

We utilize the number of industry competitors reported by firms in the WBES as our measure of industry structure. *Competitors* represents the logged number of competitors that firms indicate they face in their major product line(s). We take the natural log of this measure,

given the likely non-linear effect of more competitors on firms' governmental policymaking influence.⁶

We utilize Henisz's (2000a) POLCON measure to quantify country political institution constraints. POLCON captures the extent to which changes in the number or party composition of political actors can lead to government policy changes. This measure identifies the number of independent government branches (executive, lower and upper legislative chambers, judiciary and sub-federal political institutions) with veto power over policy change within each country. It then derives a quantitative measure of political hazards using a simple spatial model of political institution interaction, modifying it to take into account the extent of government branch alignment based on executive and legislative party composition and legislative preference heterogeneity. *Political Constraints* ranges from zero (no policy-making constraints) to one (substantial policy-making constraints).

We include several control variables at different levels of analysis. We control for several variables at the firm level. *Firm Age* represents the natural log of age since founding, and is used for conceptual and empirical considerations. Older firms are more likely adept at garnering influence via 'learning curve' effects. Moreover, to the extent that governmental decisions affect the business environment, firms that are 'unsuccessful' are more likely to fail. As older firms are more likely to survive than younger firms (Mata and Portugal, 1994), governmental decision-makers are also likely to recognize that providing favorable policy-making decisions to older firms is more beneficial than providing such influence to younger firms, given more repeated and ongoing interactions. We utilize the natural log of this measure, given the likely non-linear effect of age on firms' governmental policymaking influence. We also exploit the WBES database to control for several other firm-level characteristics that might differentially affect firms' governmental policymaking influence, including foreign ownership (*Foreign-Owned Firm*); government ownership (*Government-Owned Firm*); privatization (*Privatized Firm*); multinationality (*Multinational Firm*); and exportation (*Exporting Firm*). These variables enter into the empirical estimations as dichotomous measures.

Unobservable and idiosyncratic differences across particular industries in their influence– generating abilities may also exist. We utilize several industry-level indicator variables reported

⁶ This approach parallels prior research that demonstrates decreasing price effects from increases in the number of competitors (Bresnahan and Reiss, 1991).

in the WBES to account for specific industry sectors. Included in these are measures for *Agriculture*, *Construction*, *Manufacturing*, *Other* and *Services*—the last of which serves as our baseline.

In terms of country institutional-level controls, Macher, Mayo and Schiffer (2011) demonstrate that the country legal system origin within which firms operate impacts their abilities to influence government entities. We accordingly control for legal origin via indicator variables (*Common Law Origin, Civil Law Origin,* and *Socialist Law Origin,* respectively).⁷ La Porta et al. (1998) suggest that the level of national income may confound the interpretation of country legal origin. We accordingly include logged *GDP/Capita* in the estimations. Rajan and Zingales (2003) similarly argue that the incumbent firm power may be affected by the degree of economic openness. We therefore include logged *Trade/GDP* (a standard measure of country openness) in the estimations. The latter two measures are taken from the World Bank Development Indicators (WBDI) database.

Summary Statistics

Table 1 provides summary statistics of the dependent, independent, and control variables. Around 15 percent of the firms report being 'frequently influential' or 'very influential,' a percentage that is relatively consistent across the three government branches. The sample also includes firms that vary in size from relatively small operations (less than 50 employees) to large conglomerates (more than 500 employees); compete in industries ranging from purely monopolistic to markedly competitive; and operate in country institutional environments ranging from politically unconstrained to politically constrained. Table 2 provides correlation coefficients of the variables, highlighting in bold the pair-wise correlations that are statistically significant at .05 *p*-values. The governmental policymaking influence measures are positively correlated with *Firm Size*, negatively correlated with *Competitors*, and positively correlated with *Political Constraints*. Pair-wise correlations between the variables are moderate, suggesting multicollinearity is not a problem.

--- Insert Tables 1 and 2 about here ---

⁷ We use *Common Law Origin* as the omitted base. We performed robustness tests to the exclusion of Germany and Sweden, whose legal systems (essentially based in Civil Law) are not so neatly categorized. The results are invariant to this alternative estimation.

EMPIRICAL ESTIMATION

The descriptive statistics are suggestive, but neither dispositive as to the identity of specific influence relationships or interrelationships nor do they convey any statistical or economic importance. We accordingly turn to a more systematic analysis of the determinants of policymaking influence across each government branch.

Model Specification

Firms' influence over governmental policymaking is measured by their reported influence on new national laws, rules, regulations or decrees that could have a substantial impact on their business within the executive, legislative and ministerial branches. As influence is measured on a Likert scale, we utilize ordered probit estimation. The general structure of the ordered probit estimation equation is (Greene, 2009):

$$y^{*} = \beta X + \mu \tag{1}$$

where y^* is an unobservable variable, β is a coefficient vector, X is a matrix of country-, industry and firm-level variables and interaction terms, and μ is a normally distributed and well-behaved (zero mean, constant variance) error term. Ordered probit estimation captures the ordinal nature of the observed dependent variables (y) such that:

$$y = 1 \text{ if } y^* \leq \omega_1$$

$$y = 2 \text{ if } \omega_1 < y^* \leq \omega_2$$

$$y = 3 \text{ if } \omega_2 < y^* \leq \omega_3$$

$$y = 4 \text{ if } \omega_3 < y^* \leq \omega_4$$

$$y = 5 \text{ if } \omega_4 < y^*$$

[2]

where ω_i represent unobserved threshold values (or limit points). The firm survey responses of influence over governmental policymaking represent these observed dependent variables. The specific estimations comporting with the general structure in equations [1] and [2] take the form:

$$INFLUENCE = f(X_F, X_L, X_C, X_X, C, \mu)$$
[3]

where X_F represents firm-level determinants, X_I represents industry-level determinants, X_C represents country-level determinants, X_X represents interactions between the firm-, industry- and country-level determinants, and *C* represents firm-, industry-, and country-level controls.

