

# Nonmarket performance: Evidence from U.S. electric utilities

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# NONMARKET STRATEGY PERFORMANCE: EVIDENCE FROM U.S. ELECTRIC UTILITIES

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## ABSTRACT

Building on a framework that assesses the attractiveness of 'political markets' – where firms transact over public policies with government policy-makers – we develop hypotheses regarding the success or performance of firms' nonmarket strategies. We propose that the ability of firms to gain more favorable policy outcomes is increasing in the degree of rivalry among elected politicians; the firm's recent experience with policy-makers; and the opportunity to learn from other firms' recent experiences; and is decreasing in the degree of rivalry from competing interest groups and the resource base of regulatory agencies. Using data on regulatory filings for rate increases made by the population of U.S. privately-owned electric utilities over a 13 year period, we find empirical support for our arguments.

Although the last decade has witnessed increased interest in the design and implementation of firms' nonmarket strategies – defined as the coordinated actions firms undertake in public policy arenas (Baron, 2003; Baysinger, 1984; Hillman et al., 2004; Shaffer, 1995) – extant research has remained relatively silent regarding the actual performance of such strategies. By performance, we mean the ability of firms to effect favorable public policy decisions. For instance, firms may seek legislative or regulatory support for specific environmental emissions standards, import tariff policies, anti-trust decisions or regulated rates. Relative to a given status quo policy, performance measures the ability of a firm to achieve policy either closer to, or to block proposals that move policy further from, its preferred position. Considerable attention has been paid to firms' decisions regarding investments in, and the structure of, nonmarket strategies (Bonardi, 2004; de Figuereido and Tiller, 2001; Grier et al, 1994; Hillman and Hitt, 1999; Holburn and Vanden Bergh, 2002, 2004; Keim and Zeithaml, 1986; Lenway and Rehbein, 1991; Schuler, 1996; Schuler, Rehbein and Cramer, 2002). Despite these studies, however, little analysis has directly examined the determinants of actual performance (Keim and Baysinger, 1988). As Getz notes in a survey, "*if political action is ever to be fully integrated with strategic planning and organizational behavior (intellectually or practically), much more empirical work on effectiveness will need to be done*" (1997: 64). Our objective in this paper is thus to extend the current literature by exploring, both theoretically and empirically, nonmarket strategy performance.

A natural question is why the academic literature has produced so little investigation into the issue of performance. After all, this is a critical managerial issue. We advance two explanations. At a theoretical level, the field has until recently lacked a unifying conceptual framework that analyzes the determinants of nonmarket strategy performance (Lord, 2000). Recent scholarship,

however, has proposed a framework of 'political markets' where interactions of demanders (firms, consumers, unions, activists, etc.) and suppliers (government policy-makers) shape public policies (Bonardi et al., 2005). In this view, suppliers such as legislators implicitly trade votes on legislative bills in return for electorally-valuable resources such as campaign contributions. In a spirit similar to Porter's structural industry analysis (Porter, 1980), the framework assesses the inherent attractiveness of operating in different types of political markets. Structural characteristics such as rivalry among demanders or suppliers make political markets more or less attractive from a firm's perspective – thereby influencing the firm's decision to engage in nonmarket strategies.

Here, we utilize and build on the political markets framework to develop theoretically-grounded predictions regarding the performance of firm nonmarket strategy. In particular, we extend the framework to incorporate other institutional suppliers of public policies: regulatory agencies, which have responsibility for designing and implementing policies (Weidenbaum, 2003). Since agency objectives are not necessarily aligned with those of elected politicians, firms may need to adapt their nonmarket strategies when interacting mainly with regulatory agencies.

We expand the political markets approach also by exploring how firm-specific capabilities affect nonmarket performance. Several authors, building on the resource-based view, have suggested that firms' internal processes, resources and knowledge related to political activities are unevenly distributed among firms, and that firms with such nonmarket capabilities should be more effective in influencing public policies (Baron, 2003; Keim and Baysinger, 1988; Dean and Brown, 1995; Hillman et al., 2004). Here, we build on this general proposition in the context of the political markets framework and develop specific hypotheses relating nonmarket capabilities to performance.

The second reason for the paucity of work on nonmarket strategy performance, we speculate, stems from the difficulty of obtaining data both on the structure of firms' nonmarket strategies and on their performance impact on a particular policy issue. Existing studies have investigated the impact of nonmarket activities using highly aggregated measures of firms' performance such as corporate financial profitability (Hillman, Zardkoohi, and Bierman, 1999; Shaffer, Quasney and Grimm, 2000). Here, we overcome the resulting identification and measurement challenges by using rich information on U.S. electric utilities' nonmarket stategies. We construct a panel dataset that includes specific measures of the performance of firm nonmarket strategy – in this case regulatory agency decisions on the financial rate of return that U.S. electric utilities may earn – and a precise identification of the firm's decision to implement a nonmarket strategy – the utility's decision to file a formal request with the regulatory agency to change its rates. Using this novel dataset, we find support for the validity of the political markets framework, including firm-specific capabilities, in determining the performance of firms' nonmarket strategies.

The rest of the paper is divided into five sections. In the next, we briefly lay out the theoretical foundations for an integrative analysis of nonmarket performance based on the concept of political market attractiveness. Following that, we develop specific hypotheses regarding firm nonmarket strategy performance. The third section provides a test of our hypotheses using data on U.S. electric utilities' rate reviews during the 1980s and early 1990s. The fourth and fifth sections present and discuss the results.

## THEORETICAL BACKGROUND

In understanding the factors that drive nonmarket strategy performance we find it helpful to draw an analogy with the competitive strategy literature. Scholars have argued that firm performance is either correlated with industry attractiveness (Porter, 1980; McGahan and Porter,

1997) or with the firm's distinctive capabilities (Barney, 1991; Rumelt, 1991; Wernerfelt, 1984). Here, we draw a similar distinction between external and internal drivers of performance, which we now discuss in turn.

**Political markets and firms' nonmarket performance**

Research in economics and political science has argued that a firm's political environment can be characterized as a marketplace where demanders – firms, interest groups, unions, consumers, activists, etc.- and suppliers - elected politicians, regulatory agencies and courts - transact over public policies. Originally developed in the 1960s, the political markets approach challenged the common axiom in the economics literature that government institutions adopt and implement public policies in the "public interest" (Buchanan and Tullock, 1962; Stigler, 1971). Instead, politicians exchange policy favors for resources from organized interest groups in order to maximize their electoral prospects. Valuable resources include votes from supporting interest groups or other resources, such as financial resources and information, which can indirectly influence election outcomes (Mueller, 2003). Since most voters remain rationally ignorant about policy details due to the costs of becoming fully informed, politicians have some scope to trade policies that deviate from the "public interest" (Aranson, 1990). The implication is that firms, through the appropriate implementation of nonmarket strategies, are able to influence policy-makers' decisions. Figure 1 provides a representation of a political market involving a focal firm that wishes to influence a particular public policy.

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Insert Figure 1 about here

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The objectives of the suppliers – such as election for politicians in democratic institutional systems – shape the types of resources that are valuable in the political marketplace (Hillman and

Keim, 1995). In democratic institutional systems, for example, politicians value votes and the resources that generate votes. Demanders, including firms, who are able to provide these resources have an opportunity to gain more favorable policy decisions. Firms design nonmarket strategies, either individually or in concert with other firms or groups, to effectively participate in political markets, providing votes, for instance, through constituency building; financial support, such as campaign contributions; and information regarding policy consequences and alternatives (Hillman and Hitt, 1999). Bonardi, Hillman and Keim (2005) examine the conditions under which the demand and supply sides of the political market for a specific issue will be attractive from a firm's perspective. This approach provides an overall framework for us to study the factors that drive the performance of firms' nonmarket strategies.

**Political markets and the role of regulatory agencies**

While the political markets approach has spurred research streams in both the economics and strategic management literatures (Bonardi, Hillman and Keim, 2005; de Figueiredo and Silverman (forthcoming), a shortcoming to date has been the relative neglect of the 'supply-side', and especially the role played by regulatory agencies. Much of the existing literature examines how firms or organized interest groups design campaign contribution strategies aimed at securing the support of elected legislators in the legislative process – to propose, modify or veto legislative bills. In many industries, however, expert agencies have primary responsibility for designing and implementing public policies through administrative regulations. They are also prohibited from accepting financial resources from the firms they regulate. Furthermore, agency motivations are typically not dictated by the ballot box since agency heads are usually appointed by executives or legislatures. Such factors suggest that agency decisions can have important consequences for many firms and that agencies may behave differently from elected political

institutions. From the firm's perspective, then, designing nonmarket strategies to interface with regulatory agencies presents different challenges from those targeted at elected politicians (Baron, 2001). One contribution of this article therefore will be to better integrate agencies into the political markets framework and to develop hypotheses regarding how agencies affect the performance of a firm's nonmarket strategy.

