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Perspectives on Firm Strategies in the Non-Market Environment

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Abstract

The non-market environment, which includes "the rules of the game" that govern economic interactions in the market, plays a central role in the ability of firms to create economic value and to sustain competitive advantage. This dissertation focuses on firms' interactions with different elements of the non-market environment and is comprised of three essays.

Essay 1 examines the conditions under which firms reach agreements with environmental activists in regulatory agency proceedings to mutually settle disputes. The chapter argues that actions of firms will be dictated by the features of the regulatory decision-making process and the heterogeneity in the attributes of firms, activists, and the regulators. Statistical analysis in the context of regulatory proceedings in the U.S. electric utilities sector demonstrates that alongside firms and activist attributes, external pressures emanating from multiple stakeholder interests and the political ideology of regulators influence the likelihood of agreements.

Essay 2 examines how differences in the political resources and capabilities of incumbent firms and sharing economy market entrants manifest in their lobbying strategies when they compete in the non-market environment to shape regulatory entry standards. Results from a statistical analysis in the ridesharing industry in Toronto, Canada, demonstrate that the incumbent (taxicab firms) and the market entrant (Uber), targeted different types of legislators for lobbying as they seek the legislators' support for their respective regulatory positions.

Essay 3 examines how government intervention in the management of private firms affects the performance of firms. Undertaken in the context of Chrysler's bailout by the U.S. Federal Government in 2008, the chapter quantifies the effect of government's intervention, which extended beyond capital injection and affected the day-to-day operations of the firm, on Chrysler and its constituent brands. Results demonstrate that all four brands of Chrysler experienced a decrease in their sales during the period of government intervention. However, this decrease was felt differentially across the brands and ranged between a 51 percent and 19 percent of average monthly sales.

Overall, this dissertation aims to expand and enrich the knowledge on strategies of firms as they navigate the uncertainties associated with the non-market environment.

Keywords

Non-market strategy, corporate political activities, market entry, technological disruption, lobbying, competitive strategies, stakeholder management, industry regulation, environmental activism, corporate bailouts, firm performance.

Summary for Lay Audience

Research on strategic management seeks to understand both the internal competencies of firms as well as how the external environment shapes firms' ability to perform in the market. This dissertation focuses on the interactions of firms with different elements of its external environment such as the government, regulatory agencies, and ideological stakeholders.

Essay 1 examines how firms respond to opposition they face from environmental activists, who often target firms to discourage their contentious practices. The essay aims to understand the conditions under which firms reach agreements with environmental activists, in the context of regulatory rulemaking procedures, that allow both parties to mutually settle disputes. Findings demonstrate that besides attributes of firms and activists, external pressures emanating from firms' other stakeholders and the political ideology of regulators, factors unique to the regulatory decision-making process, affect the likelihood of agreements.

Essay 2 argues that incumbent firms and market entrants differ inherently with respect to their political endowments, on which they rely to shape industry regulations, and these differences will manifest in their political actions. Conducted in the context of Uber's entry into the regulated taxicab industry in Toronto, Canada, this research finds that the incumbent (taxicab firms) and the market entrant (Uber) targeted different types of legislators for lobbying to seek support for their preferred policy positions.

Essay 3 examines the case of Chrysler's bailout by the U.S. Federal Government in 2008, to quantify the impact of government's intervention, that included involvement in Chrysler's day-to-day operations, on its performance and that of its constituent brands. Employing a novel empirical method the study finds that Chrysler and its four brands experienced a decrease in their sales during the period of government intervention. However, this decrease was felt differentially across the brands, which I argue is a manifestation of the government's involvement in Chrysler's management.

Overall, this dissertation aims to expand and enrich the knowledge on strategies of firms as they navigate the uncertainties associated with their external environment in pursuit of competitive advantages in the market.

Co-Authorship Statement

A version of Chapter three is under peer review at the *Strategic Management Journal* and has been co-authored with Professor Guy Holburn (Western University) and Professor Davin Raiha (University of Notre Dame). I developed this research project as a term paper for one of my Ph.D. courses. As a co-author, my role involved conducting the statistical analyses, developing the research design, and writing early versions of the manuscript. Professor Holburn and Professor Raiha contributed by providing advice throughout the research project with respect to theoretical framing, research design, the empirical analysis, as well as with the final drafting of the manuscript.

To Usha,

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Chapter 1

1 Introduction

The field of strategic management has increasingly acknowledged the importance of the nonmarket environment in determining how firms perform in the market. While the market environment comprises transactions between firms and economic stakeholders, the nonmarket environment encompasses interactions between firms and stakeholders that are mediated by political, social, and legal institutions. Given its role in shaping the "rules of the game" that govern market-based transactions (North, 1990), the institutional environment can just be as crucial for firms' performance as their market-based strategies. Threats in the nonmarket environment can emanate from political institutions in the form of regulatory distortions (Bonardi, Holburn, & Vanden Bergh, 2006; Hillman & Hitt, 1999), actions of societal stakeholders (Baron 2001, 2003; Eesley and Lenox, 2006) or through both when social actors leverage the coercive power of the state to influence firm behavior (Amenta & Caren, 2004; Hiatt, Grandy, & Lee, 2015).

As such, recent scholarship has sought to understand how firms respond to and manage such threats to alter their institutional environment in ways that confer them competitive advantages or offset competitive disadvantages in the market. Central to development of this stream of research has been the recognition that the nonmarket environment is endogenous rather than exogenous, and is often shaped by the actions of firms and their interactions with other key stakeholders (Baron, 1995; 1997). In the political arena, firms engage in legislative strategies, including lobbying (de Figueiredo & Silverman, 2006; Jia, 2018), making campaign contributions (de Figueiredo & Edwards, 2007; Fremeth, Richter, & Schaufele, 2013), or

mobilizing their rent chains to lobby policy makers on their behalf (Walker, 2012). Likewise, in the social arena, firms manage opposition from social activists by cultivating ties with them (Henisz, Dorobantu, & Nartey, 2014; Odziemkowska & Dorobantu, 2021), participating in corporate social responsibility programs (Barnett & Salomon, 2012; Kaul & Luo, 2018), or through symbolic actions aimed at impression management (McDonnell, King, & Soule, 2015).

Integral to these studies has been the notion that just as firms differ in regard to their resources and capabilities in the market, so too do they in the nonmarket environment. How effectively firms manage threats from the institutional environment is reliant on the nature of their political (Holburn & Zelner, 2010; Oliver & Holzinger, 2008) and social resources and capabilities (Hart, 1995; Vogel, 2007), and insofar as such competencies are unique and difficult to replicate by firms' rivals they confer firms with a nonmarket advantage (Baron, 1995). Attributes of firms such as their size, degree of diversification, political ties, and past experience have been found to influence the ability of firms to shape their political environment (Bonardi, Holburn, & Vanden Bergh, 2006; Hillman, Keim, & Schuler, 2004; Macher & Mayo, 2015). Likewise, firms with a strong record of social performance may be seen as more legitimate by societal actors, allowing them to leverage their superior public reputation to effectively manage threats in their social environment (Minor & Morgan, 2011; Werner, 2015).

While all firms are affected by their institutional environment to a certain degree, the importance of the nonmarket environment is often contingent on the nature of the industry a firm operates in. As the control wielded by nonmarket forces on firms' market opportunities increases, so does the importance of nonmarket strategies in the strategy formulation process (Baron, 1995). Exposure to nonmarket forces is particularly severe for firms that operate in

heavily regulated industries and are vulnerable to public policy outcomes, or those that are more susceptible to public pressure due to the broader effect of their operation on societal outcomes.

