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FIRM RESPONSES TO SOCIAL MOVEMENT PRESSURES: A COMPETITIVE DYNAMICS PERSPECTIVE

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Why do firms respond to social movement pressures differently? This study investigates how the strategic motivation of firms, as captured by competitor activity and market dependence, influences the likelihood of their response to social movement demands. We examine this through a longitudinal analysis of wind power adoption by electric utilities in U.S. deregulated markets. We find that when either competitor actions aligned with movement demands or firm dependence on targeted markets increase, the positive effect of movement activism on firm response diminishes. In contrast, as strategic motivation declines, increases in movement activism become more influential at eliciting firm responses.

INTRODUCTION

In the summer of 2011, Greenpeace launched a campaign against large sportswear companies including Nike and Adidas with the aim of reducing global water pollution. The decisions these companies faced were central to their strategies, entailed substantial commitment of resources, and required that these companies go beyond their own practices to work with suppliers to achieve environmental goals. Yet, many of the targeted companies chose to comply with the demands, and crafted response plans in short time frames. As the media explains: "Without even breathing the word 'boycott' campaigners were able to steer companies to a place they were happy with" (Birch, 2012). The nature of these responses reflect the increasing relevance of social activism as a source of pressure for corporate change (Eesley and Lenox, 2006; King, 2008; King and Soule, 2007).

In accordance with this trend, organizational scholars have called for greater attention to how firms respond to the demands exerted by movement activists (King, 2008). This has led to a growing stream of research that examines firm responses to direct and indirect social movement pressures, ranging from disclosing information (Reid and Toffel, 2009), changing offerings, altering internal operations and policies (Briscoe and Safford, 2008; Julian, Ofori-Dankwa, and Justis, 2008), to more generally conceding to activists' demands (Eesley and Lenox, 2006; King, 2008). While such research has advanced our understanding of how social activism shapes firm-level choices, it has generally overlooked the role of strategic factors in these decisions.

In this study, we bridge this gap by simultaneously considering variations at the firm, competitive, and social movement levels. We do so by drawing from the literature on competitive

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dynamics (Chen, 1996; Chen, Su, and Tsai, 2007; Smith, Ferrier, and Ndofor, 2001; Yu and Cannella, 2007), which simultaneously examines the impact of a firm's environment and strategic motivation to understand differences in firm responses. Consistent with this literature, we contend that the likelihood that firms will respond to social movement pressures is dependent upon the degree to which (1) the firm's competitors respond in accordance with social movement demands, and (2) the firm is dependent on the market targeted by the movement (market dependence). We conduct our empirical analysis in the deregulated U.S. electric utility industry, and examine the choices of firms in this industry to add new wind power to their resource portfolios. This provides an attractive context for our research because rising concerns about climate change and air pollution have triggered increased activism for clean energy solutions (Vasi, 2011).

We find that the outcome of social movement intervention is contingent upon firm and competitive level forces. For firms that increasingly face competitors who act in accordance with social movement aims, or that are highly dependent on targeted markets, the relationship between social movement pressures and firm responses is less positive. As compared with their counterparts, these firms experience higher strategic motivation, which substitutes for the need to increase movement pressures. This study contributes to the strategy literature by integrating the perspective of competitive dynamics into the study of social movements and firm responses (Eesley and Lenox, 2006; King, 2008; Reid and Toffel, 2009). Our results highlight the importance of firm strategic motivation in understanding responses to movement pressures, and suggest the need for market-based perspectives in explaining nonmarket activities.

THEORY AND HYPOTHESES

Social movements and corporate action

Social movements are "organized collective endeavors to solve social problems" (Rao, Morrill, and Zald, 2000: 244). Calls for integrating agency into institutional analysis have prompted organizational scholars to draw from social movement theory more extensively (Dimaggio, 1988; Schneiberg and Lounsbury, 2008). Research in this area examines how contestation and collective action can be used to change institutions or create new ones (McCarthy and Zald, 1977). It suggests that institutional change is dependent upon the ability of groups to mobilize resources, reframe cultural debates, and engage in political action (Zald and McCarthy, 1986). This literature often examines the actions of social movement organizations (SMOs), who form to gather, organize, and mobilize resources towards a movement's goals (McCarthy and Zald, 1973) and contest established authority (McCarthy and Zald, 1977).