Empirical Results

Tables 3-5 report the ordered probit estimation results using *Executive Branch Influence*, *Legislative Branch Influence*, and *Ministerial Branch Influence*, respectively, as dependent variables. The reported estimations adjust standard errors for robustness and within-country clustering. Likelihood-ratio statistics reject zero slope coefficient hypotheses in all estimations (.01 p-values), and pseudo-R² are reasonable. Each table presents the models in an identical format: Model 1 provides a baseline estimation using control variables. Model 2 adds the direct variables of interest to Model 2. Model 3 adds the *Firm Size X Competitors* interaction term and the *Firm Size X Political Constraints* interaction term to Model 2. Given our collective hypotheses, we focus our discussion on Model 3 in each Table.

We report estimated coefficients and standard errors following standard practice, but caution against drawing substantive interpretation or determining hypothesis support from these tables for the following reasons. First, the ordered probit coefficients—as in all nonlinear models—do not represent marginal effects (Holburn and Zelner, 2010). Second, the interaction terms used to test the interrelationships that we posit in our latter hypotheses do not represent cross-partial derivatives (Hoetker, 2007), and thus do not convey any direct information about the magnitude or statistical significance of the conditional effects of interest.

We instead assess statistical and economic significance and support using a simulationbased approach developed in political science by King, Tomz and Wittenberg (2000) and tailored to strategy research by Zelner (2009). This approach simulates a distribution of coefficient estimates by repeatedly drawing new estimate values from a multivariate normal distribution using the CLARIFY suite of STATA commands. We display the results of this approach graphically not only to facilitate intuition, but also to demonstrate statistical significance and hypothesis support over different variable ranges (Hoetker, 2007; Zelner, 2009). In what follows, we report the sign and statistical significance of our variables using Tables 3-5, but determine statistical and economic significance and hypotheses support using Figures 2-7.

Control Variables

The sign and statistical significance of several control variables in Tables 3-5 indicate that their inclusion is warranted. In terms of firm-level control variables, older firms—measured by logged *Firm Age*—report moderately higher executive branch influence (0.10 p-values) and

significantly higher legislative and ministerial branch influence (0.05 *p*-values in both Tables). *Government-owned Firms* (0.01 *p*-values in all Tables), *Multinational Firms* (0.01 *p*-values in all Tables) and *Exporting Firms* (0.01 *p*-values in all Tables) indicate significantly more influence across all government branches. No or limited statistically significant effects obtain *Foreign-Owned Firm* or *Privatized-Firm*.

In terms of industry-level control variables, firms competing in the *Manufacturing Sector* (0.05 *p*-values in all Tables) and *Agricultural Sector* (0.10 *p*-values in all Tables) report lower governmental policymaking influence, in comparison to firms competing in the baseline *Services Sector*. Several firm-level characteristics also affect firms' perceived policymaking influence.

In terms of country institutional-level control variables, legal origin significantly affects firms' perceived abilities to influence governmental policymaking, with the coefficients suggesting a relatively consistent ordering. In comparison to firms operating in *Common Law Origin* countries, firms operating in *Civil Law Origin* countries report lower influence in all government branches (0.05 *p*-values in all Tables). An even more pronounced influence 'penalty' is indicated for firms operating in *Socialist Law Origin* countries (0.01 *p*-values in all Tables). Finally, *GDP/Capita* is negative and moderately statistically significant in the executive and mistrial branches, suggest the level of national income limits firms' governmental policymaking influence.

Direct Effects

We discuss briefly the direct effects of firm-, industry-, and country-level factors using Model 2 in Tables 3-5. There are positive and statistically significant effects from *Firm Size* (0.05 *p*-values in all Tables) on firms' policymaking influence. In short, large firms report more influence than their smaller counterparts. There are negative and generally statistically significant effects from *Competitors* on firms' governmental policymaking influence. Firms that face more competition are somewhat more likely to report less influence than firms facing less competition. Finally, there are negative but statistically insignificant relationships between country *Political Constraints* and firms' governmental policymaking influence. This result

suggests that influence advantages appear negligible between countries with different political institution constraints.⁸

--- Insert Tables 3-5 about here ---

Interaction Effects

Model 2 in Tables 3-5 examines the direct effects of firm-, industry-, and country institutionallevel factors, but fails to consider the interrelationships between these levels. We turn accordingly to Model 3, but alter slightly our econometric approach. Our dependent variables are based on five-point Likert scales, ranging from one ('no influence') to five ('very influential'). Multiple dependent variable outcomes and ordered probit estimation create interpretation and presentation difficulties related to economic significance.⁹ To limit these concerns, as well as to facilitate the graphical display of the relationships that we identify, we utilize our dichotomous representations of the main dependent variables.¹⁰ Probit estimation is used for these dichotomous variables, with results reported in Table 6.

Figures 2–4 plot small and large firms' influence over the executive, legislative, and ministerial branches, respectively, across the range of *Competitors*. Each figure is produced using simulations of coefficient parameters, preset values for the explanatory variables, and calculated expected values. Figures 5–7 plot small and large firms' influence over the executive, legislative and ministerial branches, respectively, across the range of *Political Constraints* levels using the same simulation approach. All other variables are held at their respective means. Confidence intervals (at 0.05 *p*-values) are also provided for these simulated results. The Stata CLARIFY suite of commands for interpreting statistical results is used to generate the simulations and produce the accompanying figures (King *et al.*, 2000; Zelner, 2009).

⁸ These findings do not eliminate the prospect that firms with preferences aligned completely with government preferences might prefer less constrained political structures in comparison to more constrained political structures.

⁹ Displaying economic significance and marginal effects with multiple dependent variable outcomes and ordered probit estimation requires showing marginal coefficients for each dependent variable category transition (e.g., from one to two; from two to three; etc.). A dichotomous variable and discrete probit estimation simplifies the presentation of economic significance via reduction to two categories and one transition.