This dissertation is likewise concerned with the interactions between firms and different elements of their institutional environment, and draws on the insights developed in the literature on nonmarket strategy. It contributes to the existing body of research by examining how firms' political environment shapes their interactions with a broad range of nonmarket actors, including policy makers, market rivals, regulatory agencies, and social activists and is comprised of three empirical studies. The first study draws on the literature on stakeholder management and political markets to examine conditions under which firms and social activists mutually settle disputes in regulatory settings. The second study examines how market entrants and incumbent firms compete in the nonmarket environment by political lobbying to shape regulatory entry standards in an industry. The third study examines the consequences of government involvement on the performance of private firms in the context of corporate bailouts. The rest of this chapter briefly summarizes the arguments developed, empirical results, and the contribution of each of these three studies.

The first study (Chapter 2) examines how firms respond to opposition from environmental activists in regulatory agency proceedings. The literature on stakeholder management has long emphasized that relationships of firms with such secondary stakeholders also matter, and how opposition from them can negatively affect a firm's performance and influence its behavior. Nowhere has this been more apparent than in the movement on climate change where environmental activists publicly target firms through protests to induce changes in firms' practices by threatening to harm their reputation. While a large body of literature has

examined such tactics of activists and how firms respond to them, much less is known about actions of activists targeted at firms in the context of public institutions. Public institutions such as legislatures, regulatory agencies, and courts often wield significant influence on firms, and therefore provide activists an appropriate avenue to target the contested practices of firms. Moreover, such strategies are particularly prevalent in natural resource related industries – such as forestry, mining, oil and gas, and power generation – where actions of firms have significant bearing on the environment, yet where firms lack publicly visible brands, which limits the efficacy of activist tactics that target the public reputation of firms.

This chapter contributes to this stream of literature by examining interactions between firms and environmental activists that transpire during regulatory agency proceedings. The chapter develops arguments about the conditions under which firms reach agreements with environmental activists to mutually settle disputes in order to avoid costly regulatory contests that might also lead to regulations which are more onerous and less efficient for firms. While regulatory outcomes primarily rest on the ability of participant interest groups to shape the informational environment during regulatory deliberations, they are also susceptible to pressures emanating from the presence of multiple stakeholder interests and the prevailing political environment. The chapter predicts that the likelihood of firms reaching agreements with environmental activists will therefore be a function of these regulatory considerations as well as the heterogeneity in the attributes of firms and environmental activists.

These predictions are tested in the context of participation by environmental activists in regulatory proceedings initiated by electric utility firms with State Public Utility Commissions (PUCs) in the US between 1990 and 2015. The focus of the empirical analysis is on negotiated agreements that allow firms to mutually settle disputes with participant stakeholders. While such

negotiated agreements are still subject to final approval by the PUC, they allow firms to circumvent a protracted, and often adversarial, regulatory adjudication process. Since participation by environmental activists is not random and can be motivated by their expectation of a certain outcome (for instance, a greater likelihood of negotiating an agreement with the firm), the econometric approach employs a 2-stage Heckman selection model to correct for this potential selection bias. Results indicate that the likelihood of agreement was decreasing in firms' reliance on practices contested by environmental activists, environmental activists participation in extra-institutional tactics to target firms in the private politics, and the economic power wielded by firms' stakeholders whose interests conflicted with those of the environmental activist wielded.

The second study (Chapter 3) moves from an analysis of how firms address the interests of nonmarket stakeholders, to an analysis of how they maximize their self-interests by strategically lobbying policy makers in the legislature. The chapter examines how sharing economy entrants and incumbents compete in the political arena when new business models driven by technological changes necessitate updates to industry regulations. While a number of studies have examined corporate political actions (CPA), competition between firms has rarely been considered. Drawing on nonmarket strategy research and the resource-based view of the firm, this chapter argues that differences in the political resources and capabilities of sharing economy market entrants and incumbents in a jurisdiction will result in them following disparate lobbying strategies.

The chapter argues that incumbents' established economic rent chains in a jurisdiction, their tacit knowledge, and strong political ties confer them an advantage over market entrants. As

a consequence, incumbent firms are more likely to have allies whom they are likely to lobby by providing policy-relevant information to seek support for their positions in the legislature. On the other hand, new entrants as newcomers to the jurisdiction cannot quickly replicate these political capabilities and will generally not compete with incumbents of the support of the same set of legislators but will instead target those who are less likely to be sympathetic to the incumbents. A central contribution of the chapter is that it extends the literature on corporate political actions, which has primarily focused on single interest group settings, by integrating the competitive nature of firms' political actions and how such actions are informed by the differences in the unique resources and capabilities of firms.

These predictions are tested in the context of the ridesharing industry in Toronto, Canada, where Uber, a sharing economy market entrant, competed directly with the services provided by the incumbent taxicab firms, however, did not comply with the applicable industry regulations. Dispute on the nature of applicable industry regulations between the incumbent taxi firms and Uber triggered an intense competition to lobby legislators as both parties sought to shape industry regulations that conferred them an advantage over their rival. Results from a statistical analysis demonstrate that the two rivals targeted largely different types of councillors: taxi firms (Uber) were more (less) likely to lobby councillors who were members of the committee responsible for taxi regulation, had longer experience in office, and had weaker pro-competition political ideology. Empirically, this research contributes to the literature on lobbying by employing a novel dataset that captures lobbying contacts made by firms with legislators to identify firms' targeting strategies in ways that other studies relying on coarse measures of lobbying such as self-reported surveys and lobbying expenditures have not been able to accomplish.

While studies one and two examine the strategies of firms in their interactions with nonmarket actors, study three (Chapter 4) examines the consequences government intervention in private firms on their performance, in the context of corporate bailouts. Prior studies have argued that state ownership can positively influence firm performance by providing critical resources to firms in distress and stimulating entrepreneurial activity. However, principal-agent conflicts that arise when governments use their influence to use firms as vehicles to maximize political objectives or prioritize social goals at the expense of profitability, can adversely affect firm outcomes. As such, predictions in the literature on the effect of government intervention on firm performance have ranged from positive to negative. Unlike prior studies which have primarily emphasized firm-level outcomes, this chapter contributes to the literature by examining how government involvement in a firm's management permeates firm boundaries to drive intrafirm differences in performance.

This study is conducted in the context of Chrysler's bailout by the U.S. federal government through the Troubled Assets Relief Program (TARP) following the financial crisis of 2008. Unlike the bailout of banking institutions during this period, where the government's role was largely limited to capital injection, the government's involvement in Chrysler extended to key strategic decisions including making changes in the leadership, rationalizing the dealership network, and oversight over all large material transactions. Several congressional reports highlighted the conflicts of interest in the many roles of the government as it assumed the role of being the regulator, shareholder, creditor, and the management all at once. The chapter first conducts an in-depth assessment of Chrysler's bailout to present qualitative evidence on the ramifications of government's involvement for Chrysler's four brands. Second, the chapter

conducts a statistical analysis to quantify the effect of government's intervention on the performance of Chrysler's brands during the bailout period.

To overcome the statistical inference challenge resulting from the endogenous treatment of Chrysler, the chapter employs the synthetic control technique that provides a systematic way to construct counterfactual units that closely resemble the pre-bailout performance of Chrysler's brands but were not subject to the government intervention. The impact of bailout on each brand of Chrysler is then identified by comparing its performance with that of the synthetic control during the period of government intervention. Results demonstrate that all brands of Chrysler experienced a decrease in their sales during the period of government intervention. However, this decrease was felt differentially across the four brands and ranged between a 51 percent and 19 percent of average monthly sales.