**Political markets and firms' nonmarket capabilities**

Another limitation of the political markets framework as developed to date relates to the existence of distinctive nonmarket capabilities within firms. In much research, especially empirical studies, nonmarket capabilities have been excluded, implicitly treating firms as homogenous entities (Hillman et al., 2004). Following the resource-based view of the firm, however, several researchers have argued that an important component of nonmarket strategies and of their performance lies in firms' internal nonmarket capabilities (Baron, 2003; Dean and Brown, 1995; Hillman and Hitt, 1999; Vietor, 1994). Nonmarket capabilities consist of tacit and non-tacit knowledge and skills that enable firms to manage the public policy process and to achieve favorable legislative, executive, administrative and judicial policy outcomes.

The significance of nonmarket capabilities as a determinant of nonmarket performance has also not been clearly articulated. Here, we argue that nonmarket capabilities are particularly important in explaining heterogeneity among firms' nonmarket performance since political markets exhibit high transaction costs – factors that impede the specification, monitoring or enforcement of transactions (Dixit, 1996). As North comments, "*political markets are characterized by imperfect information, subjective models and high transaction costs. (...) The political market has been, and continues to be, one in which the actors have an imperfect understanding of the issues affecting them and equally in which the high costs of transacting*

*prevent the achievement of efficient solutions,"* (North, 1990: 357). Given the prohibition on explicit contracts between special interest groups and politicians – and hence on judicial enforcement – the risks of opportunism and market failure are high (Dixit, 1996: 53). It is in this context that nonmarket capabilities play a key role. Firms that develop the ability to sustain 'trade' in political markets – especially by developing credible reputations (Eggertson, 1993) – can overcome these intrinsic barriers and more successfully implement nonmarket strategies.

## HYPOTHESIS DEVELOPMENT

We now build on the political markets framework presented above to develop hypotheses on the determinants of a firm's nonmarket strategy performance. We focus our arguments around four key factors: the degree of rivalry among demanders; the degree of rivalry among politicians; the resource base of the regulatory authority; and finally the nonmarket capabilities of the focal firm.

### Demand-side: interest groups

Mueller (2003: 472) argues that "*politics in the modern democratic state is not a confrontation between two polarized economic classes, but rather a struggle among a plethora of groups with divergent interests*". Firms, in developing nonmarket strategies, may face opposition from several types of 'demanders' in the market for public policies (Mahon, 1993). First, other firms, either market rivals or within the broader industry structure, may be disadvantaged, either absolutely or relatively, by the regulatory changes proposed by the focal firm. Competing firms that are politically organized either individually or in industry associations can generate high levels of rivalry (Stigler, 1971). As an example, during 2005 Walmart proposed an increase to the minimum wage. This policy change would have asymmetrically affected rivals in the retail industry, as Walmart's average wage paid to

employees was significantly higher than the current minimum wage while their rival's average wage was much closer to the extant minimum wage. This generated significant lobbying pressures by rivals against Walmart's proposal.[1]

Second, consumers of the firm's products or services can also pose a threat by demanding public policies that lower rates or increase costs through new quality, environmental, safety or other standards. While the costs of collective action are typically substantial for individual consumers, those that are sufficiently large or that can obtain public funds, can organize against the firm in policy arenas (Holburn and Vanden Bergh, 2006; Olson, 1965). A third type of nonmarket competition stems from interest groups such as unions or environmental activists. Recent scholarship argues these actors can be tough opponents for firms since a common strategy has been to mobilize the media which, by providing new information to otherwise uninformed voters, enables them to alter public perceptions on policy issues (Bonardi and Keim, 2005). By making issues more politically salient, these interest groups can exert powerful pressure on politicians and appointed bureaucrats. Again, Walmart is an interesting example as many activists and unions have taken actions to push communities to oppose or slow down, sometimes successfully, the opening of Walmart superstores throughout the U.S.

As opposed interest groups compete more vigorously against the firm for their preferred policies, policy-makers' bargaining positions improve, enabling them to demand more in return for policy favors – for example, in the form of greater electoral campaign contributions or grassroots mobilization (Keim and Baysinger, 1988). The performance or effectiveness of firms' nonmarket expenditures in achieving favorable policy outcomes will thus be reduced in such environments. This leads to our first hypothesis:

[1] See "Trouble in Walmart's America", *The Washington Post*, October 26, 2005.

*Hypothesis 1: Rivalry from competing interest groups is negatively related to the performance of a firm's nonmarket strategy.*

**Supply-side: elected politicians**

Competitive rivalry for public policies exists not only in the demand-side but also the supply-side of the market place. Recent research suggests that elected politicians are more receptive to interest group demands for regulatory favors when electoral competition or rivalry is stronger (Ansolabehere et al, 2003). Greater rivalry between electoral candidates or party coalitions makes candidates more willing to 'trade' policy favors in return for campaign contributions or other forms of valuable support that maximize their chances of election (Baron, 2001). U.S. steel producers, for instance, substantially increased their lobbying of the Bush administration in 2002 in order to obtain a tariff on steel imports. One factor that strengthened their bargaining power was the existence of extremely tight competition between Republican and Democrat candidates for House seats in several steel oriented states. Ultimately, in the months before the election, Bush implemented a 30% tariff.[2] Naturally, this willingness to trade policy favors is conditioned by the broader public saliency of the relevant policies – trading policy with organized interests can come at the expense of electoral votes if the issue is of particular concern to voters (Bonardi and Keim, 2005). For less salient policies, firms may press for policy support in the form of new legislation (or amendments to existing chamber bills) or in the oversight of regulatory agencies.

On the other hand, when a political party or coalition has a powerful hold on office through a large and sustained electoral majority – and hence reduced demand for additional support from special interests – firms are less able to sway policy outcomes from the incumbent party's preferred position. Firms, who tend to be better politically organized than other interest groups

[2] See *The Politics of Steel*, BBC News, http://news.bbc.co.uk, March 6, 2002.

(Stigler, 1971), will thus experience a more favorable policy environment when political rivalry increases.

*Hypothesis 2: Rivalry between politicians is positively related to the performance of a firm's nonmarket strategy.*

**Supply-side: regulatory agencies**

While elected politicians decide the broad characteristics of public policies, specific details, day-to-day implementation, monitoring and enforcement activities are delegated to regulatory agencies in most jurisdictions. Since a high degree of information is typically required to specify and implement detailed policies, agencies are one organizational mechanism for developing sustained policy expertise. From a firm's perspective, regulatory agencies, rather than legislatures or executives, are thus often the central point of contact in responding to the requirements of public policies that regulate their businesses (Holburn and Vanden Bergh, 2004).

We argue here that the environmental conditions that enable firms to successfully gain the support of regulatory agencies are quite different from those in legislative and executive arenas. These stem from the different incentives and constraints that the two types of institutions operate within. Regulators are typically appointed rather than elected so they do not face the election constraint that can motivate elected politicians' behaviors. Existing research suggests that regulators' objective functions are especially multi-dimensional: regulators may try to maximize the budget of their offices (Niskanen, 1971), expand the number of personnel employed or enhance their career prospects or political reputation (Mueller, 2003; Niskanen, 1971; Weatherby, 1971; Weber, 1947). Since achievement of these objectives depends on the legitimacy that regulators hold within the institutional system, a meta-objective of regulators is to preserve or increase their legitimacy (Majone, 1996). To do so, regulators adhere to the

procedural constraints that govern their decision-making and which are designed to ensure that regulators implement policies in accordance with the broad wishes of the enabling legislators (McCubbins and Schwartz, 1984; Weingast and Moran, 1983). Procedural requirements relate to the *informational* basis of regulatory decisions: agencies generally must obtain information from affected parties, base their final decisions on the evidence presented and publicly announce, along with their rationale, proposed policy changes (McCubbins, Noll and Weingast, 1987; 1989).