Social movement scholars are increasingly concerned with how social movements influence corporate change. This literature explores how SMOs bring corporations to the public sphere to debate the social and environmental impact of their practices and offerings (King, 2008; King and Soule, 2007; Rao, 2009) and to promote alternative directions (Sine and Lee, 2009; Weber, Heinze, and DeSoucey, 2008). Extant research reveals that SMOs employ a range of collective action tactics to influence industry activity (Baron, 2001; Walker, Martin, and McCarthy, 2008). Social movements may seek corporate change by appealing to state authorities and demanding policies that impact industry-level practices (Schneiberg and Bartley, 2001). For example, movements have played an important role in driving social and environmental regulation (Bartley, 2003; Schneiberg and Bartley, 2001; Sine and Lee, 2009). In addition, firms are more likely to engage in practices aligned with social movement demands when threatened by government regulation (Reid and Toffel, 2009).

Alternatively, movement activists may engage in campaigns that directly target the behavior and performance of incumbent firms (Baron and Diermeier, 2007; Walker *et al.*, 2008). Protests at corporate facilities, for example, can contribute to changes in the decision making of firms (Weber, Rao, and Thomas, 2009), while protests targeting consumers or labor market issues may be more likely to impact firm stock-price return (King and Soule, 2007). In addition, firms are more likely to concede to movement demands when boycotts receive greater media attention (King, 2008), when managers perceive greater pressures from these groups (Murillo Luna, Garcés Ayerbe, and Rivera Torres, 2008), and when the relative resource power of activists is higher (Eesley and Lenox, 2006).

Research on social movements and corporate action mostly considers how variations in levels of activism and other external factors (e.g., media coverage) impact the likelihood of firm response.

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Absent from this literature is a consideration of how the strategic motivation of a firm may influence its decision to respond to movement demands. We draw from the competitive dynamics literature to explain this.

Social movements, competitive dynamics, and responses to external pressures

While social movement forces originate from distinct actors motivated by different goals, they share many similarities with competitive forces. First, both social movement and competitive pressures act as external stimuli, outside of a firm's control, that may influence firm behavior. Second, both types of pressures could have important repercussions on a firm's performance and relative advantage. Finally, a firm's behavior is interdependent with the actions of competitors and movement activists alike, as their outcomes and decisions are often interrelated. Given these commonalities, we suggest that incorporating the perspective of competitive dynamics can enhance the study of social movements and firm strategy.

Research in competitive dynamics assumes that firms respond to competitive actions when they are *aware* of their competitors' presence and possess the necessary *motivation* to respond (Chen, 1996; Smith *et al.,* 2001; Yu and Cannella, 2007). Some studies highlight the interdependence between firm awareness and motivation and suggest interaction effects between these elements (Chen and Miller, 1994; Chen *et al.,* 2007). We maintain that these contingencies may also be present in situations where social movement pressures are exerted on firms. Awareness depends on the saliency of a movement and intensifies the pressures that firms perceive. Studies have found a positive relationship between social movement saliency and the likelihood of firm response (Eesley and Lenox, 2006; King, 2008). We concentrate on this relationship and theorize how it may be impacted by firm motivation.

Drawing from expectancy theory (Vroom, 1964), research in competitive dynamics has shown that firm responses to competitive actions are driven by factors, such as market and financial conditions, that influence the motivation to act (Chen *et al.*, 2007; Smith *et al.,* 2001; Yu and Cannella, 2007). This motivation in turn is directly influenced by the desirability of the outcome and the expectancy that a set of actions will lead to certain rewards (Vroom, 1964). At the center of this decision are the perceived gains from responding, or potential losses from inaction (Smith *et al.,* 2001). Hence, firms are more motivated to respond to external pressures, such as competitive actions, when the stakes at play are perceived to be large (Chen *et al.*, 2007; Smith *et al.,* 2001; Yu and Cannella, 2007).

Following this line of reasoning, firms will be more motivated to adhere to social movement demands when related pressures from their competitive environment challenge their relative advantage. As competitors' practices increasingly align with a movement's goals, firms may perceive the stakes to be higher. Under these conditions, failure to act may hurt a firm's reputation and image, its relationship with regulators and employees, and ultimately its advantage over competitors. Therefore, competitor actions in accordance with social movement demands act as a source of pressure that motivates firm action.

We maintain that competitor adoptions substitute for increasing social movement saliency in motivating firms to adopt practices that conform to movement demands. That is, firms that are highly motivated by competitive actions may require less movement pressure to react and may do so despite low social movement saliency. In these contexts, competitor activity drives firms to act to protect their position regardless of the saliency of social movements. In contrast, when firms observe little competitor action around social movement-related issues, SMO initiatives may need to be stronger and more visible to trigger firm responses, so as to compensate for the lack of competitive motivation.