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Chapter 2

2 Negotiating Agreements with Environmental Activists in the Shadow of Regulation

2.1 Introduction

Interactions between firms and environmental activists have become increasingly commonplace as they both assume a central role, alongside governments, in addressing global environmental issues such as climate change. These interactions range from cooperative, when firms and activists work closely to address environmental challenges (Rondinelli & London, 2003), to more adversarial when activists target firms through boycotts or protests, or contest firms' practices via public institutions such as regulatory agencies (Baron, 2001). As a result, firm-activist interactions have received increasing attention in the management literature (Baron & Diermeier, 2007; Eesley & Lenox, 2006; Freeman, 2010; Hiatt, Grandy, & Lee, 2015; King, 2008) with prior studies examining tactics of activists (Baron & Diermeier, 2007; Lenox & Eesley, 2009), how firms respond to them (Delmas & Toffel, 2008; Eesley & Lenox, 2006; Mitchell, Agle, & Wood, 1997; McDonnell & King, 2013; Pacheco & Dean, 2015; Reid & Toffel, 2009), and the impact of activist campaigns on firm performance (King & Soule, 2007; Vasi & King, 2012).

The focus of this literature has predominantly been on private politics[1], when activists target firms in the social arena through actions such as protests and boycotts to harm their public

[1] Private politics refers to actions of activists that target firms, often threatening to harm their public reputation, through actions such as protests and boycotts (Baron, 2003). A parallel stream of research on social movements has examined such extra-institutional tactics of activists using a sociological perspective (Baron, Neale, & Rao, 2016). On the other hand, public-politics tactics

reputation (Baron & Diermeier, 2007; Delmas & Toffel, 2008; Eesley & Lenox, 2006; Hiatt, *et al.* 2015; King, 2008; Odzeimkowska & Dorobantu, 2021). However, activists also target practices of firms via public institutions such as legislatures, regulatory agencies, and courts where they seek to influence public policy outcomes to affect changes in firm behaviour. Yet, despite the state's ability to exert significant influence on firms' practices (Christmann, 2004; Darnall, Henriques, & Sadorsky, 2010; Henriques & Sadorsky, 1999; Hiatt, Grandy, & Lee, 2015; Reid & Toffel, 2009) and assertions that "most action in corporate environmentalism is mediated through public policy" (Lyon & Maxwell, 2004: 4), much less is understood about interactions between firms and environmental activists in such settings.

In this paper, I address this gap in the literature by examining firm-activist interactions that transpire in the regulatory arena. Ideological interest groups such as activists and advocacy organizations are frequent participants in regulatory agency rulemaking procedures across various industries. For instance, the U.S. Department of Health and Human Services' (HHS) 2018 proposed rule on *Blueprint to Lower Drug Prices and Reduce Out-of-Pocket Costs*, which targeted practices of pharmaceutical firms, attracted several ideological organizations including American Association of Retired Persons, Community Catalyst, Justice in Aging, National Health Law Program, and Public Citizen (Department of Health and Human Services, 2018). Likewise, activists such as American Civil Liberties Union, Future of Privacy Forum, and Privacy Rights Clearinghouse participated in the US Federal Communications Commission's (FCC) 2016 proposed rule on *Protecting the Privacy of Customers of Broadband and Other Telecommunications Services* to challenge the position of telecommunication firms (Federal

of activists target firms through public institutions such as legislatures, executive agencies, and courts (Baron & Diermeier, 2007).

Communications Commission, 2016). Environmental activists, on whom I focus in this paper, such as Environmental Defense Fund, Natural Resources Defense Council, and Sierra Club regularly highlight their work alongside government agencies to influence practices of firms in pursuit of their objectives. Moreover, in a number of industries – such as forestry, mining, oil and gas, and electric power generation – public politics tactics such as participation in regulatory proceedings provide a particularly attractive alternative for activists as firms often lack publicly visible brands, limiting the ability of activists to harm firms' reputation through private campaigns.

In regulatory settings, disputes between firms and stakeholders (such as social activists) that arise as a result of conflicts in their interests are typically settled via a formal administrative process where regulators base their decisions on the evidence and testimony presented by parties in support of their positions. Alternatively, parties can also engage in negotiations to mutually settle disputes and reach an agreement, which is then presented to regulators for a formal approval. If parties fail to reach an agreement through negotiations, disputes are settled by regulators through the formal administrative process (Littlechild, 2009). Focusing on such negotiated agreements, I examine the conditions that influence the likelihood of firms striking agreements with environmental activists during regulatory proceedings. Given the central role of regulatory agencies in shaping final outcomes, I assert that regulatory considerations will be the primary drivers of how firms respond to opposition from environmental activists, and whether they reach an agreement. To develop the hypotheses, I argue that the likelihood of observing an agreement will be a function of the attributes of firms, activists and the regulatory environment that interact with the features of the regulatory decision-making process – namely, the

informational nature of regulatory proceedings, the presence of multiple stakeholder interests, and the political ideologies of the regulators themselves.

At the firm-level, I posit two such factors. First, I expect the extent to which firms engage in actions that activists deem contentious to influence the likelihood of observing an agreement. All else equal, firms that rely on the contested practice to a greater degree are likely to face greater costs of compliance to satisfy activist demands, and therefore less likely to reach an agreement. Moreover, greater costs of compliance are also more likely to impose additional costs on firms' other stakeholders prompting opposition from them and therefore, reduce the likelihood of an agreement. Second, I expect pressure from firms' other stakeholders whose interests are in conflict with those of the environmental activist to influence firms' response to activist demands. Specifically, I argue that as the economic power wielded by such stakeholders over a firm increases, their interests become more salient for the firm reducing the likelihood of an agreement.

Next, I argue that private politics actions of activists will spill over in the regulatory domain to influence the actions of firms. Activists derive utility from private politics campaigns, such as protests and boycotts, by not only influencing practices of firms but also through the campaign itself, by drawing public attention to the contentious practices of firms (Baron, Neale, & Rao, 2016; Den Hond & De Bakker, 2007; Odziemkowska, 2021). As such, I argue that these campaign specific capabilities developed by activists over time, as well as the need to preserve their reputation will manifest in activists making more substantial demands that will reduce the likelihood of an agreement. Finally, I hypothesize that the ideological alignment between regulators and activists will influence the actions of firms. Arguably, greater ideological alignment between activists and regulators will increase the regulatory threat perceived by firms,

incentivizing firms to avoid disputes, and prompting them to seek agreements with activists. Further, I also expect such alignment between activists and regulators to positively moderate the effect of our hypothesized relationships between firm and activist attributes and the likelihood of firms reaching an agreement with activists.

These predictions are tested on a sample of negotiated agreements between firms and their stakeholders during regulatory proceedings initiated by investor-owned electric utility firms in the US. My focus is on state-level regulatory rate cases[2] that determine regulated rates, financial returns, allowable capital expenditures, and other practices of utility firms. This regulatory process allows stakeholders, known as 'intervenors', who have a direct or substantial interest in the regulatory outcome, to formally participate and inform the decision-making process[3]. Utility rate cases are conventionally resolved by a formal regulatory adjudication process, where the firm and other affected stakeholders contest by presenting evidence and testimony in support of their positions. However, they also allow for negotiated settlements where firms can negotiate with affected stakeholders to voluntarily reach agreements, which are then presented to regulators for final approval. Such negotiated settlements have been viewed as a quicker, less costly, and less uncertain alternative to the formal administrative process allowing firms and stakeholders to mutually resolve differences amongst themselves (Littlechild, 2009).

[2] A rate case proceeding is a formal regulatory process conducted by state public utility commissions (PUCs) to regulate the operations of electric utility firms including the retail rates utilities are allowed to charge consumers, allowable capital expenditures, and rate of return earned on investors' capital.

[3] Typical participants in regulatory rate review proceedings include different classes of rate payers (such as residential, industrial and commercial consumers), consumer advocates, shareholders, employee unions, business advocates, municipal and state-level government authorities, and civic and environmental activists.