While such informational requirements enable legislative committees and executives to monitor agency behavior and to prevent arbitrary decisions, they also create a resource dependency relationship between the agency and regulated firms (Pfeffer and Salancik, 1978; Pfeffer 1981, 1992). In particular, regulators depend on firms and other interested parties to provide valuable information during regulatory hearings (Mueller, 2003). A regulatory agency uses this information as evidence in support of its proposals. Without substantiation of its policy ruling, an agency would risk being overturned by the courts, generating an important loss of legitimacy. The European Commission, for example, suffered such a loss in 2002 when three of its decisions against the mergers of private companies were voided by the European Court of Justice. The Court found that the economic analyses of the mergers' anticompetitive effects were based on insufficient evidence. These decisions questioned the authority of the Commission – and of its head Mario Monti – and led to its reform in 2003.[3] Agencies with larger budgets and greater expertise are thus better positioned to independently obtain their own information, assess the firms' arguments and to counter firms' policy proposals (Oliver, 1991). Lesser resourced agencies, on the other hand, will be more dependent on the information provided by firms in formulating their decisions, lending a natural bias towards the firm. It follows that the greater the

[3] See for instance "Mario Monti's Parallel Universe", *Financial Times*, November 6, 2002.

regulatory authority's resources, the less dependent the agency on the firm and the more difficult or costly it becomes for the firm to obtain favorable agency decisions. Hence:

*Hypothesis 3: The resource base of the relevant regulatory agency is negatively related to the performance of a firm's nonmarket strategy.*

**Nonmarket capabilities**

As argued earlier, the political market framework provides one explanation for why nonmarket capabilities are particularly important in explaining firm nonmarket performance. Compared to economic markets, political markets suffer from relatively high transaction costs which, we argue, create a critical advantage for firms that have developed capabilities to mitigate them. Transaction costs in political markets arise, in large part, from the potential opportunism of demanders and suppliers. While parties may strike an agreement, the impossibility of or uncertainty surrounding judicial enforcement makes it difficult for the parties to credibly commit to implement or to maintain a deal (Dixit, 1996; North, 1990; Russo, 1992).

The existence of transaction costs does not mean, however, that all firms will be affected similarly. We argue that firms that repeatedly interact with government policy-makers will gain an advantage in sustaining trade in political markets in two ways. First, existing research shows that the development of mutual trust, reputation and cooperation are central mechanisms in solving commitment problems (Dyer, 1997; Fukuyama, 1996; Hill, 1990; Jones, 1995). Such attributes come from repeated interactions among demanders and suppliers (Williamson, 1994). Firms that frequently engage with the government thus have a chance to build trust-worthy reputations. Second, an important by-product of repeated interactions is the opportunity for firms to learn from experience and to develop specific capabilities that improve their performance in these types of environments (Dean and Brown, 1995). Direct experiences with politicians and

regulators enable firms to better understand the patterns of behavior and preferences of policy-makers (Holburn and Vanden Bergh, 2002; Ring, Lenway and Govekar, 1990). Some of these capabilities become embedded within managers and employees who are able to leverage their individual experiences. Others become embedded within firms' operating routines; firms establish codified and uncodified practices that reflect prior managerial approaches to resolving these issues (Boddewyn and Brewer, 1994; Keim and Baysinger, 1988). Such capabilities enable firms to alleviate transaction costs and to more effectively implement nonmarket strategies. Hence:

> *Hypothesis 4: The firm's experience in dealing with government policy-makers is positively related to the performance of a firm's nonmarket strategy.*

Another important dimension of transaction costs in political markets is related to the low levels of transaction frequency (Kaufman et al., 1993). Policy issues affecting a particular firm typically come onto the political agenda only rarely (Kingdon, 1984). This implies that political markets are often discontinuous: interactions among demanders and suppliers take place intensively for a limited period of time, and then disappear for a much longer period. In that context, mitigating transaction costs through intensive and repeated interaction is often not an available option.

However, we argue here that this characteristic renders important another way by which firms can develop transaction cost-mitigating capabilities: by learning from other firms' experience in similar nonmarket settings. Studies on technological innovation and geographic expansion strategies, for example, find that firms learn from other firms in the same industry (Baum et al., 2000; Jacobson, 1992; Macher and Henisz, 2004). A similar mechanism may enable firms to develop transaction cost-mitigating capabilities in political markets. Some of the

heterogeneity among firms' nonmarket performance is therefore likely to stem from whether they have been able to learn from others' experiences. This leads to the following:

*Hypothesis 5: The firm's opportunity to learn from other firms' interactions with government policy-makers is positively related to the performance of a firm's nonmarket strategy.*

## EMPIRICAL INVESTIGATION

### Industry Setting

Before discussing our empirical approach, we briefly outline the regulatory and political environment of our selected industry, and some of the reasons why it provides a good setting for examining nonmarket strategy. In order to test our hypotheses, we focus on the case of nonmarket strategy in the U.S. electric utility sector. Profit levels of utilities are regulated under a financial rate-of-return regime by state agencies; utilities are able to improve their financial performance by achieving – through appropriate nonmarket strategies – a higher rate-of-return. State regulatory agencies (Public Utility Commissions, hereafter "PUCs") determine the rate-of-return that a utility is allowed to earn, and hence the final rates charged to consumers, through an administrative process, commonly termed a "rate review". Utilities are able to file for rate reviews whenever they wish. Upon initiation of a rate review, a series of public hearings is held where the utility and competing interest groups present arguments and information supporting their positions about justifiable rates-of-return and rate levels. At the end of this process, PUC commissioners make a final decision on the rate-of-return for the utility and rates that final consumers pay.

The rate review process is characterized by an intense informational exchange between policy-makers, the utility and other interest groups (Hyman, 2000). Since the provision of information regarding policy consequences and alternatives is a central characteristic of

nonmarket strategy (Hillman and Hitt, 1999), the utility's initiation of a rate review is a clear indication of the implementation of such a strategy. At the same time, utilities are likely to engage in other nonmarket activities that complement their regulatory filing with the agency, such as gaining the support of the state governor and legislature (through lobbying, grassroots mobilization, coalition building and financial campaign contributions).[4]

This industry context affords a number of advantages for our empirical investigation. First, we are able to identify when firms engage in a concerted nonmarket strategy by observing when utilities file formal regulatory requests for rate reviews. By using regulatory filings we adopt the approach of other nonmarket strategy studies. Lenway and Rehbein (1991) and Schuler (1996) consider, for instance, the decision by firms to file with the U.S. International Trade Commission in order to obtain trade protection.

Another advantage of using electric utility rate reviews for our empirical setting is that they provide a good measure of the performance of the firm's nonmarket strategy (our dependent variable). As noted earlier, the lack of sufficiently detailed data has hindered management researchers in empirically studying the performance aspect of nonmarket strategies. As part of their final rate review rulings, PUCs determine the financial rate-of-return on equity (hereafter 'ROR') that the utility may earn, and which is used in determining allowed rate levels. Since, all else equal, higher RORs lead to higher profits, utilities prefer higher RORs. While PUCs have a statutory duty to set rates that are "just and reasonable", in practice they have considerable discretion to set rates and RORs within some implicit range.[5] Utilities that design effective nonmarket strategies may thus achieve higher RORs than otherwise. We therefore use the ROR

[4] Data on state-level electoral campaign contributions from www.followthemoney.org demonstrates that electric utilities are important donors in political campaigns.

[5] Allowed RORs have historically differed significantly across utilities, states and time. For instance, the highest allowed ROR by a state PUC during 1980 was 16.80% while the lowest was 12.50%.

as the basis for our measure of the utility's nonmarket performance. This measure is also firm-specific: each ROR applies to a single utility only. This allows us to overcome another common empirical problem for research on nonmarket strategy: since regulations often apply to all firms in an industry, it can be difficult to empirically assess the effectiveness of a firm's individual strategy.

Third, the rate review process affords the opportunity for both demand- and supply-sides of the political market to have an influence on final policy outcomes. On the demand-side, organized interest groups that are opposed to the utility's requests – large or industrial consumers, residential consumer advocates, environmentalists, for example – have a right to participate in review hearings, to scrutinize utility expenditures and to argue against rate increases. Since PUCs must base their decisions on evidence presented, credible arguments from these groups can affect allowed RORs. On the supply-side, multiple regulatory and political institutions have a potential role in rate reviews. Final decisions are in the jurisdiction of state PUCs. However, PUCs are overseen by state legislatures that determine their budgets, that can conduct hearings on specific decisions and that can ultimately overturn PUCs through new legislation. PUC commissioners are additionally typically appointed by state governors, giving a further lever for state politicians to exert pressure on PUC decisions. The attractiveness of the political market is thus likely to be shaped by elected state politicians as well as by the regulatory agency.

**Sample**

We obtained information on all rate review outcomes initiated by the population of 190 investor-owned electric utilities during the period 1980 to 1992.[6] This creates a potential sample

[6] These utilities represent those operating in all U.S. states except Alaska and Nebraska. We concentrate on the 1980-1992 period since rate reviews then were initiated by utilities in response to rising costs. After 1992, as costs

of 2470 utility-year observations. After eliminating observations due to missing data, we are left with 1720 utility-year observations.[7] The sample includes 491 rate reviews initiated by utilities.