> *Hypothesis 1: Competitor actions in accordance with social movement pressures will moderate the relationship between the saliency of SMO activism and the likelihood of firm response, such that the relationship will be less positive at high levels of competitor actions.*

Researchers have also demonstrated that the likelihood of a firm's response to competitive threats increases with a firm's dependence on the markets where it is being attacked (Gimeno, 1999; Karnani and Wernerfelt, 1985). Indeed, the concept of market dependence, which defines the relative contribution of a market to a firm's overall performance (e.g., revenue), has been important in competitive dynamics studies. As a firm's market dependence

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increases, the stakes are higher and the motivation to defend its position is greater (Chen, 1996; Chen and MacMillan, 1992; Gimeno, 1999; Smith *et al.,* 2001). We expect a similar pattern of behavior in how firms protect their most critical markets by conforming more actively to social movement demands in those markets. When SMO activism targets the behavior of firms in important markets, firms may be more likely to respond as inaction could have detrimental repercussions on their performance. We argue that this force reduces the need for increasing social movement intervention. Under these conditions, even when the social movement is not greatly visible, firms may be likely to respond in efforts to defend their influence in those territories. This is because the potential repercussions can be significant enough to trigger firm actions despite lower social movement saliency. Conversely, when SMOs target markets with lower strategic dependence, they may be required to engage in greater activism in order to drive firms to respond. We hypothesize:

Hypothesis 2: A firm's market dependence will moderate the relationship between the saliency of SMO activism and the likelihood of firm response, such that the relationship will be less positive for firms with high levels of market dependence.

METHODOLOGY

Context and sample

We examine our hypotheses in the context of the deregulated U.S. electric power generation industry where SMOs have pressured utilities to adopt wind power technology (Vasi, 2011). In recent years, the United States has become a leader in global wind power installations. Yet, the response from utilities has been far from consistent, and levels of wind technology adoption vary substantially at both the state and firm levels (Vasi, 2011). In the face of electric utility resistance to wind power adoption, social movements have been a countervailing force supporting the growth of wind technologies (Sine and Lee, 2009; Vasi, 2011). SMOs in the U.S. environmental movement have played a key role in publicizing the detrimental environmental effects that are associated with fossil fuel-based power production. In extensive qualitative and quantitative studies, Vasi (2011) shows the breadth and depth of the environmental movement's influence on the adoption of wind power, which range from changes in social attitudes to altered policy regimes.

We followed the decisions of electric utilities in the United States to integrate wind power into their resource portfolios, and examined these decisions annually between the years 1995 and 2009. This allowed us to explore a period that witnessed significant growth in the use of wind power (U.S. DOE, 2012). We concentrated our analysis on states that have implemented deregulation in their electricity markets. Because electric utilities have more managerial flexibility and confront more competitive pressures in deregulated markets, this context allows us to better assess their strategic choices (Warwick, 2002). To date, 24 states have implemented an electricity deregulation plan. For the few states that suspended deregulation, we only included observations for the years in which deregulation was active. We began with 227 major electric utilities that report to the Federal Energy Regulatory Commission (FERC). After accounting for firm-level missing data, our sample included a total of 165 investor-owned electric utilities.

Our study examined variation at the state level for a number of reasons. First, in the United States, environmental SMOs tend to organize by jurisdictional limits that seek to target state-level initiatives (Straughan and Pollak, 2008). Second, most utilities operate within the boundaries of states and are constrained by regulatory environments within them. These include the vast majority of renewable energy incentives and regulations, which have been primarily enacted by state-level authorities (Rabe, 2006).

A significant proportion of the utilities in our sample (slightly over 50%) operate within multiple states. We assess their decisions to add wind power in each state, resulting in an analysis at the utility-state-year level. The final sample includes a total of 1,369 observations.

Measurements

Dependent variable: firm response to social movement pressures

We measure electric utility responses to the environmental social movement by gauging whether or not they adopt new wind power in a state. To construct this variable, we relied on data from the American Wind Energy Association (AWEA), which systematically collects information on all wind farms built

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across the United States. We manually mapped the identity of all utilities in the AWEA database with the firm-level data from FERC. This enabled us to create a unique data set that identifies all instances in which a major electric utility either built a new wind farm or committed to buying wind power from a new wind farm. We coded this information for every utility, state, and year combination as a 1 if the utility made such a commitment and 0 otherwise.