Focusing on the participation of environmental activists in electric utility rate case proceedings from 1990 – 2015, that were settled via negotiations between firms and participating stakeholders I build a novel dataset by manually coding archival regulatory documents to precisely identify when environmental activists participate in settlement negotiations and whether the firm reached an agreement with the activist. To account for the potential sample selection bias arising from the non-random choice of activists to participate in a rate case, I employ a 2-stage Heckman selection model (Heckman, 1979). In the statistical analysis, I find that firms were less likely to reach agreements with activists when they engaged in the contested practice, measured as the firm's reliance on coal to generate energy, to a greater degree. A greater share of sales to business consumers, who are relatively more sensitive to agreements that often impose additional costs on them, also reduced the likelihood of agreements. Firms were also less likely to strike agreements with activists who engaged in private politics actions to a greater degree. Finally, I find that a greater percentage of Democrat regulators, who are likely to be more pro-environment and therefore more aligned with the values of the activist, weakened the negative effect of the contentious practices of firms, economic power of business consumers, and participation by activists in private politics by increasing the firms' likelihood of striking an agreement.

2.2 Activist Participation in the Regulatory Arena

Activist campaigns seek to change practices of firms that they deem objectionable and are accompanied by a punitive threat if the firm failed to comply to their demands (Baron & Diermeier, 2007). In the social arena, activists aim to harm the public reputation of firms with letter writing campaigns, community protests, or by threatening boycotts to influence a firm's

practices (Baron & Diermeier, 2007). The highly visible nature of such campaigns has prompted several examinations of firm-activist interactions within this context, both from a sociological perspective (King, 2008; King & Soule, 2007; Ingram, Yue & Rao, 2010; McDonnell & King, 2013; Odziemkowska, 2021; Vasi & King, 2012) and the nonmarket strategy perspective (Baron, 2001; Baron & Diermeier, 2007; Fremeth, Holburn, & Piazza, 2021; Hiatt, Grandy, & Lee, 2015; Lenox & Eesley, 2009; Lyon & Maxwell, 2004; Odziemkowska & Dorobantu, 2021)[4]. Activists, however, also engage in public politics – strategies that advance an activist's agenda through public institutions such as legislatures, executive agencies, and courts (Baron & Diermeier, 2007; Hiatt et al., 2015). In the legislative arena, activists often lobby policy makers or mobilize stakeholder groups to lobby on their behalf (Aranda & Simons, 2018; Kollman, 1998). Likewise, activists frequently partake in regulatory proceedings to influence regulatory outcomes by commenting on proposed rules, challenging the position of firms in official hearings, or via negotiated rulemaking (Furlong, 1997). However, much less is known about firm-activist interactions that occur in these contexts despite findings that public politics strategies of activists are often effective in inducing substantive changes to organizational practices (Hiatt, Grandy, & Lee, 2015; Reid & Toffel, 2009).

Unlike private campaigns of activists that aim to harm a firm's public reputation, actions of activists in the public arena challenge the contentious practices of firms by presenting information on policy alternatives to influence legislative and regulatory outcomes (Fremeth et al., 2016; Hiatt et al., 2015). The threat of activists influencing policy outcomes in ways that adversely affect firms therefore serves as the instrument of public politics and incentivizes firms to comply to the demands of activists (Baron, 2001). In this paper, my focus is on interactions

[4] Also see Heyes and King (2018) for a review of these literatures.

between firms and environmental activists that occur during proceedings in regulatory agencies. The central role of regulatory institutions in determining final policy outcomes leads to the general expectation that actions of firms will be primarily motivated by regulatory considerations. In particular, I argue that three attributes of the regulatory decision-making process to influence the actions of firms and activists during their interactions.

First, regulators base their decisions on arguments and information provided by firms and other stakeholders during regulatory proceedings. Therefore, the success of firms or activists in influencing regulatory outcomes rests on their ability to shape the informational environment by presenting evidence that convinces regulators of their positions (Fremeth, Holburn, and Spiller, 2014). Second, regulatory agency proceedings allow multiple interested stakeholders to participate and present evidence in support of their positions. As such, final regulatory outcomes are a function of these competing stakeholder demands, and not just the actions of firms and environmental activists (Baldwin, Rountree, & Jock, 2018). Building on the political-markets perspective (Buchanan & Tullock, 1962), the non-market strategy literature has also argued that increased demand-side competition resulting from participation of stakeholders such as activists reduces the attractiveness of the political market for firms as opposition from organized stakeholders can impact policy outcomes to the detriment of the firm (Bonardi, Hillman, & Keim, 2005; Fremeth, Holburn, & Vanden Bergh, 2016). Likewise, I expect the presence of multiple stakeholder interests during regulatory proceedings to influence the actions of both firms and activists. Finally, although regulatory agencies are often established as independent entities, regulatory decisions are often susceptible to political considerations (McCubbins, Noll, & Weingast., 1987). Such considerations include the pressures that emanate from the regulators'

political principals in the executive branch who appoint regulators to their positions, as well as the political ideologies of the regulators themselves (Fremeth, Holburn, and Piazza, 2021).

Given the shadow of the regulatory institutions in which firm-activist interactions occur, I expect these features of the regulatory decision-making process to influence the ability of firms and activists to shape regulatory outcomes, and therefore determine their actions. Despite the crucial role of public policy in shaping the "rules of the game" that determines firm behaviour, as well as the ability of activists to adversely influence policy outcomes for firms, few studies have examined firm-activist interactions that occur in such settings. In the following section, I briefly discuss the nature of activist actions in regulatory settings, how firms respond to them, and their implications for regulatory outcomes.

2.2.1 Negotiated agreements between firms and stakeholders in the regulatory arena.

Conventional regulatory proceedings allow firms and affected stakeholders to influence regulatory outcomes by presenting evidence and testimony in support of their positions and challenging those of their rivals (Coglianese, 1996; Langbein & Kerwin, 2000). However, regulatory agencies also provide for a more collaborative process, termed *negotiated rulemaking,* that presents affected stakeholders a common forum to engage in consensus-oriented decision making (Ansell & Gash, 2008). While negotiated agreements present stakeholders a less adversarial alternative to settle their disputes they are still subject to final approval from the regulators. Prior studies have found that such agreements were quicker, less costly, and a less uncertain alternative to the conventional regulatory process allowing firms and stakeholders to voluntarily resolve disputes amongst themselves (Littlechild, 2009; Langbein, 2002). If stakeholders fail to reach a consensus through negotiations, they then

participate in the formal administrative process where regulators determine regulatory outcomes based on the merit of the arguments made by each party (Lubbers, 2007).

While my focus is on such negotiated agreements within the electric utilities sector, these procedures exist across other state-level independent agencies that regulate environmental matters, and policies for water use and land development (Pritzker & Dalton, 1995). At the federal level too, regulatory agencies such as Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and Department of Education have relied on regulatory negotiations (reg negs) between stakeholders for rulemaking purposes over the last several decades (Ryan, 2001). For instance, the EPA established a Negotiating Rulemaking Committee in 2017 for a proposed rule that would limit chemical data reporting requirements for manufacturers of any inorganic by-product chemical substances. The committee comprised of diverse stakeholders including industry associations – American Chemistry Council, North American Metals Council; environmental groups – National Resources Defense Council, Sierra Club; community organizations such as the National Tribal Toxics Council; and federal and state government agencies, among others (EPA, 2017)[5]. Likewise, the US Department of Agriculture (USDA) constituted a committee in 2011 to engage stakeholders to draft regulations concerning mandatory reporting of price and volumes for packers of pork products (USDA, 2011).