¹⁰ Our dichotomous dependent variables are coded one if firms report being "frequently influential" or "very influential," and zero if firms report being "never influential," "influential," or "somewhat influential." While we purposely chose a narrow definition of "influence," our results are robust to different permutations.

Figures 2–4 examine how variations in industry concentration affect large and small firms' influence of these government branches. Several noteworthy findings are evident. First, large firms perceive that they have more influence over governmental policymaking than their smaller counterparts—across (nearly) the entire range of *Competitors* and in all government branches. These results provide strong support for *Hypothesis H1*. Second, small and large firms' perceive that their influence falls in all government branches as industry structure changes from concentrated to competitive. These results provide strong support for *Hypothesis H2*. Third, while small and large firms' influence decreases with more industry competitors, large firms better maintain influence relative to small firms. In relatively concentrated (e.g., monopolistic) industries, small and large firms achieve statistically and economically indistinguishable levels of influence across all government braches. In relatively more competitive industries, however, large firms achieve statistically significant and economically larger levels of influence. Figures 2–4 therefore provide strong support for *Hypothesis H4*.

--- Insert Figures 2-4 about here ---

Figures 5–7 plot small and large firms' influence over the executive, legislative and ministerial branch, respectively, across the range of *Political Constraints*. Several noteworthy findings are again evident. First, large firms perceive that they have more influence over governmental policymaking than their smaller counterparts—across nearly the entire range of *Political Constraints* and in all government branches. These results again provide strong support for *Hypothesis H1*. Second, large firms' perceived influence increases as country political constraints increases, while small firms' perceived influence either remains constant or decreases slightly. These results obtain across all government branches. While increases in country political institution constraints have positive effects on large firms' governmental policymaking influence, the impact on small firms is more muted. We therefore find support for *Hypothesis H3*, but only for large firms. Third, small and large firms achieve nearly equivalent governmental policymaking influence levels, but only in the least politically constrained, however, large firms achieve statistically significant and economically larger perceived influence levels in comparison to small firms. These results provide strong support for *Hypothesis H5*.

--- Insert Figures 5-7 about here ---

Discussion

Our empirical setting provides a comprehensive and geographically diverse analysis of the firm size-governmental policymaking influence relationship. Our empirical approach and results offer several implications that are important to non-market strategy research and managerial practice. For strategy researchers, our results suggest that the firm size-governmental policymaking influence relationship is shaped not only by variations in firm-, industry-, and country institutional-level factors, but also by interrelationships that exist between and among these factors. Our results also demonstrate clearly that these interactions both mitigate and accentuate this relationship. Both findings have strong implications for non-market strategy research. In particular, more fragmented industry structures appear to limit the governmental policymaking influence that any firm—small or large—perceives it is able to obtain. By contrast, more constrained political institutional environments appear to facilitate large firms' efforts in garnering additional policymaking influence while hindering small firms' efforts in doing such. Large firms thus appear better able to maintain or even gain governmental policymaking influence as industries become more competitive and as political institution environments become more constrained vis-à-vis their smaller counterparts.

In both the industry environment and country institutional environment, we suggest that large firms possess government policymaking influence advantages in comparison to small firms that relates to their scale, extant resources, and established relationships. We therefore suggest that the somewhat contrary findings from earlier research (e.g., the effects of industry structure on governmental influence) might be better explained through greater disaggregation of certain key variables and constructs (firm size in particular).

Finally, our empirical inquiry into the role of firm-, industry-, and country institutionallevel factors and policymaking influence yields nuanced differences across countries and industries, and across branches of government. While detailed treatment of these differences is beyond the scope of this paper, the results do suggest such analyses as important areas of future inquiry. For instance, an examination of how and why firms operating in different countries and/or in different industries consider particular government branches as offering superior influence returns to policymaking in comparison to other government branches is both an interesting and important question for non-market strategy research.

For managers, our results arguably provide a more refined and comprehensive picture of how firm size, industry structure and political institutions interact and shape non-market strategy in general and governmental policymaking influence in particular. Several managerial implications are derived directly from our empirical results. For instance, our results suggest that small firms should attempt to operate in more consolidated industry settings if they seek or require governmental policymaking influence—an admittedly unsurprising result. But our results also suggest that small firms should attempt to operate in more politically unconstrained institutional settings. This outcome is not because small firms are made better off in terms of policymaking influence—small firms' influence is generally constant across the political constraints range—but because their larger counterparts are made relatively worse off in comparison. In the most politically unconstrained institutional settings, small and large firms obtain roughly equivalent policymaking influence levels across the executive, legislative, and ministerial branches.

At the same time, our results suggest that large firms possess greater flexibility in their abilities to operate across varied industry structures and institutional environments. Across nearly the entire range of industry structures and institutional environments, large firms perceive that they have more governmental policy-making influence vis-à-vis small firms. While large firms' perceived influence falls in more competitive industry environments, small firms' perceived influence falls more sharply. Moreover, large firms' perceived influence increases in more politically constrained settings, while small firms' perceived influence falls.

At the very least, our results suggest to industry practitioners seeking policymaking influence that they consider divergent non-market strategy approaches in seeking influence that is based on their size, industry structure and political institution constraints. We suggest that these factors—as well as the interrelationships between and among these factors—are strongly correlated with the non-market strategy success and failure.

CONCLUSION

The propensity of firms to seek influence over governmental policymaking in the establishment of laws, rules or regulations is well documented. The degree to which firms are successful in these efforts—and the determinants of that success—is relatively less well understood. This paper reviews the extant literatures that examine firms' influence over governmental decision-making bodies. Based on this review, it develops hypotheses that suggest both direct relationships and interrelationships among firm-, industry-, and country institutional-level factors explain firms' governmental policymaking influence. It then undertakes several empirical analyses to demonstrate how firm-, industry-, and country institutional-level determinants—and interrelationships among these determinants—affect firms' policymaking influence in the executive, legislative, and ministerial branches of government using a dataset of global firms.