**Methodology**

To test our hypotheses, we use a regression model of ROR decisions. However, since rate reviews are not generated randomly, there is a potential sample selection problem in using observed rate review information. Specifically, utilities will not initiate rate reviews in environments if they expect the PUC will not make a favorable ruling which in turn enhances utility profits. If the utility does not initiate a rate review in a given period then we do not observe the underlying regulatory environment. Normal OLS regression techniques using only observed rate review data will thus yield biased estimates of the impact of our explanatory variables on ROR decisions. In order to produce unbiased estimates we therefore estimate the following sample selection model which incorporates the utility's decision to initiate a rate review in the second part of our analysis (Heckman, 1979; Greene, 2003):

*Utility Rate Review Initiation Decision*

$$\Delta\pi = X_1\beta_1 + \varepsilon_1 \quad (1)$$

$$INITIATE = 1 \text{ if } \Delta\pi > 0; = 0 \text{ otherwise} \quad (2)$$

*PUC Return on Equity Decision*

$$(\Delta ROR | INITIATE=1) = X_2\beta_2 + \varepsilon_2 \quad (3)$$

$$\text{Correlation } (\varepsilon_1, \varepsilon_2) = \rho$$

In equation (1), $\Delta\pi$ represents the expected change in utility profits that would occur if a rate review was implemented. Since the utility's decision rule, as specified in equation (2), is to

began to decline, PUCs began to initiate rate reviews with the aim of reducing utility rates. Since our objective is to examine utility strategy, we thus focus on the 1980-1992 period.

[7] Specifically, to measure our dependent variable (change in allowed ROR) we need a baseline measure of allowed ROR. Thus, we eliminate observations on utilities until they initiate their first rate review in the data. We also eliminate observations if we are missing information on the allowed rate of return for a firm since this makes it impossible to calculate the change in allowed ROR. The need for a baseline and the missing data on allowed ROR resulted in a reduction of 311 observations. We also eliminate observations arising from missing data to measure the following independent variables: Utility Revenue/PUC Budget 384 observations and Market Share 22 observations. Finally, we have missing data on three utilities resulting in 33 additional observations being eliminated.

initiate rate reviews only when $\Delta\pi$ is greater than zero, $\Delta\pi$ is a latent variable. $X_1$ is a vector of variables including political, institutional, and socio-economic factors that affect the attractiveness of the political market and which thus capture utilities' expectations that the PUC will increase the rate-of-return. Equation (3) estimates the change in the PUC's allowed rate-of-return since the utility's last rate review, $\Delta ROR$, conditional on observing a rate review. $X_2$ is also a vector of variables that includes measures of the political and regulatory environment as in $X_1$ and other factors that affect the change in the allowed rate-of-return.

When the error terms of equations (1) and (3) are correlated, i.e. $\rho$ is non zero, simple OLS estimation of equation (3) results in biased coefficients. We thus use, from the statistical software package *STATA*, the Heckman full-information maximum likelihood estimation procedure to correct for selection bias. This method yields unbiased estimates of $\beta_2$ coefficients.

**Data and Measures**

***Dependent variable***

To measure nonmarket performance we calculate the change in the *Allowed Rate-of-Return (ΔROR)* since the utility's previous rate review. We use the change in ROR rather than the absolute level since this allows us to control for constant firm-level factors that influence the absolute ROR. We obtained the rate review data from a private firm, Regulatory Research Associates, that tracks PUC decisions and cross-checked for accuracy a sample of rate review results with data available in annual volumes of the *National Association of Regulatory Utility Commissions* (NARUC). During the sample period, the mean ΔROR was 0.29 percentage points with a standard deviation of 0.45.

***Independent variables***

***Interest group rivalry*** (H1): We use three variables to capture different sources of potential demand-side rivalry from organized interest groups. *Consumer Advocate* is a measure of the degree of residential utility consumer organization in a state. In the U.S. utilities sector 30 states have created consumer advocacy offices charged with the express purpose of representing residential utility consumer interests before state regulatory agencies and courts (Holburn and Vanden Bergh, 2006). Consumer advocates, with public funding and statutory power to participate in rate review procedures, can provide strong opposition to utility requests for rate increases (Holburn and Spiller, 2002). The variable *Consumer Advocate* equals one if a consumer advocacy office existed in a given state in a particular year and zero otherwise. Rivalry can also come from industrial consumers who, due to higher average levels of consumption than residential consumers, have stronger incentives to organize. *Industrial Consumers*, a time-varying variable, is equal to the industrial percentage share of electricity consumption in each state. Data on electricity consumption by consumer sector was obtained from the *Energy Information Administration.* Finally, we use *Sierra Club Membership,* to capture the extent to which state populations participate in environmental and other non-governmental activist organizations. The Sierra Club is the largest environmental NGO in the U.S. Such groups have historically been particularly active against utilities regarding the citing of new power generation plants and the environmental impacts of existing facilities. To normalize membership levels across the states, we calculate *Sierra Club Membership* as the total number of members divided by the state population (in thousands). Annual information on state membership was provided directly to us by the Sierra Club.

***Political rivalry*** (H2): We construct two dummy variables based on the winning vote margin in the most recent state gubernatorial and legislative elections as a proxy for the degree of rivalry

among elected politicians. For the executive branch (governors), we consider rivalry intense if the margin of electoral victory between the winning and second-placed candidates was less than 5%. In this case there is likely to be intense political competition during the next electoral cycle. For the legislative branch, given the importance of party control of the legislature, we consider rivalry intense if the margin of control by the majority party (measured by the number of seats in the combined upper and lower chambers) is less than 5%. Thus, we create dummy variables for *Governor rivalry* and for *Legislature rivalry* which are equal to one if rivalry is intense and zero otherwise. We use dummy rather than continuous variables since the underlying distributions of governor vote and legislature party majorities are not normal but highly skewed. We collected this information from annual volumes of *The Book of the States*.

***Regulatory agency resource base*** (H3): PUCs with greater resources will be less dependent on the information provided by the utility in making their decisions. Again, we use several measures. Our first, *PUC Budget* per state capita, is a measure of financial resources. Second, we construct a measure of PUC commissioner experience since experience may partially substitute for financial resources: *Average tenure commissioners* is equal to the sum of each commissioner's tenure in years divided by the total number of commissioners on the PUC. We expect that more experienced commissioners will have better information and insights regarding utility rate review requests. We obtained annual information on PUC budgets and the identities of PUC commissioners from annual reports of the *National Association of Regulatory Utility Commissioners*, annual volumes of The *Book of the States* and the websites of individual PUCs. Third, we allow for PUC resources to vary relative to individual utilities as well as in an absolute sense; a PUC with a small budget will be less dependent on the utility if the utility itself has a minimal level of resources. Hence, *Utility Revenue / PUC Budget* is the dollar value of utility

electricity revenues within a state divided by the PUC budget in each year. Information on utility revenues was gathered from FERC filings available through the *Energy Information Administration*.

***Firm's experience with policy-makers*** (H4): To capture a utility's experience in dealing with policy-makers, we rely on two related measures. In the selection equation we create *Cumulative rate reviews by utility* which is equal to the total number of rate reviews the utility has experienced at a given time. In the regression equation we create *Recent rate review* which is a dummy variable equal to one if the utility has experienced a rate review in the previous three years and zero otherwise. We differentiate between initiation of rate reviews and performance in the review since we anticipate that total experience in a variety of regulatory settings would affect the utility's decision to initiate. Their performance in the rate review, however, will be more closely related to their recent experience since the characteristics of the regulatory environment changes over time.

***Other firms' experiences with policy-makers*** (H5)**:** *Other firms initiating rate reviews* is a dummy variable that is equal to one if other utilities in the state initiated rate reviews with the PUC in the previous year and zero otherwise. The variable captures a potential utility learning effect from observing other utilities' experience with the PUC.

**Control variables**

We control for a number of factors that may affect a utility's performance in the rate review process as well as the decision to initiate a rate review. Interest rates on treasury securities enter into a PUC's decision on the allowed ROR since these are a benchmark to help measure the cost of capital. *Change in interest rate*, measured in percentage points, is the difference between the interest rate on ten year Treasury bills at a given time minus the interest rate at the time of the

last rate review. *Change in average fuel cost* is the percentage change in a utility's average fuel costs (on a per Btu basis) since the last rate review, and is driven mainly by external market forces. Increases in the cost of utilities' fuel purchases, as occurred during the early 1980s, directly reduce utility profits, thereby increasing the probability that utilities will initiate rate reviews[8]. In the selection equation, we also control for the absolute level of fuel costs - since absolute costs are inversely related to profits we expect a positive relationship between absolute costs and the probability that utilities initiate. We measure a*verage fuel cost* as the average price of fuel per Btu purchased by electric utilities within a state. Fuel cost data is published by the *Energy Information Administration*. To control for varying economic conditions across the states, we include a measure of the *Change in per capita income* (lagged one year) which is equal to the annual percentage change in per capita income in the state; voter pressure on utility rates may be inversely correlated with recent economic growth trends. We gathered this data from the *Bureau of Economic Analysis*.