Outside of the U.S., firms in the Canadian mining industry have been shown to work collaboratively with stakeholders and regulators to find mutually acceptable outcomes when

[5] A search of the US Federal Register reveals that negotiated rulemaking has been employed by the Department of Agriculture, Department of Energy, Department of Education, Environmental Protection Agency, Federal Aviation Administration, Federal Motor Carrier Safety Administration, among others in the recent past (see https://www.federalregister.gov/ for additional details).

seeking regulatory approval for a new mine or exploration permit (Annandale, 2000). Odziemkowska & Dorobantu (2021) examine conditions under which relationships between Canadian mining firms and local communities are governed by formal agreements. Similarly, Kagan *et al*. (2003) discuss the role of regulators in facilitating interactions between environmental activists and paper manufacturing mills across Australia, Canada, New Zealand, and United States. Specifically, they find that social pressure motivated firms to work with local environmental activists during their permit negotiations with regulators, resulting in firms prioritizing environmental actions based on the concerns expressed by the environmental groups.

These examples highlight the markedly different implications for firms when interacting with activists in the regulatory arena as compared to those in the social arena, where firms can simply undertake symbolic actions in order to address the concerns of activists (McDonnell & King, 2013). On the other hand, the binding nature of formal regulatory agreements, and the ability of regulators to closely monitor whether firms follow through on their commitments are likely to pressure firms into undertaking substantive changes that adequately address the concerns of the activist (Short & Toffel, 2010). As such, agreements with activists in the regulatory arena often entail substantial costs on firm. Moreover, disagreements can also prove costly, as any disputes settled through the formal administrative process can result in regulations that are sub-optimal for firms (Littlechild, 2009). Worse yet, disputes might spill over into the social arena if activists follow up regulatory disagreements by engaging in private campaigns against firms.

2.3 Theoretical Background

My central argument is that actions of firms will be dictated by the aforementioned regulatory considerations, which influence the nature of costs and benefits firms confront through their actions. For instance, an agreement might require firms to commit substantial resources that adequately address the demands of the activist, however insofar as it allows firms to avoid a protracted and costly contestation firms are more likely to strike agreements with activists. Agreements can also yield other benefits for firms through transfer of knowledge and expertise of environmental activists as well as indirect benefits in the form of enhanced reputation (Baron, 2012; Selsky & Parker, 2005) and strong ties with activists that mitigate future conflicts (Baron & Diermeier, 2007; Odziemkowska & Dorobantu, 2020). Notwithstanding these benefits, under certain circumstances firms might be less inclined to sign agreements. For example, if costs of compliance are prohibitively high, or when firms confront opposition from other stakeholders that constrain their ability to make concessions to activists.

To develop the hypotheses, I focus on the attributes of firms, activists, and the regulatory environment to argue how heterogeneity in them influences the actions of firms. Prior examinations on firm-activist interactions in the social arena have found that factors at the firm-level – including size, visibility (Lenox & Eesley, 2009), organizational structure (Delmas & Toffel, 2008), market performance (King, 2008), and market dependence (Pacheco & Dean, 2015) – and activist-level – such as their power, legitimacy (Eesley & Lenox, 2006; Mitchell, Agle, & Wood, 1997), and ideology (Den Hond & De Bakker, 2007) – influence the actions of firms and activists during their interactions. Given the triadic conceptualization of the firm-activist interactions that occur within the shadow of regulatory institutions, I extend this notion to identify how motivations for firms to reach agreements with environmental activists vary with the heterogeneity in the attributes of firms, activists, and the regulatory environment.

2.4 Hypotheses

2.4.1 Contentious practices of firms.

A common finding in the studies on activist campaigns is that they often target firms whose practices they deem to be more objectionable (Baron & Diermeier, 2007; Lenox & Eesley, 2009). For environmental activists, actions of firms that harm the environment are particularly salient and indicative of the degree to which the firm shares the values of the activist. Activist campaigns therefore seek to change such contentious practices of firms in order to bring them in greater alignment with the activists' own values (Pacheco & Dean, 2015). Arguably, agreements require firms to decrease their involvement in such contested practices, by requiring them to make investments in new technology or through operational improvements. As such, agreements often entail net costs for firms otherwise they would have an incentive to make those improvements irrespective of any demands from activists.

One determinant of the likelihood of firms agreeing with activists then, are the costs associated with reducing their reliance on the contested practice. I argue that firms who rely on the contested practice to a greater degree will find it more costly to change their practices. For instance, activist demands that require firms to meet certain environmental targets are likely to have greater cost implications for firms who currently have processes that are harmful for the environment to a greater extent. Moreover, for activists the marginal utility from their tactics is greater when they affect large scale changes at firms that engage in contentious practices to a greater degree. Conversely, demands of activists targeted at firms that engage in contentious practices to a lesser extent are likely to elicit relatively modest changes to the firm's operations.

All else equal, I argue that, the likelihood of firms agreeing to the demands of an activist will be decreasing in the costs associated with complying to those demands.

Second, I also expect the regulatory context to influence firms' actions. Activist campaigns directed at firms in regulatory arenas rely on the threat of regulations to influence firms' practices. That is, firms will be more likely to agree with an activist when they perceive a greater credible threat from contestation resulting in relatively more stringent regulatory outcomes. Given that regulatory outcomes consider interests of multiple affected stakeholders, I argue that, opposition from other stakeholders will influence the regulatory threat perceived by firms. Activist demands that entail greater costs to firms are also likely to entail greater costs for firms' other stakeholders, such as consumers, who are likely to oppose agreements between firms and activists. Moreover, given the objective of regulation to balance the need of all stakeholders involved (Juntti, Russel, & Turnpenny, 2009), agreements that entail greater cost commitments from firms are less likely to receive support from the regulator as they will be unlikely to approve any changes that impose significant burden on firms' other stakeholders. As such, firms whose practices are more objectionable to the activist, are less likely to be threatened by outcomes of regulatory contestation, and therefore less likely to reach an agreement with activists. This leads to the following hypothesis –

> *Hypothesis 1 (H1): Firms are less likely to reach agreements with activists in regulatory contexts when they are more reliant on the contested practice.*

2.4.2 Pressure from other stakeholder groups.

Unlike firm-activist interactions in the social arena that are predominantly dyadic in nature, regulatory proceedings often allow participation by a range of stakeholders including consumers, local communities, NGOs, and shareholders subjecting firms to diverse, and often, conflicting

pressures (Kassinis & Vafeas, 2006). Contemporaneous pressures from multiple stakeholder groups require firms to carefully straddle their conflicting interests as gains by one stakeholder can often come at the expense of another group. For instance, conceding to the demands of an environmental activist might be perceived by shareholders as diverting resources away from profit maximization and negatively impact the firm's financial performance (Hillman & Keim, 2001; Jensen, 2002). Therefore, I expect pressure from other stakeholders during regulatory proceedings to influence a firm response to activist demands.

Pressures from other stakeholders are likely to be especially salient when they emanate from primary stakeholders with whom firms have direct economic relationships and rely on for access to crucial resources (Harrison, Bosse, & Phillips, 2010; Tantalo & Priem, 2016). Conflicts with such primary stakeholders can be extremely costly as they can affect resource flows and threaten a firm's financial position and its ability to survive. Extant studies have found that primary stakeholders were indeed more influential in shaping investors' perceptions and that primary stakeholder opposition had a stronger negative effect on firms' financial performance as compared to their secondary stakeholders (Vasi & King, 2012). Demands of activists that are aligned with those of a primary stakeholder are perceived by firms as more legitimate (Mitchell, Agle, & Wood, 1997; Eesley & Lenox, 2006) often prompting activists to strategically align with other powerful and legitimate actors to increase the legitimacy of their own demands (Den Hond & De Bakker, 2007).