Independent variable: saliency of SMO activism

We measure movement saliency through two distinct measures that capture indirect pressures arising from SMO activism. Even when movement activism does not directly target individual companies, its saliency can motivate firms to respond (Baron, 2001). First, we constructed a measure based on the number of clean energy SMOs in a state. This measure captures the size of the population of these SMOs, and therefore the visibility of the movement towards energy concerns. Extant research has found that the density of organizations working on a particular issue has important repercussions for successful movement outcomes (Olzak and Ryo, 2007), and for the fate of emerging industries (Pacheco, York, and Hargrave, 2011). This suggests that movements with larger populations of SMOs may be more influential and represent a greater source of pressure for corporations. We used data from the National Center for Charitable Statistics (NCCS) to construct a count of the number of organizations registered in the category "Renewable Energy and Energy Conservation" within a given state and year. Second, we used NCCS data to create a measure of the annual total dollar spending on lobbying efforts by environmental SMOs in a state. This variable is a proxy for the efforts of SMOs to bring about regulatory changes that could have important repercussions for local firms, as they pose threats to their reputation and future operations (Baron, 2001; Reid and Toffel, 2009).

Independent variable: competitor actions

To capture the degree to which competitors are acting in accordance with social movement pressures, we constructed a measure of the cumulative number of megawatts (MW) of wind power that a utility's competitors (all other utilities that operate in a focal utility's state) have committed to in prior years (t – 1). Data on wind energy projects from AWEA were used to build this measure. This measure, as well as our measures of movement saliency, was subjected to a natural log transformation due to a pronounced positive skew in its distribution.

Independent variable: market dependence

We measured market dependence as the proportion of a firm's total revenue obtained from a focal market, in this case, from a particular state (Gimeno, 1999). This variable, for example, takes a value of 1 for utilities that have 100 percent of their sales in the focal state. We used utility sales data from the U.S. Energy Information Administration to construct this measure.

Control variables

Since wind power may come at a price premium for consumers, we controlled for a state's median income. In addition, we controlled for the educational attainment in a state as measured by the percentage of a state population that has a bachelor's degree or higher. Data for these variables come from the U.S. Census Bureau.

We also included controls for state-level regulatory efforts. First, we accounted for state renewable portfolio standards (RPS), which mandate that a certain percentage of a state's electricity sales be generated from renewable energy sources by a specified target date. Our measure tracks whether (assigned a 1) or not (assigned a 0) a state has enacted an RPS by a particular year. Second, we measure the incidence of other state-level incentives and rules. We constructed a measure of the count of incentives and rules in effect for a state and year. These included tax credits, loan programs, grants, and rules such as green power options and generation disclosure mandates that are applicable to electric utilities. We used information from the Database of State Incentives for Renewables and Efficiency (DSIRE) to code this measure.

We control for the years in which the federal renewable electricity production tax credit (PTC) was in effect (1; 0 otherwise). We account for the political climate of a state related to environmental issues through a measure of a state's annual League of Conservation Voters (LCV) score. Further, we used two contrast coded variables to control for the specific interconnection network to which an electric utility belongs (Delmas, Russo, and Montes Sancho, 2007). The first variable is coded as -2 for

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Texas and 1 for states in the Western and Eastern Interconnection Systems. The second variable is coded as 0 for Texas, -1 for the Eastern, and 1 for the Western Interconnection Systems. Finally, we included controls for the natural wind energy potential of a state through a measure of the percentage of total electricity consumption that could be produced with wind power (Elliot and Schwartz, 1993). These data were not available for the states of Hawaii and Alaska, which prevented their inclusion in the analysis.

We accounted for firm-level differences by controlling for firm size and prior experience, as measured by total dollar value of assets and the cumulative number of MW that a utility has committed to wind power in prior years (t – 1). Finally, to control for the effect of time, we included yearly fixed effects.

Analysis

Given the dichotomous nature of our dependent variable, we used logistic regression to test our hypotheses. Logistic regression uses maximum likelihood estimation to model the probability of binary outcomes and account for the non-normal distribution of errors associated with limited dependent variables. In addition, because a significant portion of the firms in our sample operate in multiple states, our data often have repeated observations per firm and year. To account for the potential non-independent and nonidentical distribution of errors in studies with repeated measurements, we use Huber-White robust and clustered standard errors in the analysis (White, 1980). This method adjusts standard errors for correlations across observations, in this case, for observations pertaining to the same state or firm. It enables the disturbances *within* each state or firm to be correlated, while preserving the assumption of independent errors *between* states or *between* firms. We applied this method by clustering standard errors in our analysis at two levels (firm and state level), which is consistent with the rationale of Cameron, Gelbach, and Miller (2011).