We include additional political and institutional variables that may influence the weight that PUCs put on utility versus consumer interests in their ROR decisions. *Elected PUC* is a dummy variable equal to one in states where PUC commissioners are elected and zero otherwise. PUC commissioners are elected by the voting population in 10 states and are appointed by the governor in other states. Prior research suggests that elected PUCs place greater weight on consumer welfare (Besley and Coate, 2003). Details on commissioner selection were obtained from the *Book of the States*. Similarly, the variable *Republican governor and legislature* equals one if there is unified Republican control of the branches of state government, and zero

[8] Some states adopted automatic fuel adjustment clauses (FACs) during the 1980s that allowed utilities to pass through fuel costs without requiring a formal rate review. However, since such clauses rarely allowed utilities to pass through 100 percent of the cost increases, fuel cost-triggered rate reviews were not completely eliminated.

otherwise. This captures the potential impact of ideological factors (as proxied by political party) on regulatory policy and utility strategy.

Finally, we also measure the *Market Share* for a utility as the total megawatt hours (MWh) of electricity provided by the utility divided the total MWh provided by all utilities in the state. If a utility is a major player within a PUC's jurisdiction, then that utility's information is likely to be more valuable to the PUC relative to smaller utilities. *Market share* thus measures the influence of the utility relative to other utilities.

A summary of the variables and descriptive statistics can be found in Tables 1 and 2. Table 1 provides statistics for variables included in the full sample of utility-year observations used in the rate review initiation (selection) model while Table 2 provides statistics for variables included in the $\Delta$ROR (regression) model.

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Insert Tables 1 and 2 about here

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## RESULTS

We begin by discussing the results of the selection-corrected $\Delta$ROR regression model. Table 3 shows the results of our model estimated with state fixed effects. The statistically significant *Mills ratio* coefficient supports our empirical approach: we can reject the null hypothesis at the 1% level of confidence that there is no sample selection problem. With only one choice for utilities (initiate a rate review or not), the positive coefficient on the *Mills ratio* implies that there exists a positive correlation between the decision to initiate – and therefore to engage in a nonmarket strategy to change an existing regulation – and the performance of the utility in the rate proceedings (Dolton and Makepeace, 1987). In other words, we find good evidence that utilities use the rate review initiation process strategically. Among control variables, it is also worth noting that *Change in interest rate* and *Change in per capita income* are significant and

positive. As expected, though not directly related to the political markets logic, changes in the cost of financing should have an impact on the *ΔROR*. Similarly, annual fluctuations in state economic conditions are positively correlated with increases in utilities' allowed rates-of-return.

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Insert Table 3 about here

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Turning to our key variables, we find good statistical support overall for our hypotheses. First, regarding demand-side rivalry (H1), the coefficient on *Sierra club membership* is negative and statistically significant at the 5% level, suggesting that lower levels of rivalry lead to positive changes in the ROR for the utility. Note however that, due to the non-linearity of the selection effect, we cannot interpret the coefficients as straight marginal effects. We thus include Table 4 to present selection-corrected marginal effects for each of the statistically significant variables. A marginal decrease in demand-side rivalry, as measured by *Sierra club membership* is expected to increase the ROR by 6 basis points. The degree of rivalry generated by activists, then, appears to be an important factor in the ability of utilities to achieve favorable PUC decisions. This result is in line with previous literature, which suggests that activists constitute a particularly difficult threat to handle for firm (Bonardi and Keim, 2005). Our other demand-side rivalry variables, however, do not display significant coefficients. This may be due to measurement challenges. The *Consumer Advocate* dummy variable, for instance, may be too coarse to capture the strength of consumer opposition. More fine-grained data such as the budget of the consumer advocate organization were unavailable. A potential explanation for the lack of significance on *Industry* is that powerful industrial consumers did not in fact compete against utilities on ROR decisions – perhaps in return for utility support on other policy dimensions, such as the rate structure, where industrial consumers compete against residential consumers.

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Insert Table 4 about here
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The results suggest also that rivalry among politicians shapes PUC decisions, which provides support for H2. The coefficient on *Legislature rivalry* is positive and statistically significant at the 5% level when we include state fixed effects in the model. On the margin, when rivalry among the legislature becomes intense, the utility can expect to benefit from an 18 basis point increase in the ROR. Interestingly, when we computed some robustness checks by using alternative constructions of the dummy variable with different cut-off points, we found that the impact of legislative rivalry was even larger (and significant) when narrowing down the cut-off point. With a 2% cut-off point, for instance, the estimated coefficient in the regression doubles.[9] On the other hand, with a cut-off of 20%, the coefficient is correctly signed but not significant. This provides support for the idea that very strong levels of political rivalry generate especially positive situations for firms' nonmarket strategies.

Rivalry among elected political candidates thus appears to create an opportunity for utilities, a particularly well organized interest group, to 'purchase' regulatory policies (i.e. higher allowed RORs) - through additional campaign contributions, grassroots mobilization or other politically valuable resource transfers. Legislatures have an ability to induce the PUC to cooperate on rate review decisions by threatening budget cuts or by supporting legislative proposals that constrain PUC authority. We do not find any evidence, however, that rivalry among gubernatorial candidates – *Governor rivalry* – influences PUC decisions. This may reflect the weaker ability of the appointments process, which is largely the preserve of governors, to immediately impact PUC commissioner decisions.

[9] A Shapiro-Francia test on a continuous measure of the *Legrivalry* variable also demonstrates that it is not normally distributed.

Beyond rivalry factors, we observe that regulatory agency resource dependence affects the ability of firms to achieve preferred policy rulings. We find that both financial and experience PUC resource measures are important (H3). With the negative and statistically significant coefficient on *PUC budget*, utilities' RORs are negatively affected as regulator's financial resources increase. Similarly, the negative and statistically significant coefficient on *Average tenure commissioners* supports the contention that greater PUC experience is detrimental to utility performance. The economic significance of these effects, however, appears to be less important than rivalry. Marginally increasing *PUC budget* and *Average tenure commissioners* reduces the ROR by 2 and 1 basis points respectively.

Turning now to the firm's experience with policy-makers (H4), the positive and statistically significant coefficient on *Recent rate review* provides strong evidence that utilities with recent rate review experience tend to perform better in subsequent rate reviews. At the margin, increasing the value of *Recent rate review* increases the utility's ROR by 22 basis points. On the other hand, we do not find support for Hypothesis 5 which argues that firms can learn by observing others' past nonmarket interactions.

Among the remaining control variables, *Republican governor and legislature*, *Elected PUC*, *Market share* and *Change in Average Fuel Cost* are signed as expected but not significant. We experimented with other control variables that might have affected the ROR such as utility operating efficiency and the concentration of utilities within a state, but did not find evidence of an impact.

Our empirical specification also generates insights into the reasons why firms proactively request a change in regulatory policy. Table 5 presents the selection results, where the dependent variable is whether or not the utility initiated a rate review. Table 6 presents the marginal effect

of each statistically significant variable on the probability that the utility initiates a rate review. 73% of the cases are correctly classified by the full model presented in Table 5, suggesting this model performs well in capturing the initiation dimension of the utilities' nonmarket strategy.

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Insert Tables 5 and 6 about here

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In general, the results on individual initiation model variables display a strong consistency with the pattern of results in the *Δ*ROR model. Increased demand-side rivalry with other interest groups appears to dampen the incentives of utilities to initiate rate proceedings with the state PUC. As in the *Δ*ROR model, *Sierra club membership* is significant and negative, but this time *Consumer advocate* displays a similar result. At the margin, *Sierra club membership* and the presence of a *Consumer advocate* reduce the probability that the utility initiates by nearly 5% and 8% respectively. Rivalry created by other demanders of public policy therefore seems to be an important factor in the utility's analysis of its nonmarket environment and in its decision to implement a nonmarket strategy.

Likewise, the negative and statistically significant coefficients on *PUC budget* and *Average tenure commissioners* each suggest that as the regulator's dependence on the firm for informational resources declines, the attractiveness of the political market for the utility also falls. At the margin, as *PUC budget* increases and as *Average tenure commissioners* increases, the probability of the utility initiating a rate review declines by about 3% and 1% respectively. These results are consistent with H1 and H3. We do not obtain statistical significance, however, on the political rivalry variables (H2).