Compliance with demands of environmental activists often entail significant costs for firms such as capital investments, improvements to existing organizational practices, or allocation of funds for community initiatives. Since some of these costs are eventually shouldered by primary stakeholder groups such as consumers or shareholders, I expect their

interests to conflict with those of the activists. However, pressures from such stakeholders will vary with the extent of economic power they wield over firms. Stakeholders will be less likely to sway firms' strategic decisions if they wield only limited power over a firm. As the power wielded by a stakeholder over a firm increases, it becomes harder for firms to disregard their interests, thereby constraining their ability to reach an agreement with the activist. This leads to the following hypothesis –

> *Hypothesis 2 (H2): Firms are less likely to reach agreements with activists in regulatory contexts when other stakeholders who are adversely affected by the agreement are more powerful.*

2.4.3 Spillovers from Activist's Private Politics Tactics.

Studies on firm-activist interactions have examined how activist characteristics influence response of firms. Mitchell *et al.*, (1997) argue that firms are more receptive to demands of stakeholders who they perceive to be more salient which they define to be a function of a stakeholder's power, legitimacy, and urgency of their demand. Another dimension that has received attention in the literature is the ideology of activists that often arises from their beliefs about firms' motivations in addressing social problems as well as activists' own strategic orientation (Ählström & Sjöström, 2005). Characterizing activist ideologies as either confrontational or cooperative these examinations have argued that ideological motivations of activists are instrumental in determining the choice of tactics, they employ to influence firm behaviour (Baron, Neale, & Rao, 2016; Den Hond & De Bakker, 2007; Odziemkowska, 2021).

I extend this notion to argue that the choice of tactics employed by activists in the past will influence their interactions with the firm in the regulatory arena. Based on their past actions

against firms such as protests and boycotts, activists develop campaign specific capabilities over time, allowing them to effectively influence firm behaviour through such actions (Odziemkowska, 2021). That is, activists who engage in private politics tactics to a greater degree, are more likely to develop capabilities that allow them greater success in influencing actions of firms through such tactics. Moreover, activists who engage in private politics not just derive utility from influencing practices of firms, but also from the campaign itself. By drawing public attention to contested practices of a firm, actions such as public protests allow activists to enhance their reputation of inflicting material and symbolic harm on firms.

I argue that these campaign specific capabilities as well as the need of activists "to live up to their reputation" (Den Hond & De Bakker, 2007: 914), will spill over into the regulatory domain. Such activists are likely to make more substantive demands of firms that entail radical changes to firms' practices and, therefore, be less agreeable to firms. Although regulatory proceedings afford firms and activists an opportunity to negotiate and resolve their differences, activists that have relied in the past on more adversarial extra-institutional tactics will be less accommodating of firms' interests and therefore, their interactions will be more susceptible to disputes. Given the significant cost implications in complying to substantive demands from such activists, firms too will be less likely to respond positively to them. Moreover, I also expect regulators to be less supportive of the positions of these activists as radical changes are also more likely to impose additional costs on firms' other stakeholders. All else equal, I expect interactions between activists who have relied to a greater degree on private politics in the past and firms to yield fewer agreements. This leads to the following hypothesis –

> *Hypothesis 3 (H3): Firms are less likely to reach agreements with activists in regulatory contexts when activists engage in private politics tactics to a greater degree.*

2.4.4 Alignment between the activist and regulators.

Studies on social movements have identified the role of political opportunity structures – factors in the political environment, such as political competition, presence of political allies, and political receptivity to claims of social movements (Tihanyi, Swaminathan, & Soule, 2021), that influence the prospects of collective mobilization as well as the success of social movements – on actions of activists and their ability to influence firm responses (Amenta *et al*., 2008; Rao *et al*., 2011). Likewise, in regulatory settings, ideological orientation of regulators has been shown to affect the outcomes of firm-activist interactions (Fremeth, Holburn, & Piazza, 2021).

I argue that the extent of ideological alignment between activists and regulators can influence the effectiveness of activist campaigns targeted at firms. That is, actions of activists targeted at firms are more likely to be effective when regulators are intrinsically supportive of the positions of the environmental activist. All else equal, ideological alignment between activists and regulators will present a greater credible threat to firms as any regulatory contestation is more likely to bear success for the activists. The credible threat of regulators imposing stringent conditions on the firm, therefore, presents an incentive for firms to avoid a regulatory contest by reaching an agreement with the activist. Extending this argument, I also expect regulator ideology to moderate the relationships in H1-H3. That is, regulators who are sympathetic to the positions of the activists are likely to favor the positions of activists over firms. Therefore, regulatory contestation presents a greater credible threat to firms since activists will be more likely to convince regulators, who are already predisposed to support them, of their positions. As such, I argue that firms will be more likely to reach agreements with activists to avoid regulatory contestation despite their engagement in contested practices (H1), the economic

power wielded by firms' other stakeholders (H2), or activists' engagement in private politics (H3). This leads to the following hypotheses –

Hypothesis 4a (H4a): Firms are more likely to reach agreements with activists in regulatory contexts when there is a greater ideological alignment between the activist and the regulator.

Hypothesis 4b (H4b): The negative effect of firms' reliance on the contested practice (H1), the power wielded by stakeholders adversely affected by agreements (H2), and the activist's engagement in private politics (H3) on the likelihood of firms reaching agreement with activists is weaker when there is greater ideological alignment between the activist and regulator.

2.5 Empirical Analysis

2.5.1 Industry Context

I focus my inquiry within the U.S. electric utilities sector, which was the largest industrial source of carbon dioxide accounting for 33% of total energy related CO2 emissions in 2018 (U.S. Energy Information Administration, 2020). As such, strategic actions of electric utility firms such as investments in new power plants, choice of their energy source, or engagement in energy conservation programs have significant bearing on the natural environment. The environmental implications of their actions, not just in the US but also globally[6], often attract attention from environmental activists therefore presenting an appropriate industry setting to observe interactions between firms and environmental activists.

[6] Globally the electric utilities sector was responsible for more than 30 percent of the CO2 emissions in 2019 (IEA, 2019).

Given its natural monopoly characteristics, the electric utilities sector is regulated by state-level independent agencies called public utility commissions (PUCs) in the US. Rates that electric utility firms charge their consumers, allocation of costs to different consumer classes, capital expenditures such as utility plant additions, and return on investor's capital, are all determined through periodic rate reviews initiated by firms with state PUCs. On receiving a new rate review case from a firm, the PUC conducts an extensive investigation to assess the firm's request and changes are approved with an objective to set rates that are "fair, just, and reasonable" for consumers and, at the same time, also allow utility investors an opportunity to earn a reasonable return on their investment.

The rate review process allows affected stakeholders – those who have a direct or substantial interest in the regulatory outcome – termed 'intervenors', to formally participate in the rate review process (Oregon Public Utility Commission, 2010). A variety of intervenors often participate in rate reviews including groups that have an ongoing economic relationship with the utility firm such as consumers, shareholders, labour unions, trade, and business associations, as well as more ideological groups such as environmental activists, and public interest advocacy organizations. Intervenors typically participate in public hearings by presenting evidence or expert testimony and cross-examining the firm's witnesses to provide information to PUCs which they incorporate in their final rulings.

An important feature of the regulatory review process is that it typically affords firms an opportunity to negotiate an agreement with the participating intervenors instead of contesting their positions in the formal and sometimes lengthy administrative process adjudicated by the PUC (Littlechild, 2009). Negotiated agreements between the utility and its stakeholders are voluntary and are subject to final approval from the regulators. When agreements cannot be

reached, parties participate in a formal regulatory hearing where the agency determines outcomes based on the arguments and evidence presented by the firm and the intervenors (Fremeth & Holburn, 2009; 2012). Negotiated agreements have been viewed as a quicker, less costly, and less adversarial alternative to the formal adjudication process allowing firms and stakeholders to mutually resolve differences amongst themselves (Littlechild, 2009). The wide-ranging benefits of negotiated settlements to the regulators, utility firms and the stakeholders, has resulted in an increasing share of rate cases being settled through this channel (see figure 1).