RESULTS

Regression analysis

Table 1 presents descriptive statistics and variable correlations. Table 2 displays the results of the logistic regression analysis. Model 1 in Table 2 considers the effect of all control variables. Findings from this model suggest that the likelihood that electric utilities will add new wind power increases with firm size and cumulative experience with wind energy ($p = 0.001$ and $p = 0.000$, respectively). Interestingly, we did not find a relationship between our dependent variable and the passage of a state RPS or state-level incentives. There are a variety of explanations for these results. First, while many states in our sample have passed an RPS, most of these policies were enacted on or after 2004, and have set goals for or after the year 2020. Since our data sample ends in 2009, it is likely that there is insufficient time lapse to observe substantial effects. In addition, provisions behind the PTC might prevent some projects from taking full advantage of state-level incentives and diminish their overall value (Wiser, Bolinger, and Gagliano, 2002).

Model 2 introduces the measure of clean energy SMO participation. Results reveal that there is a positive relationship between the number of clean energy SMOs that are active in a state and the likelihood that a utility will integrate wind power in its portfolio ($p = 0.037$). Models 3 and 4 introduce the moderating effects of competitor actions and market dependence on this relationship. As hypothesized in Hypothesis 1 and Hypothesis 2, we found negative coefficients for these relationships. Due to complexities in the interpretation of interaction terms in models with limited dependent variables, we then applied Zelner's (2009) procedure to provide meaningful explanation for the results in Models 3 and 4. We found that an increase in cumulative competitor wind power activity and firm market dependence is associated with a significant change in the predicted probability of wind energy integration across the broad range of clean energy SMO participation.

Figure 1 graphs the interaction in Model 3. Results suggest that increases in clean energy SMO participation are positively related to the probability of adding new wind power for firms confronting little to average competitor adoption of wind power. However, as competitors adopt above-average wind power, increasing SMO efforts reach diminishing returns. In these cases, pressures arising from competitive activity substitute for the need to increase movement pressures. These findings support the premises of Hypothesis 1 ($p = 0.000$).

Figure 2 graphs the interaction in Model 4. Consistent with Hypothesis 2, we find that the positive relationship between clean energy SMO participation and the likelihood of new wind integration

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Table 1. Sample statistics and correlation matrix

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Wind energy integration	0.021	0.143	0	1	1															
2. No. clean energy SMOs	6.305	5.937	0	58	0.11	1														
3. SMO lobby spending	2.39E+05	4.40E+05	0	3.05E+06	0.03	0.53	1													
4. Cumulative competitors' wind MW	187.769	658.5	0	4,250.358	0.14	0.48	0.24	1												
5. Utility market in a state	0.569	0.416	0	1	0.1	0.12	0.07	0.09	1											
6. State median income	47,145.247	7,765.285	29,212	68,059	−0.03	0.1	0.07	−0.07	−0.12	1										
7. State educational attainment	28.311	4.648	14.8	38.1	−0.07	0.23	0.22	−0.15	−0.14	0.77	1									
8. State RPS	0.498	0.5	0	1	0.04	0.31	0.14	0.2	0	0.37	0.38	1								
9. State WE rules and incentives	1.431	0.777	0	3	−0.03	0.36	0.31	−0.12	0.01	0.47	0.47	0.44	1							
10. Federal production tax credit	0.742	0.438	0	1	0.09	0.07	0.02	0.06	−0.02	0.1	0.05	0.08	−0.02	1						
11. League of Conservation voters	123.321	54.679	4	195	−0.06	0.17	0.2	−0.27	−0.2	0.35	0.48	0.39	0.44	0.11	1					
12. Interconnection area 1	0.81	0.73	−2	1	−0.12	−0.08	0.02	−0.71	−0.12	0.18	0.2	−0.26	0.31	0.02	0.42	1				
13. Interconnection area 2	−0.776	0.578	−1	1	0.15	0.29	0.17	0.48	0.1	−0.26	−0.24	−0.03	−0.15	−0.01	−0.29	−0.35	1			
14. State wind energy potential	1.051	2.837	0.1	15	0.11	0.08	−0.03	0.6	0.1	−0.31	−0.26	0.14	−0.3	−0.02	−0.47	−0.82	0.49	1		
15. Total assets	2.44E+09	3.99E+09	3.83E+05	3.81E+10	0.25	0.18	0.24	0.12	0.25	−0.04	−0.09	−0.09	0.04	0	−0.08	−0.04	0.21	0.04	1	
16. Cumulative utility wind MW	5.582	36.341	0	437.4	0.43	0.17	0.07	0.32	0.13	−0.03	−0.07	0.11	−0.05	0.03	−0.12	−0.31	0.22	0.26	0.23	1