The empirical results confirm the common-held presumption of a firm size-governmental policymaking influence relationship. In short, large firms perceive that they have more influence over governmental decision-makers than their smaller counterparts. Beyond this rather unsurprising finding, however, the results suggest that the structure of the industry in which firms compete and the institutional environment of the country in which firms operate also affect firms' policymaking influence. Small firms and large firms perceive that they have less governmental policymaking influence in industries with more competitors. By contrast, large firms perceive that they have more influence in countries with greater political constraints, while small firms perceive that their influence levels remain generally constant regardless of the level of political constraints. These findings provide insights into firms' (divergent) non-market strategies.

Importantly, the empirical results suggest several nuanced insights into these relationships important to future academic research and to industry practitioners. First, small and large firms perceive that they lose policymaking influence with more industry competitors, but small firms perceive that they are affected to a greater extent than large firms do. Second, large firms perceive that they gain policymaking influence with greater country political constraints, while small firms generally maintain influence. Third, depending upon the industry-level structural characteristics and country-level institutional characteristics, small firms are no less influential than large firms in affecting government policies.

REFERENCES

- Baron DP. 1995. Integrated strategy: Market and Nonmarket Components. *California Management Review* **37**(2): 47-65.
- Batra G, Kaufmann D, Stone AHW. 2002. Voices of the Firms 2000: Investment Climate and Governance Findings of the World Business Environment Survey (WBES). *The World Bank Group*.
- Boddewyn JJ, Brewer TL. 1994. International-business political behavior: New theoretical directions. *Academy of Management Review* **19**(1): 119-144.
- Bonardi JP, Hillman AJ, Keim GD. 2005. The attractiveness of political markets: Implications for firm strategy. *Academy of Management Review* **30**(2): 397-413.
- Bonardi JP, Holburn GLF, Vanden Bergh RG. 2006. Nonmarket strategy performance: Evidence from US electric utilities. *Academy of Management Journal* **49**(6): 1209-1228.
- Bresnahan TF, Reiss PC. 1991. Entry and Competition in Concentrated Markets. *Journal of Political Economy* **99**(5): 977-1009.
- Chong A, Gradstein M. 2010. Firm-Level Determinants of Political Influence. *Economics & Politics* 22(3): 233-256.
- Gastanaga VM, Nugent JB, Pashamova B. 1998. Host Country Reforms and FDI Inflows: How Much Difference do They Make? *World Development* **26**(7): 1299-1314.
- Getz K. 1997. Research in Corporate Political Action: Integration and Assessment. *Business & Society* **36**: 32-77.
- Greene WH. 2009. Econometric Analysis (7th ed.). Prentice-Hall Inc.
- Grier KB, Munger MC, Roberts BE. 1994. The Determinants of Industry Political Activity, 1978-1986. *American Political Science Review* **88**(4): 911-926.
- Henisz WJ. 2000a. The Institutional Environment for Economic Growth. *Economics and Politics* **12**(1): 1-31.
- Henisz WJ. 2000b. The Institutional Environment for Multinational Investment. *Journal of Law, Economics, and Organization* **16**(2): 334-364.
- Henisz WJ, Macher JT. 2004. Firm- and country-level trade-offs and contingencies in the evaluation of foreign investment: The semiconductor industry, 1994-2002. *Organization Science* **15**(5): 537-554.
- Henisz WJ, Williamson OE. 1999. Comparative Economic Organization Within and Between Countries. *Business and Politics* **1**(3): 261-277.
- Henisz WJ, Zelner BA. 2001. The institutional environment for telecommunications investment. *Journal* of Economics & Management Strategy **10**(1): 123-147.
- Hillman A. 2003. Determinants of Political Strategies in US Multinationals. *Business & Society* **42**: 455-484.
- Hillman A, Zardkoohi A, Bierman L. 1999. Corporate Political Strategies and Firm Performance: Indications of Firm-Specific Benefits From Personal Service in the U.S. Government. *Strategic Management Journal* 20: 67-81.
- Hillman AJ, Keim GD, Schuler D. 2004. Corporate political activity: A review and research agenda. *Journal of Management* **30**(6): 837-857.
- Hoetker G. 2007. The use of logit and probit models in strategic management research: Critical issues. *Strategic Management Journal* **28**(4): 331-343.
- Holburn GLF, Vanden Bergh RG. 2008. Making friends in hostile environments: Political strategy in regulated industries. *Academy of Management Review* **33**(2): 521-540.