Firm-level variables also perform well in the rate review initiation model. As utilities accumulate knowledge and experience about the rate review process, as measured by *Cumulative*

*rate reviews by the utility*, the probability of initiating a review increases by 6%. Additionally, there is evidence of a spillover effect from other utilities: the variable *Other firms initiating rate reviews*, statistically significant at the 1% level, is estimated to increase the likelihood of a utility triggering a rate review by nearly 13%. This result is similar to that of Hersch and McDougall (2000), who found that in the U.S. automobile industry the major firms' levels of political activity were related to the political activities of their rivals.

Similarly, as *Market share increases*, the probability that the utility initiates a regulatory review increases by nearly 20%. This result is consistent with previous studies which have found that firm size is a determinant of the decision to engage in a nonmarket strategy (Masters and Keim, 1985; Munger, 1988; Schuler, 1996; Zardkoohi, 1985).

Finally, control variables are generally significant and signed as expected.

## DISCUSSION

This paper sets out to develop and test a model of what determines the performance of a firm's nonmarket strategy in the context of a specific regulatory or political issue. Building on the political markets framework, according to which public policies arise from the interaction of demanders and suppliers of such policies, we argue that nonmarket performance is influenced both by the characteristics of the firm's regulatory/political environment and by the internal capabilities the firm has developed over time. More precisely, we hypothesized - and found empirical support in the context of U.S. electric utilities - that the rivalry created by competing demanders of public policies (auch as environmental activists), as well as the resources of the regulatory agency involved, had a negative impact on the firm's ability to obtain regulatory approval for higher profit levels. On the other hand, we found that the rivalry among elected politicians supervising policy implementation had a positive impact on regulatory rulings

favorable towards the firm. Last, we found that the firm's previous experience with regulators through making prior regulatory filings played an important role in explaining the performance of its nonmarket strategy.

We make several contributions to the existing literature on nonmarket strategies. First, we provide a general model of firms' nonmarket performance that integrates different aspects examined in previous studies, including the attractiveness of political markets and firms' nonmarket capabilities. The literature so far has remained scattered, with little focus on nonmarket performance and with disparate theoretical perspectives that lack a unifying approach. Lord (2000), for instance, presents the results of an interesting survey of U.S. companies of the impact of various nonmarket activities – electoral campaign contributions, informational lobbying, advocacy advertising, constituency building – but does not provide any insights about the factors that affect their performance. We believe that the concept of political markets has the potential to provide such an integrative framework. As argued in this paper, elements from economics, from the resource-based view of the firm and from resource-dependence theory can be integrated into the framework to provide a comprehensive view of nonmarket performance, as well as a basis for future research. The framework, by delineating the conditions under which nonmarket strategies are likely to be effective, also provides guidelines for managers when assessing whether to implement such strategies.

The second major contribution of our paper is to provide unique empirical evidence that is supportive of the theoretical validity of the political markets framework and of its implications for nonmarket strategy performance. The data requirements in assessing performance are challenging. Researchers must obtain data relating to (1) an identifiable, specific political or regulatory issue, (2) the implementation of the firm's nonmarket strategy and (3) a measure of

the policy outcome. Most existing studies of nonmarket strategy usually employ data on aspects (1) and (2) only, which precludes investigation of performance issues (see, for example, Schuler, 1996 and Lenway & Rehbein, 1991). Our data on electric utility rate reviews provides good information on (1) – the utility's regulated level of profitability – and (3) – the agency's final policy decision on the allowed rate of financial return. Our data on (2) – a dichotomous measure of whether the utility filed a formal request for policy review – is less fine-grained than we would ideally prefer in measuring the implementation of a nonmarket strategy. It indicates the utility's engagement in various nonmarket activities such as the provision of information to the regulatory agency and participation in public hearings; but it does not allow us to identify the extent of the utility's investment in these activities. While we recognize that this is a shortcoming of our study, the positive findings in the empirical model of the utility's initiation decision suggest it is nonetheless a reasonable strategy indicator.

A related limitation is that we are unable to examine in more detail the design of utilities' nonmarket strategies outside regulatory settings (Hansen and Mitchell, 2000; Schuler et al., 2002); detailed data on utility campaign contributions, lobbying or mobilization of grassroots support for legislators are unfortunately not available for our sample. We do know, however, from aggregate state-level campaign contribution data (available from *www.followthemoney.org*) that electric utilities are significant contributors to political candidates for state government offices. This suggests that future research which incorporates multiple dimensions of firm nonmarket strategy is warranted.

Third, within the political markets framework we provide a better understanding of the impact on a firm's nonmarket performance of regulatory agencies responsible for policy implementation. Firms in a wide variety of industries are subject to industry-specific agency

rule-making, including agriculture, pharmaceuticals and utilities. Many other firms are subject to functional regulations that cross industry borders, such as workplace safety, labor standards and environmental impact. An important step in our hypothesis development is depicting regulatory agency decision-making in general in the context of the broader institutional environment, including courts and legislatures that have the ability to reverse errant agency actions. Agencies operate under different incentives and constraints than elected politicians. We argue specifically that regulatory agencies are constrained in their decisions by procedural requirements: agencies need resources to obtain information and to justify their rulings in order to avoid judicial override - and we find strong evidence that better funded, more experienced agencies are better positioned to counter the policy changes that firms claim are required.

Together with the results on political rivalry, our findings suggest that the ability of firms to gain favorable policy rulings in *regulatory* arenas – as compared to *legislative* arenas – is complex, requiring firms to operate in multiple institutional environments. In order to be successful in regulatory arenas, firms may additionally need to gain the support of the legislative and executive bodies that monitor agency decisions in order to prevent subsequent 'punishment' of the agency. Alternatively, firms may be able to use these political channels strategically to indirectly pressure agencies to implement favorable rulings (Holburn and Vanden Bergh, 2004). Indeed, we find evidence consistent with this type of behavior in the positive statistical relationship between political rivalry and favorable agency decisions.

Our fourth contribution is to provide new empirical results consistent with the notion that firms are able to develop internal capabilities that improve their nonmarket performance. Existing research finds that the prior experience of firms' board members in political institutions is associated with better overall firm performance (Hillman et al, 1999). In extending the

nonmarket capabilities literature we argue that repeated interactions between firms and policy-makers are likely to be an important mechanism for developing nonmarket capabilities since they provide an opportunity for firms to learn from experience and to establish organizational routines; and, critically, they enable firms to establish a reputation for credibility with government actors – essential for overcoming the high transaction costs of exchange in political markets. While we find that firms with greater experience in interacting with regulatory agencies through prior rate reviews did indeed achieve better policy outcomes, we did not find evidence that firms achieved similar results by observing the experiences of other firms, implying that nonmarket capabilities are not easily imitated (Keim and Baysinger, 1988). It is interesting to note, however, that utilities were more likely to initiate rate reviews when other utilities also initiated. This is consistent with Oliver's (1991) proposition that regulated firms can obtain a degree of legitimacy by conforming to institutional processes.

While other types of capabilities have been extensively studied elsewhere (Henderson and Cockburn, 1994; Ethiraj et al, 2005; Makadok and Walker, 2000; Silverman, 1999), as far as we know, this is one of the first empirical studies to directly attempt to measure nonmarket capabilities. Our study also raises an interesting question: if firms learn from their own experiences in a particular institutional environment, can they re-deploy these nonmarket capabilities to other institutional settings? We tentatively explored this issue using our data by considering parent company experience for those utilities that belonged to holding company organizations. Our initial results (unreported here) suggest that a holding company's rate review experience in other states was correlated with improved rate review outcomes in the focal state, implying that firms may learn some *generic* lessons about interacting with policy-makers through their experiences in different jurisdictions. We believe this is a promising avenue for

future research, as are broader questions related to the impact, and source, of firm capabilities in achieving more favorable policy outcomes.

**Limitations and Avenues for Future Research**

Although we believe our results are encouraging there are a number of other theoretical and empirical limitations in our analysis that call for further research on the topic of nonmarket strategy performance. One potential shortcoming is that while we have developed generic hypotheses, we have tested them in the context of a single industry, raising questions about the generalizability of our findings to other settings. We might expect to find that the role of firm nonmarket capabilities, for instance, is less significant in industries that are less heavily regulated than the utilities sector where firm-regulator interactions are relatively frequent. Utilities also have a unique ability to initiate policy change through the rate review process; without such rights, firms in other industries may find it more difficult to gain access to policy-makers and to establish political markets, making political strategies less effective. A further characteristic of our research design is that we measure firm-level regulatory policy outcomes and firm-level strategies which seek the private benefits of regulation. While we regard this as a strength of our analysis in identifying performance drivers, it does mean that we do not explore collective action problems within an industry. If regulations provide public rather than private benefits to firms within an industry, the costs of organizing collective action will, all else equal, reduce nonmarket strategy performance.