Coefficients larger than 0.04 are significant at the 5 percent level.

is stronger at low levels of market dependence. However, as market dependence increases to above mean levels, it substitutes for the need to increase SMO demands, and doing so results in diminishing returns. For example, a firm with low market dependence (one SD below the mean) is 6.7 times more likely to integrate new wind as SMO participation increases from low to high levels (one SD below and above the mean, respectively). However, a firm with high market dependence (one SD above the mean) is only 0.94 times more likely to add new wind with the same increase in SMO participation.

Model 5 includes all interaction effects. We find consistent results between this model and previous models examining the relationships in Hypothesis 1 and Hypothesis 2, which further strengthens our findings. In addition, Models 6–9 examine all relationships with SMO saliency measured through lobby spending of environmental SMOs in a state. Findings for these models are statistically consistent with those of our base estimates in Models 2–5.

Robustness analysis

We conducted a variety of sensitivity analyses to verify the robustness of our results. First, we analyzed our data with an alternative measure of our dependent variable based on a count, as opposed to a dichotomous classification, of the number of new transactions in which a utility adds new wind power. Second, to consider differences in ownership versus long-term purchasing agreements for wind energy, we split our sample for each of these transactions and conducted a separate analysis. We were able to replicate all of our results with a subsample of purchasing transactions only. Third, to take into account the effect of market conditions, we conducted a separate analysis that controls for the price of wind relative to traditional energy. Further, we used a distinct measure of competitive activity that considers the national- as opposed to state-level wind power capacity of competitors. For these analyses, we found statistically consistent results when compared to the models in Table 2, which confirm the robustness of our estimates.

DISCUSSION AND CONCLUDING REMARKS

Our analysis demonstrates the value of integrating a competitive dynamics perspective into the

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Table 2. Results of logistic regression analysis. Dependent variable: wind energy integration[a b]

Variables	Model 1 Controls	Model 2 Social movement (clean energy organizations)	Model 3 Interaction with competitor wind	Model 4 Interaction with market dependence	Model 5 Full model	Model 6 Social movement (lobby)	Model 7 Interaction with competitor wind	Model 8 Interaction with market dependence	Model 9 Full model
State median income	−6.31e-05	−4.39e-05	0.000112	−6.97e-05	0.000113	−6.09e-05	3.81e-05	−8.14e-05	3.43e-05
	(6.42e-05)	(8.80e-05)	(0.000110)	(0.000114)	(0.000115)	(8.05e-05)	(7.91e-05)	(0.000114)	(8.47e-05)
State educational attainment	−0.0495	−0.176+	−0.298*	−0.0378	−0.325*	−0.120	−0.225***	−0.0433	−0.230***
	(0.0754)	(0.131)	(0.136)	(0.137)	(0.144)	(0.1000)	(0.0445)	(0.103)	(0.0601)
State RPS	0.405	0.330	−1.077	−0.233	−1.165	0.424	−0.0443	−0.279	0.0129
	(0.611)	(0.686)	(0.780)	(0.670)	(0.790)	(0.593)	(0.632)	(0.645)	(0.635)
State WE rules and incentives	−0.0713	−0.311	−0.859*	−0.861+	−0.896*	−0.309	−1.105*	−0.942*	−1.169**
	(0.397)	(0.442)	(0.467)	(0.538)	(0.495)	(0.429)	(0.469)	(0.569)	(0.463)
Federal production tax credit	1.348	0.986	1.056	1.268	1.185	1.582+	0.202	1.510	0.0839
	(1.058)	(1.108)	(1.283)	(1.418)	(1.326)	(1.133)	(1.381)	(1.431)	(1.411)
League of Conservation voters score	−0.00898	−0.00624	−0.00763	−0.00857	−0.00788	−0.00953	−0.00654	−0.00958	−0.00587
	(0.00898)	(0.00783)	(0.0120)	(0.00865)	(0.0126)	(0.00904)	(0.00787)	(0.00885)	(0.00812)
Interconnection area 1	−0.0712	0.0269	0.885+	0.671	0.882+	0.179	1.330*	0.852	1.352**
	(0.536)	(0.503)	(0.663)	(0.616)	(0.686)	(0.620)	(0.576)	(0.699)	(0.567)
Interconnection area 2	0.342	0.0657	0.264	−0.138	0.218	0.210	0.142	−0.128	0.137
	(0.421)	(0.424)	(0.317)	(0.450)	(0.305)	(0.492)	(0.395)	(0.512)	(0.394)
State wind energy potential	−0.0764	−0.0757	0.0284	−0.0895	0.0250	−0.0480	0.0254	−0.0577	0.0233
	(0.105)	(0.116)	(0.141)	(0.130)	(0.144)	(0.122)	(0.125)	(0.132)	(0.124)
Cumulative utility wind MW[b]	0.424***	0.412***	0.404***	0.423***	0.444***	0.428***	0.418***	0.413***	0.445***
	(0.113)	(0.101)	(0.0829)	(0.0509)	(0.0644)	(0.112)	(0.0844)	(0.0692)	(0.0820)
Utility total assets[b]	0.613**	0.600***	0.579***	0.552***	0.588***	0.563**	0.590***	0.539***	0.592***
	(0.200)	(0.188)	(0.151)	(0.149)	(0.134)	(0.195)	(0.166)	(0.154)	(0.169)
No. clean energy SMOs[b]		0.958*	1.552**	1.222+	3.443***				
		(0.536)	(0.591)	(0.758)	(1.000)				
Utility market in state			2.147*	4.601**	6.670***		2.005*	6.288*	11.87*
			(1.075)	(1.687)	(1.961)		(1.086)	(3.488)	(6.188)
Cumulative competitors wind MW in state[b]			1.289***	0.386*	1.380***		2.345***	0.391*	2.474***
			(0.402)	(0.230)	(0.422)		(0.481)	(0.218)	(0.535)
Clean energy SMOs × cumulative competitors wind			−0.405***		−0.448***				
			(0.105)		(0.116)				
Clean energy SMOs × utility market				−1.271**	−2.072**				
				(0.538)	(0.666)				
State SM lobby spending[b]						0.235*	0.489***	0.439*	1.226**
						(0.109)	(0.131)	(0.264)	(0.452)