- Holburn GLF, Zelner BA. 2010. Political Capabilities, Policy Risk, and International Investment Strategy: Evidence from the Global Electric Power Generation Industry. *Strategic Management Journal* **31**(12): 1290-1315.
- King G, Tomz M, Wittenberg J. 2000. Making the Most of Statistical Analyses: Improving Interpretation and Presentation. *American Journal of Political Science* 44 **44**(2): 347-361.
- La Porta R, Lopez-de-Silanes F, Shleifer A, Vishny RW. 1998. Law and finance. *Journal of Political Economy* **106**(6): 1113-1155.
- Lenway SA, Rehbein K. 1991. Leaders, Followers, and Free Riders an Empirical-Test of Variation in Corporate Political Involvement. *Academy of Management Journal* **34**(4): 893-905.
- Macher JT, Mayo JW, Schiffer M. 2011. The Influence of Firms on Governments. *The B.E. Journal of Economic Analysis & Policy* **11**(1): Article 1.
- Masters M, Keim G. 1985. Determinants of PAC Participation Among Large Corporations. *Journal of Politics* **47**: 1158-1173.
- Mata J, Portugal P. 1994. Life Duration of New Firms. Journal of Industrial Economics 42(3): 227-245.
- Meznar M, Nigh D. 1995. Buffer or Bridge? Environmental and Organizational Determinants of Public Affairs Activities in American Firms. *Academy of Management Journal* **38**: 975-966.
- North DC. 1990. Institutions, Institutional Change, and Economic Performance. Cambridge University Press: New York.
- Olson M. 1965. *The logic of collective action; public goods and the theory of groups*. Harvard University Press: Cambridge, Mass.,.
- Pecorino P. 1998. Is there a free-rider problem in lobbying? Endogenous tariffs, trigger strategies, and the number of firms. *American Economic Review* **88**(3): 652-660.
- Pittman R. 1976. The Effects of Industry Concentration and Regulation on Contributions in Three 1972 U.S. Senate Campaigns. *Public Choice* **21**: 71-80.
- Potters J, Sloof R. 1996. Interest Groups: A Survey of Empirical Models That Try to Assess Their Influence. *European Journal of Political Economy* **12**(3): 403-442.
- Rajan RG, Zingales L. 2003. The great reversals: the politics of financial development in the twentieth century. *Journal of Financial Economics* **69**(1): 5-50.
- Salamon LM, Siegfried JJ. 1977. Economic Power and Political Influence Impact of Industry Structure on Public-Policy. *American Political Science Review* **71**(3): 1026-1043.
- Schuler D. 1996. Corporate Political Strategy and Foreign Competition: The Case of the Steel Industry. *Academy of Management Journal* **39**: 720-737.
- Schuler D, Rehbein K. 1997. The Filtering Role of the Firm in Corporate Political Involvement. *Business & Society* **36**: 116-139.
- Schuler DA, Rehbein K, Cramer RD. 2002. Pursuing strategic advantage through political means: A multivariate approach. *Academy of Management Journal* **45**(4): 659-672.
- Shaffer B, Quasney T, Grimm C. 2000. Firm-Level Performance Implications of Nomarket Actions. Business & Society **39**(2): 126-143.
- Stigler GJ. 1974. Free Riders and Collective Action Appendix to Theories of Economic Regulation. *Bell Journal of Economics* **5**(2): 359-365.
- Wei SJ. 2000. How Taxing is Corruption on International Investors. *Review of Economic and Statistics* **82**(1): 1-11.
- Weymouth S. 2011. Oligopolists Rule: The Microeconomic Determinants of Lobbying and Political Influence. *Georgetown University Working Paper*: 1-33.
- Zelner BA. 2009. Using Simulation to Interpret Results from Logit, Probit, and Other Nonlinear Models. *Strategic Management Journal* **30**(12): 1335-1348.

VARIABLE	MEAN	ST. DEV.	MIN	MAX	
DEPENDENT VARIABLE					
Executive Influence	2.427	1.025	1.000	5.000	
Legislative Influence	2.395	0.997	1.000	5.000	
Ministerial Influence	2.431	1.025	1.000	5.000	
Executive Influence PCT	0.150	0.357	0.000	1.000	
Legislative Influence PCT	0.137	0.344	0.000	1.000	
Ministerial Influence PCT	0.155	0.362	0.000	1.000	
INDEPENDENT VARIABLES					
Firm Size	1.788	0.743	1.000	3.000	
Competitors	1.187	0.265	0.000	2.303	
Political Constraints	0.537	0.270	0.000	0.860	
CONTROL VARIABLES					
Common Law Origin	0.259	0.438	0.000	1.000	
Civil Law Origin	0.346	0.476	0.000	1.000	
Socialist Law Origin	0.385	0.487	0.000	1.000	
GDP/Capita	7.449	1.307	4.818	10.414	
Trade/GDP	4.202	0.478	3.055	5.387	
Manufacturing Sector	0.331	0.471	0.000	1.000	
Agriculture Sector	0.064	0.245	0.000	1.000	
Construction Sector	0.087	0.281	0.000	1.000	
Other Sector	0.036	0.186	0.000	1.000	
Services Sector	0.393	0.489	0.000	1.000	
Firm Age	2.674	0.853	1.099	6.400	
Foreign-Owned Firm	0.188	0.391	0.000	1.000	
Government-Owned Firm	0.122	0.327	0.000	1.000	
Privatized Firm	0.125	0.331	0.000	1.000	
Multinational Firm	0.182	0.386	0.000	1.000	
Exporting Firm	0.356	0.479	0.000	1.000	

TABLE 1 – SUMMARY STATISTICS

TABLE 2 – CORRELATION STATISTICS

	(1) Executive Influence	(2) Legislative Influence	(3) Ministerial Influence	(4) Political Constraints	(5) Competitors	(6) Firm Size	(7) Common Law Origin	(8) Civil Law Origin	(9) Socialist Law Origin	(10) GDP/Capita	(11) Trade/GDP	(12) Manufacturing Sector	(13) Agriculture Sector	(14) Construction Sector	(15) Other Sector	(16) Services Sector	(17) Firm Age	(18) Foreign-Owned Firm	(19) Government-Owned Firm	(20) Privatized Firm	(21) Multinational Firm	(22) Exporting Firm
(1)	1.00																					
(2)	0.85	1.00																				
(3)	0.81	0.83	1.00																			
(4)	0.22	0.21	0.23	1.00																		
(5)	-0.22	-0.20	-0.21	-0.15	1.00																	
(6)	0.05	0.07	0.06	0.02	-0.11	1.00																
(7)	0.22	0.20	0.19	0.06	0.03	0.25	1.00															
(8)	0.20	0.19	0.20	0.16	-0.27	0.10	-0.43	1.00														
(9)	-0.33	-0.31	-0.31	-0.21	0.25	-0.35	-0.47	-0.58	1.00													
(10)	0.07	0.10	0.07	0.03	-0.24	0.46	-0.06	0.17	-0.15	1.00												
(11)	-0.10	-0.08	-0.08	-0.14	0.09	-0.02	-0.02	-0.37	0.37	0.01	1.00											
(12)	0.02	0.03	0.03	0.17	-0.07	0.03	0.02	-0.02	0.00	-0.01	-0.01	1.00										
(13)	-0.08	-0.07	-0.08	0.05	0.08	-0.18	-0.07	-0.12	0.18	-0.12	0.06	-0.18	1.00									
(14)	-0.03	-0.03	-0.03	-0.05	0.09	-0.01	0.06	-0.03	-0.02	-0.04	-0.03	-0.22	-0.08	1.00								
(15)	-0.03	-0.03	-0.03	-0.02	0.04	0.01	0.12	-0.02	-0.09	-0.13	-0.03	-0.14	-0.05	-0.06	1.00							
(16)	0.02	0.02	0.02	-0.17	0.00	0.06	-0.06	-0.02	0.07	0.17	0.03	-0.57	-0.21	-0.25	-0.16	1.00						
(17)	0.20	0.20	0.21	0.37	-0.20	0.25	0.13	0.31	-0.42	0.32	-0.20	0.08	-0.05	-0.03	-0.02	-0.08	1.00					
(18)	0.11	0.10	0.12	0.24	-0.09	0.07	0.12	0.08	-0.19	0.03	-0.07	0.11	-0.07	-0.03	0.02	-0.05	0.07	1.00				
(19)	0.02	0.01	0.05	0.22	-0.06	-0.08	-0.07	-0.16	0.22	-0.02	0.07	0.05	0.05	-0.03	0.03	-0.03	0.13	-0.06	1.00			
(20)	-0.07	-0.06	-0.06	0.12	0.07	-0.14	-0.14	-0.19	0.32	-0.04	0.11	0.06	0.14	-0.02	-0.02	-0.06	-0.13	-0.04	0.17	1.00		
(21)	0.17	0.17	0.18	0.26	-0.07	0.07	0.10	0.12	-0.22	0.08	-0.09	0.05	-0.08	0.01	0.03	-0.03	0.17	0.38	-0.04	-0.06	1.00	
(22)	0.09	0.10	0.12	0.29	-0.04	0.14	0.15	0.00	-0.14	0.09	-0.01	0.31	-0.04	-0.06	0.04	-0.22	0.18	0.24	0.05	0.01	0.31	1.00