From a theoretical perspective, we do not distinguish between different types of nonmarket strategy in our hypotheses. Different types of strategy are likely to perform differentially in various environments (Hillman and Hitt, 1999). For instance, the ways in which firms attempt to mitigate interest group competition will not be the same as the methods by which firms gain the

support of elected legislators. The incentives and objectives of these two groups vary, and firms will adopt their nonmarket tactics accordingly. There is thus scope for future work to consider a more fine-grained measure of nonmarket strategy and to consider the demand and supply-side conditions in which each type will be more or less effective. Another potential route for developing the political markets framework is to examine the interactions between and within demand and supply-side factors – does interest group competition, for example, have a more powerful effect when political rivalry is also strong? Or how does the impact of regulatory expertise depend on political rivalry? We believe that addressing these types of questions would provide important additional theoretical insights into the attractiveness of political markets.

## CONCLUSION

Despite these and other limitations, our study offers new insights into the factors that affect the ability of firms to succeed when they engage in nonmarket strategies. In particular, we argue that both the external environment, which we conceptualize as a political market involving demanders and suppliers of public policies, and the internal characteristics of firms both matter significantly in explaining nonmarket performance. Using data from U.S. electric utilities, we find good empirical support for this thesis even though much work remains to be done.

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**Figure 1: Demand and Supply Components of a Political Market**

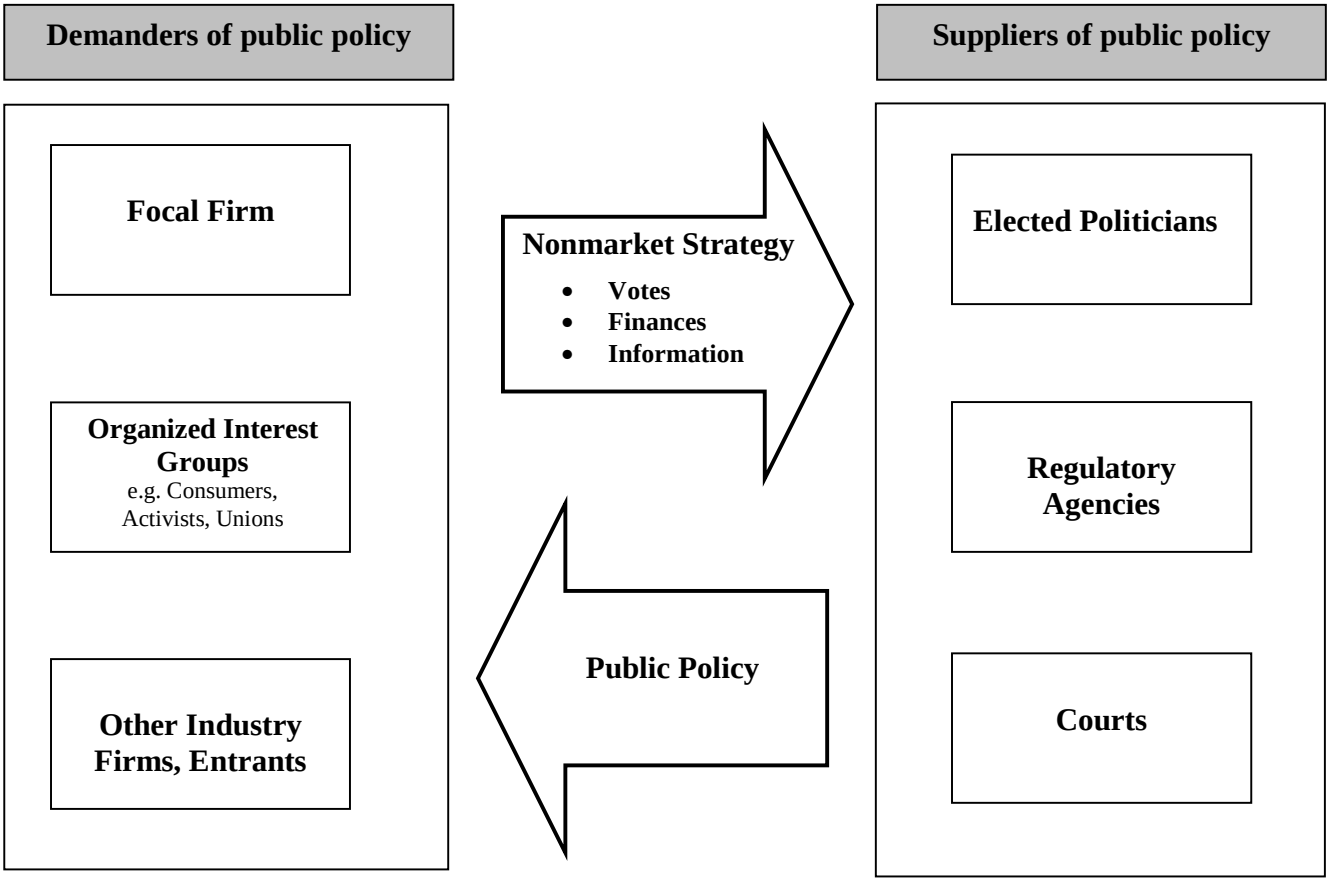
Demanders of public policy
Suppliers of public policy
Focal Firm
Organized Interest Groups
e.g. Consumers, Activists, Unions
Other Industry Firms, Entrants
Nonmarket Strategy
Votes
Finances
Information
Public Policy
Elected Politicians
Regulatory Agencies
Courts

Table 3: Heckman Selection-Corrected Regression Results
Dependent Variable: Change in Allowed Return on Equity since last Rate Review

| *Hypothesis* | Variable | Coefficient |
|---|---|---|
| *H1: Interest Group Rivalry* | Sierra Club membership | -0.38** (0.175) |
| | Consumer advocate | 0.294 (0.305) |
| | Industrial consumers | -0.02 (2.675) |
| *H2: Political Rivalry* | Legislature rivalry | 0.566** (0.279) |
| | Governor rivalry | -0.09 (0.128) |
| *H3: Regulatory Agency Resources* | PUC budget | -0.20* (0.119) |
| | Average tenure commissioners | -0.08** (0.042) |
| | Utility revenue/PUC budget | 0.000 (0.000) |
| *H4: Firm's experience* | Recent Rate Review | 0.820*** (0.164) |
| *H5: Other firms' experience* | Other firms initiating reviews | -0.03 (0.147) |
| *Control Variables* | Change in per capita income | 8.906*** (2.007) |
| | Change in interest rate | 0.231*** (0.039) |
| | Change in average fuel cost | 0.015*** (0.003) |
| | Market share | 0.062 (0.262) |
| | Republican governor and legislature | 0.302 (0.247) |
| | Elected PUC | -0.07 (0.948) |
| | Constant | -1.37 (1.069) |
| | Mills ratio | 0.364*** (0.127) |
| | State Dummies | Yes |
| | N | 491 |
| | Log pseudo-likelihood | -1577.923 |

* p < .10
** p < 0.05
*** p < 0.01

Table 4: Marginal Effects from Heckman Selection-Corrected Regression Results
Dependent Variable: Change in Allowed Return on Equity since last Rate Review

| Statistically Significant Variable | Marginal Effects* |
|---|---|
| Sierra Club membership (H1) | -0.06 |
| Legislature rivalry (H2) | 0.18 |
| PUC budget (H3) | -0.02 |
| Average tenure commissioners (H3) | -0.01 |
| Recent Rate Review (H4) | 0.22 |
| Change in per capita income | 0.37 |
| Change in interest rate | 0.08 |
| Change in average fuel cost | 0.002 |

*Marginal effects calculated at the mean of each continuous independent variable and for discrete changes in each dummy variable. We present the marginal effects for the model which includes state dummy variables.

Table 5: Heckman Selection Results
Dependent Variable: Utility Initiation of Rate Review

| Variable | Coefficient |
|---|---|
| Sierra Club membership | -0.13*** (0.043) |
| Consumer advocate | -0.24*** (0.088) |
| Industrial consumers | -0.29 (0.463) |
| Legislature rivalry | -0.19 (0.134) |
| Governor rivalry | 0.097 (0.087) |
| PUC budget | -0.09*** (0.032) |
| Average tenure commissioners | -0.03** (0.018) |
| Utility revenue/PUC budget | -0.00 (0.000) |
| Cumulative rate reviews by utility | 0.190*** (0.021) |
| Other firms initiating rate reviews | 0.436*** (0.090) |
| Change in per capita income | 6.485*** (1.239) |
| Change in interest rate | -0.06*** (0.022) |
| Change in average fuel cost | 0.006*** (0.002) |
| Market share | 0.599*** (0.230) |
| Republican governor and legislature | -0.02 (0.131) |
| Average fuel cost | 0.142*** (0.061) |
| Elected PUC | -0.28** (0.145) |
| Constant | -1.69*** (0.296) |
| State Dummies in Regression | Yes |
| Wald test of independent equations ($\chi^2(1)$) | 9.05 |
| N | 1,720 |
| Reviews correctly classified by model | 73% |

* p < .10
** p < 0.05
*** p < 0.01

Table 6: Marginal Effects from Selection Results
Dependent Variable: Utility Initiation of Rate Review

| Statistically Significant Variable | Marginal Effects* |
|---|---|
| Consumer advocate | -0.08 |
| Sierra club membership | -0.05 |
| PUC budget | -0.03 |
| Average tenure commissioners | -0.01 |
| Cumulative rate reviews by utility | 0.06 |
| Other firms initiating rate reviews | 0.13 |
| Elected PUC | -0.09 |
| Market share of utility | 0.20 |
| Change in interest rate | -0.02 |
| Change in average fuel cost | 0.002 |
| Average fuel cost | 0.05 |

*Marginal effects calculated at the mean of each continuous independent variable and for discrete changes in each dummy variable. We present the marginal effects for the model which includes state dummy variables.