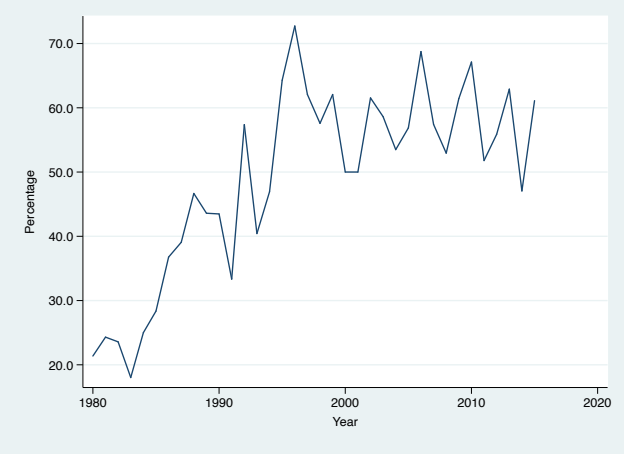

Figure 1 Percentage of rate cases settled through negotiated agreements

I examine the interaction between firms and environmental activists who participate in regulatory rate review proceedings with a focus on outcomes of negotiated settlements between them. Environmental activists have become increasingly active in regulatory agency reviews of electric utility operations (see Figure 2) and predominantly advocate for outcomes that are consequential for the environment such as adoption of renewable power generation technologies, closure of fossil-fuel plants, and promotion of energy conservation programs. For instance, when Natural Resources Defense Council (NRDC) sought intervention in a rate case initiated by

KCP&L Greater Missouri Operations Company in 2011, they expressed their interest in the rate case as follows –

> "NRDC and its members are interested in promoting energy efficiency, peak demand reduction and renewable energy resources to meet Missouri's energy needs. NRDC seeks to intervene in this proceeding in order that its members and others may benefit from well designed and cost-effective energy efficiency programs and a corresponding reduction in coal-fired generation. NRDC will bring significant expertise to this proceeding."

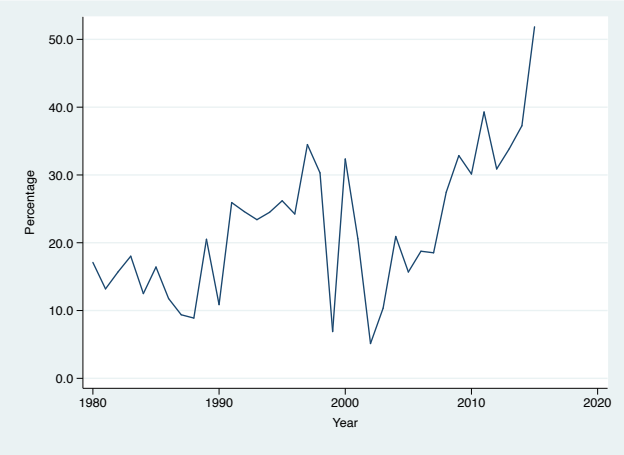

Figure 2 Percentage of rate cases in which environmental activists formally participated

Therefore, agreements are often contingent on firms making assurances that adequately satisfy the demands of the environmental activists. For instance, in Arizona Public Service Company's (APSC's) rate case in 2009, Western Resource Advocates (WRA), an environmental activist, demanded that APSC decrease their reliance on coal-fired energy and make substantial investments in renewable technologies. Post settlement negotiations, APSC committed to obtaining 10 percent of its energy needs from renewable resources by 2015, and funding in-state wind and photovoltaic generation projects. Notably, these resource commitments were not a part of APSC's initial rate case application but were included only in final agreement after

negotiations between APSC and WRA (Arizona Corporation Commission, 2009). On the other hand, disagreements can lead to a protracted regulatory contest where parties present evidence in support of their respective positions and the regulators make a final determination based on the merit of the evidence presented and by considering the interests of all parties involved. Such regulations may be more onerous or less efficient than the conditions defined mutually by firms and activist through agreements. Worse yet, disagreements can spill over into the social arena as happened in the rate case initiated by the Public Service Company of New Mexico (PNM) when New Energy Economy (NEE), a local environmental group, launched a protest against the utility after the parties failed to reach an agreement during their negotiations (Bryan, 2011). Table 1 presents the terms of agreement between utility firms and environmental activists in a sample of rate cases.

Table 1 Terms of agreement between utilities and environment activists

Firm	Activist	State	Year	Settlement Terms
Orange & Rockland Utilities Inc.	Pace Energy and Climate Center	New York	2015	Jointly develop a framework for advanced metering infrastructure to reduce operating costs, assist in more timely identification of customer outages, and improve overall outage response and efficiency.
Consolidated Edison Co. (ConEd)	Pace Center for Climate Change Law at Columbia University (Pace) and Environmental Defense Fund (EDF)	New York	2014	- ConEd and Pace agreed to jointly work towards a short and long-term vulnerability assessment with respect to climate change and prepare a climate change adaptation plan. - ConEd and EDF agreed to jointly develop time-invariant rate pilot projects, catalogue and reduce the utility's natural gas pipeline methane emissions.
Ohio Power Co.	Natural Resources Defense Council (NRDC)	Ohio	2011	Ohio Power and NRDC jointly proposed the Throughput Balancing Adjustment (TBA) Rider to help consumers through official energy efficiency programs, education, as well as to preserve customers' incentives to invest in energy efficiency and customer-sided renewable energy.

Arizona Public Service Co.	Western Resource Advocates (WRA)	Arizona	2009	As a part of the settlement agreement APS agreed to - - Make significant investment in renewable energy so that by 2015, an estimated 10 percent of APS's retail sales will come from renewable resources. - Include a project for in-state wind generation, a plan for a utility-scale photovoltaic generation project, and solar programs for Arizona schools and governmental institutions. - Adopt WRA's recommendation on demand response programs. - Jointly conduct a study on the impacts of demand rates on the mix of power generation sources, on air emissions, and on energy use by program participants.
Duquesne Light Co.	Citizens for Pennsylvania's Future (PennFuture)	Pennsylvania	2006	- Prepare joint proposals for energy conservation and education, time of use metering and economic development initiatives. - Duquesne Light agreed to contribute $1.5 million per year for each of the four years 2007 through 2010 to fund certain renewable energy projects and/or to fund energy efficiency and energy education projects.
Public Service Co. of CO	Land and Water Fund	Colorado	2003	- The utility and the LAW fund worked closely to develop the voluntary green pricing concept with the LAW fund having been intimately involved in the inception, design, and implementation of the Windsource program. - The LAW Fund, through its Green Marketing Program, actively promoted Windsource and helped solicit hundreds of customer sign-ups from PSCo's business, government, university, and residential customers. The LAW fund lent its credibility as a not-for-profit environmental organization to the marketing of the Windsource program.
PacifiCorp	Land and Water Fund	Utah	1999	Based on recommendations from the LAW Fund PacifiCorp agreed: - To create a "green" offering to customers which would allow them to pay more for electricity to specify a green generation source, such as wind generation. - Net metering: which would allow a customer who generated electricity on site to sell any excess electricity back to the utility at retail price. - The parties agreed to establish a joint task force to develop concrete proposals, analyze costs and benefits, and specifics of program delivery.

2.5.2 Regulatory Data

I compiled data on all rate cases that involved negotiated agreements between electric utility firms and participant intervenors between 1990 and 2015. I hand coded archival regulatory proceeding documents published by state PUCs to obtain data on firms who initiated rate cases, stakeholders that formally participated in the regulatory proceedings and whether an agreement was reached between the firm and stakeholders. The resulting sample includes 694 rate cases, initiated by 174 different utility firms, that were settled through negotiated agreements. The number of intervenors participating in this sample of negotiated rate cases ranges between 1 and 43, with an average of about seven distinct intervenors participating in a rate case proceeding.