Bold indicates significance at .05 *p*-value

	MODEL 1	MODEL 2	MODEL 3
	β	β	β
	(s.e.)	(s.e.)	(s.e.)
Firm Size		0.200***	-0.106
		-0.067*	-0.199***
Competitors		(0.036)	(0.054)
Political Constraints		-0.373	-0.867***
		(0.259)	(0.334)
Firm Size X Competitors			0.069** (0.027)
Firm Size X Political Constraints			0.290** (0.133)
Civil Law Origin	-0.419***	-0.430***	-0.428***
	(0.126)	(0.129)	(0.130)
Socialist Law Origin	-1.366***	-1.332***	-1.315***
Socialist Law Origin	(0.133)	(0.142)	(0.143)
GDP/Capita	-0.156***	-0.101*	-0.102*
0017040114	(0.040)	(0.058)	(0.057)
Trade/GDP	0.023	0.062	0.065
	(0.112)	(0.098)	(0.099)
Manufacturing Sector	-0.094**	-0.143***	-0.146***
Manajactaning Sector	(0.049)	(0.048)	(0.047)
Agriculture Sector	-0.093	-0.187*	-0.176*
Agriculture Sector	(0.081)	(0.097)	(0.096)
Construction Soctor	-0.051	-0.060	-0.056
construction sector	(0.049)	(0.043)	(0.044)
Other Sector	-0.202	-0.119	-0.105
Other Sector	(0.164)	(0.163)	(0.166)
Firm Aga	0.097***	0.052*	0.050*
riim Age	(0.029)	(0.028)	(0.028)
Foreign Owned Firm	0.062	0.006	0.001
Foreign-Owned Firm	(0.047)	(0.050)	(0.049)
Covernment Owned Firm	0.352***	0.246***	0.237***
Government-Owned Firm	(0.062)	(0.061)	(0.061)
Drivatized Firm	0.200***	0.125	0.114
Privatizea Firm	(0.074)	(0.081)	(0.074)
Multinational Firm	0.221***	0.170***	0.160***
	(0.043)	(0.045)	(0.045)
Fun ontin a Finne	0.137***	0.115***	0.115***
Exporting Firm	(0.033)	(0.038)	(0.038)
	-2.910	-2.534	-3.084
Limit point 1	(0.595)	(0.547)	(0.521)
	-1.088	-0.656	-1.203
Limit point 2	(0.614)	(0.560)	(0.535)
	-0.412	0.023	-0.523
Limit point 3	(0.621)	(0.569)	(0.546)
	0.104	0.544	-0.002
Limit point 4	(0.619)	(0.570)	(0.548)
Observations	6339	6339	6339
Wald Statistic (d.f.)	345.9***	440.5***	461.8***
Pseudo-R ²	0.079	0.087	0.089
	0.075	0.007	0.000