# Table 1: Variables and Summary Statistics (Rate Review Initiation Estimation)

| **Variable** | Mean | St.Dev | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Rate Review (Dependent Variable) | 0.29 | 0.45 | 1.00 | | | | | | | | | | | | | |
| 2. Consumer advocate | 0.59 | 0.49 | -0.01 | 1.00 | | | | | | | | | | | | |
| 3. Industrial Consumers | 0.27 | 0.08 | -0.02 | -0.11 | 1.00 | | | | | | | | | | | |
| 4. Sierra Club Membership | 1.50 | 1.07 | -0.02 | -0.12 | -0.20 | 1.00 | | | | | | | | | | |
| 5. Governor rivalry | 0.22 | 0.41 | 0.02 | 0.06 | -0.05 | 0.12 | 1.00 | | | | | | | | | |
| 6. Legislative rivalry | 0.10 | 0.30 | -0.04 | 0.10 | 0.15 | -0.04 | 0.16 | 1.00 | | | | | | | | |
| 7. PUC Budget | 2.00 | 1.47 | -0.10 | -0.05 | -0.14 | 0.12 | 0.05 | 0.07 | 1.00 | | | | | | | |
| 8. Elected PUC | 0.14 | 0.35 | -0.10 | -0.27 | -0.07 | -0.28 | -0.05 | -0.01 | 0.08 | 1.00 | | | | | | |
| 9. Utility revenue/PUC Budget | 105.38 | 130.91 | 0.05 | 0.00 | 0.14 | -0.05 | -0.06 | -0.06 | -0.31 | 0.09 | 1.00 | | | | | |
| 10. Cumulative rate reviews | 3.82 | 1.96 | 0.16 | 0.16 | -0.17 | 0.18 | 0.00 | 0.07 | 0.11 | -0.16 | 0.07 | 1.00 | | | | |
| 11. Market share | 0.29 | 0.26 | 0.03 | -0.05 | 0.06 | 0.00 | -0.06 | -0.03 | 0.13 | 0.25 | 0.60 | 0.14 | 1.00 | | | |
| 12. Change in interest rate | -1.33 | 1.89 | 0.04 | -0.02 | 0.00 | 0.09 | 0.02 | 0.07 | 0.00 | -0.10 | 0.06 | 0.22 | 0.01 | 1.00 | | |
| 13. Average tenure commissioners | 3.63 | 2.59 | -0.08 | -0.15 | -0.06 | -0.17 | -0.03 | 0.00 | 0.21 | 0.45 | 0.00 | 0.06 | 0.12 | -0.05 | 1.00 | |
| 14. Change in average fuel cost | -4.44 | 18.06 | 0.06 | -0.11 | 0.12 | -0.01 | -0.02 | 0.01 | 0.15 | 0.05 | 0.05 | -0.06 | 0.07 | 0.36 | -0.07 | 1.00 |
| 15. Average fuel cost | 1.68 | 0.81 | 0.09 | -0.03 | -0.07 | 0.14 | 0.16 | -0.15 | -0.27 | -0.07 | 0.12 | -0.17 | -0.04 | 0.11 | -0.04 | 0.10 |
| 16. Republican governor and legislature | 0.10 | 0.30 | -0.02 | -0.11 | 0.06 | -0.16 | 0.11 | 0.20 | 0.00 | 0.14 | -0.01 | -0.15 | 0.05 | -0.06 | -0.04 | 0.05 |
| 17. Change in per capita income | 0.06 | 0.03 | 0.12 | -0.01 | 0.00 | -0.09 | 0.01 | 0.00 | -0.13 | 0.00 | 0.05 | -0.21 | 0.01 | 0.11 | -0.02 | 0.19 |
| 18. Other firms initiating reviews | 0.69 | 0.46 | 0.14 | 0.09 | -0.02 | 0.01 | 0.08 | 0.03 | -0.20 | -0.25 | -0.12 | -0.04 | -0.31 | 0.09 | -0.19 | -0.03 |

**N = 1720**

# Table 2: Variables and Summary Statistics (⊿ROR Estimation)

| **Variable** | Mean | St.Dev | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. ⊿ROE (Dependent Variable) | -0.47 | 1.34 | 1.00 | | | | | | | | | | | | | | |
| 2. Consumer advocate | 0.58 | 0.49 | -0.08 | 1.00 | | | | | | | | | | | | | |
| 3. Industrial Consumers | 0.27 | 0.08 | 0.09 | -0.13 | 1.00 | | | | | | | | | | | | |
| 4. Sierra Club Membership | 1.46 | 1.00 | -0.09 | -0.15 | -0.22 | 1.00 | | | | | | | | | | | |
| 5. Governor rivalry | 0.23 | 0.42 | -0.02 | 0.05 | -0.06 | 0.08 | 1.00 | | | | | | | | | | |
| 6. Legislative rivalry | 0.08 | 0.27 | 0.07 | 0.16 | 0.16 | 0.03 | 0.22 | 1.00 | | | | | | | | | |
| 7. PUC Budget | 1.78 | 1.23 | -0.19 | -0.11 | -0.18 | 0.16 | -0.03 | 0.01 | 1.00 | | | | | | | | |
| 8. Elected PUC | 0.09 | 0.28 | -0.01 | -0.15 | -0.01 | -0.21 | -0.04 | -0.01 | 0.15 | 1.00 | | | | | | | |
| 9. Utility revenue/PUC Budget | 116.26 | 135.45 | 0.04 | -0.03 | 0.20 | -0.06 | -0.05 | -0.02 | -0.33 | 0.07 | 1.00 | | | | | | |
| 10. Recent rate review | 0.86 | 0.35 | 0.46 | 0.02 | 0.02 | -0.08 | 0.01 | 0.06 | -0.19 | -0.06 | 0.02 | 1.00 | | | | | |
| 11. Market share | 0.31 | 0.25 | 0.00 | -0.07 | 0.10 | 0.05 | -0.15 | 0.01 | 0.16 | 0.25 | 0.59 | -0.01 | 1.00 | | | | |
| 12. Change in interest rate | -1.20 | 1.81 | 0.55 | 0.01 | 0.03 | 0.04 | -0.04 | 0.02 | -0.12 | -0.06 | 0.02 | 0.36 | 0.00 | 1.00 | | | |
| 13. Average tenure commissioners | 3.32 | 2.60 | -0.13 | 0.04 | -0.16 | -0.12 | 0.08 | -0.06 | 0.29 | 0.36 | -0.04 | -0.09 | 0.08 | -0.13 | 1.00 | | |
| 14. Change in average fuel cost | -2.63 | 16.60 | 0.43 | -0.18 | 0.18 | -0.11 | -0.03 | 0.03 | 0.01 | 0.13 | 0.08 | 0.20 | 0.05 | 0.43 | -0.12 | 1.00 | |
| 15. Republican governor and legislature | 0.09 | 0.29 | 0.04 | -0.10 | 0.16 | -0.14 | 0.04 | 0.27 | -0.03 | 0.03 | -0.01 | 0.03 | -0.02 | -0.11 | -0.09 | 0.01 | 1.00 |
| 16. Change in per capita income | 0.07 | 0.03 | 0.43 | -0.08 | 0.01 | -0.17 | 0.13 | 0.04 | -0.17 | 0.04 | 0.08 | 0.21 | -0.02 | 0.30 | 0.01 | 0.35 | 0.15 |
| 17. Other firms initiating reviews | 0.79 | 0.40 | 0.16 | 0.01 | 0.00 | 0.00 | 0.14 | 0.02 | -0.20 | -0.15 | -0.13 | 0.27 | -0.31 | 0.12 | -0.15 | 0.04 | 0.02 |

**N = 491**