Table 2. continued

Variables	Model 1 Controls	Model 2 Social movement (clean energy organizations)	Model 3 Interaction with competitor wind	Model 4 Interaction with market dependence	Model 5 Full model	Model 6 Social movement (lobby)	Model 7 Interaction with competitor wind	Model 8 Interaction with market dependence	Model 9 Full model
SM lobby spending × cumulative competitors wind MW							−0.157***		−0.168***
							(0.0298)		(0.0367)
SM lobby spending × utility market in state								−0.362+	−0.808*
								(0.221)	(0.431)
Constant	−12.82**	−11.99*	−18.45**	−16.01**	−22.07***	−12.61**	−20.65***	−17.69*	−29.44**
	(5.134)	(5.261)	(5.847)	(6.333)	(6.339)	(5.251)	(5.551)	(7.935)	(10.04)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wald chi square	218.53	173.39	272.28	156.73	275.49	200.41	256.37	164.23	269.73
Log likelihood	−134.0	−129.4	−112.5	−117.9	−109.9	−131.2	−112.3	−118.3	−110.9
McFadden's pseudo-*R*−square	0.33	0.36	0.44	0.42	0.45	0.35	0.44	0.41	0.45

[a] Robust standard errors clustered at firm and state-level in parentheses; $n = 1,369$; all independent and control variables lagged by one year $(t - 1)$

[b] Logged

$***p < 0.001$; $**p < 0.01$; $*p < 0.05$; $+p < 0.10$; one-tailed tests

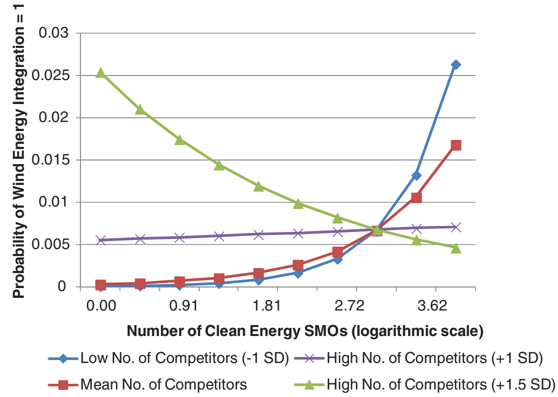

Figure 1. Effect of clean energy SMO density on the probability of new wind integration for different levels of competitors' wind power capacity