TABLE 3 – EXECUTIVE BRANCH INFLUENCE ESTIMATIONS

* <0.10; ** <0.05; *** <0.01

	MODEL 1	MODEL 2	MODEL 3
	β	β	β
	(s.e.)	(s.e.)	(s.e.)
Firm Size		0.185***	-0.123
11111 5120		(0.030)	(0.096)
Competitors		-0.067*	-0.193***
competitors		(0.037)	(0.064)
Political Diversification		-0.322	-0.840***
Pointicul Diversignation		(0.273)	(0.330)
Firm Size V Competitors			0.066**
Firm Size X competitors			(0.031)
Firm Size X Political Constraints			0.304**
			(0.121)
Civil Law Origin	-0.310**	-0.315**	-0.313**
Civil Law Origin	(0.142)	(0.149)	(0.148)
Socialist Law Origin	-1.208***	-1.165***	-1.149***
Socialist Law Origin	(0.145)	(0.156)	(0.158)
GDP/Canita	-0.110**	-0.065	-0.065
ODF/Capita	(0.044)	(0.062)	(0.062)
Trade/GDP	0.089	0.125	0.128
	(0.114)	(0.102)	(0.102)
Manufacturing Sector	-0.081*	-0.127***	-0.129***
Wanajactaning Sector	(0.043)	(0.042)	(0.042)
Agriculture Sector	-0.102	-0.181**	-0.170*
Agriculture Sector	(0.074)	(0.091)	(0.092)
Construction Sector	-0.057	-0.067	-0.061
construction Sector	(0.058)	(0.054)	(0.054)
Other Sector	-0.196	-0.123	-0.110
	(0.171)	(0.175)	(0.183)
Firm Age	0.098***	0.057**	0.056**
	(0.025)	(0.023)	(0.023)
Foreian-Owned Firm	0.034	-0.021	-0.027
	(0.051)	(0.052)	(0.052)
Government-Owned Firm	0.299***	0.214***	0.206***
	(0.054)	(0.053)	(0.054)
Privatized Firm	0.192***	0.127	0.116
	(0.075)	(0.082)	(0.073)
Multinational Firm	0.222***	0.174***	0.164***
	(0.043)	(0.045)	(0.045)
Exporting Firm	0.135***	0.115***	0.116***
	(0.035)	(0.039)	(0.038)
Limit point 1	-2.141	-1.826	-2.380
	(0.629)	(0.600)	(0.589)
Limit point 2	-0.288	0.078	-0.472
	(0.649)	(0.614)	(0.606)
Limit point 3	0.390	0./57	0.208
•	(0.655)	(0.624)	(0.618)
Limit point 4	0.887	1.259	0.711
•	(0.655)	(0.628)	(0.622)
Observations	6336	6336	6336
Wald Statistic (d.f.)	271.1***	438.2***	485.2***
Pseudo-R ²	0.070	0.077	0.079

TABLE 4 – LEGISLATIVE BRANCH INFLUENCE ESTIMATIONS

* <0.10; ** <0.05; *** <0.01

	MODEL 1	MODEL 2	MODEL 3
	β	β	β
	(s.e.)	(s.e.)	(s.e.)
Firm Circ		0.194***	-0.186**
Firm Size		(0.025)	(0.093)
Compatitors		-0.060	-0.228***
Competitors		(0.040)	(0.063)
Delitical Diversification		-0.316	-0.916***
Political Diversification		(0.244)	(0.311)
			0.089***
Firm Size X Competitors			(0.026)
Firm Size V Belitical Constraints			0.352***
Firm Size × Politicul Constraints			(0.125)
	-0.339***	-0.355***	-0.352***
Civil Law Origin	(0.124)	(0.126)	(0.127)
	-1.235***	-1.208***	-1.186***
Socialist Law Origin	(0.140)	(0.155)	(0.157)
	-0.138***	-0.096*	-0.097*
GDP/Capita	(0.042)	(0.053)	((0.053)
T 1 (000	0.059	0.101	0.105
Trade/GDP	(0.110)	(0.097)	(0.097)
Manufacturing Contan	-0.116**	-0.166***	-0.169***
Manufacturing Sector	(0.050)	(0.048)	(0.048)
A minute a Castan	-0.175**	-0.242***	-0.232***
Agriculture Sector	(0.076)	(0.086)	(0.089)
	-0.063	-0.076*	-0.071
Construction Sector	(0.048)	(0.046)	(0.046)
Others Contain	-0.130	-0.051	-0.033
Other Sector	(0.160)	(0.162)	(0.168)
Sime Ann	0.112***	0.070***	0.068***
Firm Age	(0.024)	(0.023)	(0.023)
Foreign Owned Firm	0.105**	0.051	0.045
Foreign-Owned Firm	(0.052)	(0.052)	(0.051)
Covernment Owned Firm	0.398***	0.306***	0.294***
Government-Gwned i inn	(0.064)	(0.065)	(0.066)
Privatized Firm	0.162**	0.097	0.082
F TIVULIZEU T ITTT	(0.080)	(0.088)	(0.080)
Multinational Firm	0.228***	0.182***	0.170***
	(0.036)	(0.038)	(0.038)
Exporting Firm	0.203***	0.179***	0.180***
Exporting	(0.038)	(0.042)	(0.042)
Limit point 1	-2.476	-2.144	-2.832
	(0.615)	(0.570)	(0.545)
Limit point ?	-0.625	-0.241	-0.923
	(0.632)	(0.578)	(0.557)
Limit point 3	0.019	0.406	-0.274
	(0.640)	(0.588)	(0.569)
Limit point 4	0.560	0.952	0.272
	(0.642)	(0.593)	(0.575)
Observations	6308	6308	6308
Wald Statistic (d.f.)	485.1***	724.0***	965.7***
Pseudo-R ²	0.077	0.085	0.086

TABLE 5 - MINISTERIAL BRANCH INFLUENCE ESTIMATIONS

* <0.10; ** <0.05; *** <0.01

	EXECUTIVE	EXECUTIVE	LEGISLATIVE	LEGISLATIVE	MINISTERIAL	MINISTERIAL
	BRANCH	BRANCH	BRANCH	BRANCH	BRANCH	BRANCH
	β	β	β	β	β	β
	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)	(s.e.)
Eirm Size	0.112	0.132**	0.161	0.095	0.014	0.034
	(0.111)	(0.069)	(0.112)	(0.071)	(0.111)	(0.069)
Competitors	-0.471**	-0.280***	-0.339	-0.247***	-0.506**	-0.201**
Competitors	(0.212)	(0.080)	(0.215)	(0.081)	(0.210)	(0.079)
Political Diversification	0.065	-0.213	0.211**	-0.163	0.165*	-0.319
Fontical Diversification	(0.101)	(0.224)	(0.102)	(0.226)	(0.100)	(0.221)
Firm Size X Comnetitors	0.095		0.045		0.154	
	(0.099)		(0.099)		(0.098)	
Firm Size X Political Constraints		0.150		0.205*		0.264**
		(0.109)		(0.111)		(0.109)
Civil Law Origin	-0.513***	-0.518***	-0.376***	-0.380***	-0.421***	-0.431***
	(0.068)	(0.068)	(0.068)	(0.068)	(0.069)	(0.069)
Socialist Law Origin	-1.020***	-1.037***	-0.768***	-0.781***	-0.855***	-0.883***
Socialist Law Origin	(0.082)	(0.082)	(0.083)	(0.082)	(0.081)	(0.081)
CDP/Canita	-0.176***	-0.176***	-0.119***	-0.120***	-0.170***	-0.171***
GDF/Cupita	(0.024)	(0.024)	(0.024)	(0.024)	(0.023)	(0.023)
Trade/CDD	0.019	0.018	0.111**	0.111**	0.049	0.047
Trude, GDr	(0.044)	(0.044)	(0.045)	(0.045)	(0.045)	(0.045)
Manufacturing Sector	-0.163***	-0.160***	-0.154***	-0.151***	-0.197***	-0.192***
Wandjactaring Sector	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)
Agriculture Sector	-0.082	-0.067	-0.120	-0.106	-0.152	-0.127
Agriculture Sector	(0.093)	(0.093)	(0.096)	(0.096)	(0.094)	(0.094)
Construction Sector	0.006	0.012	-0.021	-0.016	-0.025	-0.016
	(0.081)	(0.081)	(0.082)	(0.082)	(0.080)	(0.080)
Other Sector	-0.118	-0.118	-0.001	0.001	-0.407	-0.406
	(0.313)	(0.313)	(0.283)	(0.282)	(0.347)	(0.346)
Firm Ane	0.017	0.017	0.028	0.027	0.054**	0.054***
	(0.028)	(0.028)	(0.028)	(0.028)	(0.027)	(0.027)
Foreign-Owned Firm	-0.023	-0.026	-0.070	-0.075	0.037	0.031
	(0.059)	(0.059)	(0.060)	(0.060)	(0.058)	(0.058)
Government-Owned Firm	0.308***	0.318***	0.144***	0.152**	0.366***	0.382***
	(0.065)	(0.065)	(0.067)	(0.067)	(0.064)	(0.063)
Privatized Firm	0.061	0.068	0.075	0.079	0.021	0.032
	(0.066)	(0.065)	(0.066)	(0.065)	(0.065)	(0.065)
Multinational Firm	0.180***	0.177***	0.195***	0.191***	0.213***	0.208***
	(0.059)	(0.059)	(0.059)	(0.059)	(0.058)	(0.058)
Exporting Firm	0.076	0.077	0.072	0.074	0.157***	0.159***
Liporting	(0.049)	(0.050)	(0.050)	(0.050)	(0.049)	(0.049)
Constant	0.900**	0.856***	-0.353	-0.232	0.557	0.514
	(0.362)	(0.317)	(0.368)	(0.323)	(0.359)	(0.316)
Observations	6339	6339	6336	6336	6339	6339
LR Statistic (d.f.)	442.1***	443.1***	316.4***	319.5***	426.4***	429.9***
Pseudo-R ²	0.084	0.085	0.063	0.064	0.080	0.081

TABLE 6 – PROBIT ESTIMATIONS (* <0.10; ** <0.05; *** <0.01)





FIGURE 2 – EXECUTIVE BRANCH INFLUENCE (SIZE x COMPETITION)



FIGURE 3 – LEGISLATIVE BRANCH INFLUENCE (SIZE x COMPETITION)



FIGURE 3 – MINISTERIAL BRANCH INFLUENCE (SIZE x COMPETITION)



FIGURE 5 – EXECUTIVE BRANCH INFLUENCE (SIZE x POLITICAL CONSTRAINTS)



FIGURE 6 – LEGISLATIVE BRANCH INFLUENCE (SIZE x POLITICAL CONSTRAINTS)



FIGURE 7 – MINISTERIAL BRANCH INFLUENCE (SIZE x POLITICAL CONSTRAINTS)

DEPENDENT VARIABLES	DESCRIPTION AND SOURCE					
Governmental policymaking influence	"When a new law, rule, regulation, or decree is being discussed that could have a substantial impact on your business, how much influence does your firm typically have at the national level of government on the content of that law, rule, regulation or decree?" Answered separately for 1) Executive Branch; 2) Legislative Branch; 3) Ministerial Branch Source: WBES. Scale: 1: never influential5: very influential.					
INDEPENDENT VARIABLES	DESCRIPTION AND SOURCE					
Firm Size	Size of firm. (1) Small-sized: 5–50 full-time employees; (2) Medium-sized: 51– 500 employees; (3) Large-sized: more than 500 employees. Source: WBES.					
Competitors	"Regarding your firm's major product line, how many competitors do you face in your markets?" Source: WBES. Scale: Logged.					
Political Constraints	Number of institutional players (e.g., executive, upper and lower legislative bodies) and partisan alignment across political institutions. Higher values imply greater political constraints present in a country's policy-making process. Source: Henisz (2000). Scale: 01.					
CONTROL VARIABLES	DESCRIPTION AND SOURCE					
Legal Origin	Country Legal Origin: (1) English Common Law; (2) French Commercial Code; (3) German Commercial Law; (4) Scandinavian Commercial Law; (5) Socialist/Communist Law. Germany and Sweden included in Civil Law (rather that Common Law) category. Source: La Porta et al. (1999). Scale: 0/1.					
GDP/Capita	GDP and Population for 1999 (current USD). Source: World Development Indicators. Scale: Logged.					
Trade/GDP	Trade and GDP for 1999 (current USD). Source: World Development Indicators. Scale: Logged.					
Industry Sectors	Industry Indicators: a) Services; b) Manufacturing; c) Agriculture; d) Construction; e) Other. Source: WBES. Scale: 0/1.					
Firm Age	Logged years since start-up. Source: WBES. Scale: 0/1.					
Foreign-Owned Firm	"Share of Foreign Ownership?" Source: WBES. Scale: 0/1.					
Government-Owned Firm	"Share of State Ownership?" Source: WBES. Scale: 0/1.					
Privatized Firm	"How was your firm established?" Source: WBES. Scale: 0/1.					
Multinational Firm	"Does your firm have holdings or operations in other countries?" Source: WBES. Scale: 0/1.					
Exporting Firm	"Does your firm export?" Source: WBES. Scale: 0/1.					

APPENDIX – VARIABLE DEFINITIONS