study of social movements and firm responses. We maintained that the strategic motivation of firms influences the relationship between social movement activism and firm response. When firms face high competitor activity around movement demands and have high dependence on the markets targeted by movement activists, increasing SMO activism does not enhance the likelihood of firm response. Rather, such firms may respond more immediately to SMO activism but are less influenced by increasing activism than their counterparts. In contrast, firms that face lower levels of competitive activity or market dependence are more likely to respond with increasing social movement saliency. Collectively, these results suggest that strategic motivation can, to some extent, substitute for increasing SMO activity in its effect on firm responses. Indeed, our strategic motivation variables meet the statistical requirements to serve as substitutes for social movement pressures (Podsakoff, MacKenzie, and Bommer, 1996).

Our results have important theoretical and practical implications. They imply that strategic factors, such as competitor actions, can take precedence and motivate firms to act, even when social pressures are relatively small. As such, our study is able to explain firm action despite conditions of limited social movement engagement. At the broadest level, our results indicate the potential productivity of applying market-based perspectives to explain nonmarket-based activities. For the social movement literature, this suggests the opportunity to expand current models to help explain how strategic forces shape corporate responses. For the strategic management literature, extant models

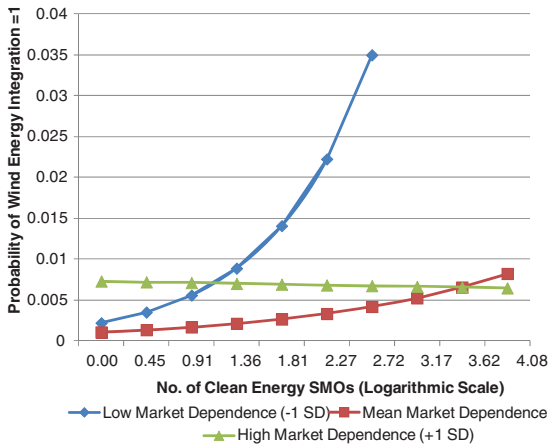

Figure 2. Effect of clean energy SMO density on the probability of new wind integration for different levels of market dependence

may benefit from the inclusion of social movement effects, particularly as they impact firm- and industry-level dynamics.

While we cannot argue that our results are normative to firms facing social pressures, they do perhaps represent a benchmark to guide other firms. We may expect, for example, that firms facing greater competitive activity consistent with movement demands, or greater market dependence, will respond more quickly (or at least at lower levels of pressure) to the demands of social movements. Such predictive understanding could contribute to competitive advantage by letting others lead the response when such response is costly but does not have significant positive performance implications. When significant positive market gains are possible from early response, this understanding could help firms gauge which competitors represent a near-term imitative threat.

Our findings also have important implications for the strategies of social movement activists. They suggest that activists may experience less resistance when targeting firms with high competitor engagement related to the movement's demands and market dependence. These conditions may be ideal for activist campaigns that have relatively small financial resources. In these contexts, increasing such commitments may at some point lead to diminishing returns and therefore may not be a desired approach. On the other hand, activism may need to be greater to elicit responses from firms with lower market dependence, as well as those in contexts with low competitor activity in the areas of interest. In sum, a key to activism effectiveness is to find those important strategic factors that may substitute for the efforts of social movements, so that SMOs can adapt their campaigns accordingly.

Like all studies, ours is not without limitations. While the context of electric utilities and the adoption of wind power in those utilities serves as an excellent arena for the examination of social movement responses, our results may not apply to other contexts. In addition, the generalizability of our results is constrained to the particular type of social movement examined. In our context, the environmental social movement is a professionalized and legitimate movement (Jenkins, 1983) that represents a credible threat to the reputation and performance of industries. Therefore, our results speak to the effects of these types of movements, as opposed to emerging movements that are less established.

It is also possible that our results are unique to our measures of social movement saliency, which are based on the density of clean energy SMOs and environmental SMO lobby spending. While the saliency of SMO activism is arguably related to the density of organizations that engage in persuasion tactics and the financial resources that SMOs allocate towards governmental initiatives, it might also be driven by other characteristics of the social movement.

In conclusion, this study adds to the growing literature on firm responses to social movement pressures. Our results are consistent with prior studies showing that firms respond to social movement activism, but are unique in the focus on strategic motivation that intervenes in this relationship. This opens up new opportunities for theoretical development and empirical analysis on the nature of such influences and the dynamics that occur when social activists work within an industry.

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