Typical intervenors include the State Attorneys General, Public Consumer Advocates, residential and business consumer groups, municipalities, federal government agencies, environmental activists, civic organizations, labour unions, utility shareholders, and trade associations among others. Business consumer groups were the most frequent participant and intervened about 77 percent of the rate cases in the sample. On the other hand, there were 257 instances of environmental activists participating in negotiated rate cases. These groups ranged from (i) large environmental organizations that have presence across the country such as Sierra Club, Natural Resources Defense Council, and the Environmental Defense Fund; (ii) regional groups such as Appalachian Voices, Land & Water Fund of the Rockies, and Western Resource Advocates; and (iii) local groups such as neighbourhood environmental coalitions. Conditional on an environmental activist intervening in a negotiated rate case, the firm and the activist reached agreement in about 40 percent of their interactions.

2.5.3 Method

To estimate the impact of firm, activist, and regulator attributes on the likelihood of agreements between firms and environmental activists, I use a fixed effects regression model with firm and

year fixed effects to control for time-invariant unobserved firm characteristics (Angrist and Pischke 2009). Since participation by environmental activists in rate cases is not random, coefficient estimates from a linear regression model may be biased if the choice of an activist to participate in a rate case also influences the likelihood of observing an agreement. I correct for this potential sample selection bias by implementing a 2-stage Heckman selection model (Heckman, 1979). In the first stage, the Heckman model estimates the likelihood of *Participation* by an environmental activist in a negotiated rate case and is coded as a dummy variable that takes a value of 1 if an environmental activist participated in the rate case and 0 otherwise[7]. The second stage estimates the likelihood of an *Agreement* between the firm and the environmental activist, by correcting for potential sample selection bias by including the inverse Mills ratio. To account for potential serial correlation within firms, I estimate robust standard errors clustered at the firm-level (Williams, 2000).

Table 2 Data setup example for a sample environmental activist

Env. Activist	**State**	**Case Id**	**Utility Firm**	**Case Year**	**Participated**	**Included in Sample**
California Center for Sustainable Energy (CCSE)	California	1085	San Diego Gas & Elec.	1992	No	No
CCSE	California	1124	Southern California Edison Co.	1996	No	No
CCSE	California	1086	San Diego Gas & Electric Co.	1998	No	No
CCSE	California	872	Pacific Gas & Electric	2000	No	No
CCSE	California	1126	Southern California Edison	2003	No	No
CCSE	California	874	Pacific Gas & Electric	2004	No	No
CCSE	California	875	Pacific Gas & Electric Co.	2004	No	No
CCSE	California	1088	San Diego Gas & Electric Co.	2004	No	No

[7] I identify all active environmental activists within a state by assuming that an environmental activist becomes (and remains) active in a state after their first participation in a rate case in that state during the sample period. This process yields 1,763 potential firm-activist dyads, of which firms and activist interactions occur in 257 instances (or about 15%). Table 2 presents the sample construction technique using one environmental activist as an example.

CCSE	California	1558	Pacific Gas & Electric Co.	2007	No	No
CCSE	California	1619	San Diego Gas & Electric Co.	2008	Yes	Yes
CCSE	California	1098	Sierra Pacific Power Co.	2009	No	Yes
CCSE	California	1734	Pacific Gas & Electric Co.	2011	No	Yes
CCSE	California	1885	California Pacific Electric Co.	2012	No	Yes
CCSE	California	2108	Southern California Edison Co.	2015	No	Yes

Variables.

Dependent Variable: The dependent variable takes a value of 1 if the firm and the environmental activist who participated in the rate case reached an agreement during settlement negotiations, and 0 otherwise.

Independent Variables: To test Hypothesis 1, I create the variable *Firm's Share of Power Generated from Coal* which captures a firm's reliance on coal to generate electricity. A firm's choice of energy source to generate electricity is arguably the most important determinant of the impact of their operations on the environment. Several environmental NGOs, including Sierra Club, Environmental Defense Fund, and Greenpeace have environmental programs specifically targeting use of coal by corporations to encourage them to switch to cleaner sources of energy[8]. Therefore, the use of coal by utility firms to generate electricity is likely to be perceived by environmental activists as more contentious. I obtain data on electric utility firms' fuel mix portfolio from US Energy Information Administration (EIA) form EIA-860 which collects annual generator-level data on existing and planned generators at electric plants with 1 megawatt

[8] Environmental activists have been particularly vocal about retiring coal-based plants given its impact on the environment. Burning coal produce to energy is estimated to generate about twice the amount of CO2 emissions as compared to producing the same amount of energy from natural gas. Moreover, coal use accounted for more than 65% of the total CO2 emissions from the electric utilities sector in the US, although it represented only 28% of the total electricity generated (US Energy Information Administration, 2018).

or greater combined nameplate capacity. For each electric plant, I identify the nameplate capacity of its constituent generating units and their fuel source (coal, natural gas, hydro, solar, wind, nuclear, etc.), and then aggregate this generation data at the firm-level by types of energy source for each year in the sample period.

Hypothesis 2 predicts a relationship between power wielded by a stakeholder whose interests are adversely affected by agreements between firms and activists and the likelihood of observing an agreement. While multiple stakeholder groups participate in regulatory proceedings[9], I identify business consumers (commercial and industrial ratepayers) as the focal stakeholder to test the hypothesis for three reasons. First, given the primary objective of regulation to protect the interests of consumers, demands of consumer groups are particularly salient for the firm. Second, business consumers are relatively more price sensitive and predominantly participate in rate case proceedings to obtain preferential rates. As such, agreements with activists – that often entail investments in clean energy, or energy efficiency programs – impose additional costs for customers, and therefore are in conflict with the interests of business consumers. Finally, business consumer groups are regular participants in rate review proceedings and frequently intervene in regulatory proceedings either individually or through industry associations. In my sample, business consumers intervened in about 77 percent of the rate cases. To capture the economic power wielded by business consumers over utility firms, I create a variable *Firm's Share of Sales to Business Consumers* that measures the percentage of

[9] Typical stakeholder groups that participate in regulatory rate reviews include consumers (commercial, industrial, and residential), state appointed consumer advocates, industry and trade associations, labour unions, state and federal government entities, public interest groups and shareholders.

sales made by utility firms to commercial and industrial consumers. Data on retail sales to different consumer classes is obtained from EIA form 861.

To test Hypothesis 3, I capture an activist's participation in private politics tactics based on their past actions that target firms via protests and boycotts. To capture this, I search the Nexis University Academic database for U.S. newspaper articles for data on protests, boycotts, and media and letter-writing campaigns organized by each activist in the sample during 1990 – 2015. From this data, I create the variable *Number of Activist Protests* that is measured as the cumulative number of private politics campaigns (protests, boycotts, etc.) in which an activist participated within the focal state in the years preceding the rate case.

To test Hypothesis 4, I identify ideological alignment between the environmental activist and the regulator based on the political affiliation of PUC commissioners. Given the significant partisan differences between US political parties vis-à-vis environmental issues, with Democrats more likely to support pro-environmental legislation (Dunlap & McCright, 2008; Kim & Urpelainen, 2017), I expect commissioners who were members of the Democratic party to be more sympathetic to the positions of the activists. Therefore, I create a variable *Share of Democrat Regulators* measured as the percentage of PUC commissioners who were members of the Democratic Party to capture the degree of alignment between the activists and regulators. Data on party affiliation of PUC commissioners was collected from individual PUC websites, and the Institute of Public Utilities, Michigan State University's Annual Demographics of U.S. Public Utility Commissioners (IPU-MSU, 2020). To test the moderating effect of the regulators' ideology in Hypothesis 5, I interact the variable *Share of Democrat Regulators* with the independent variables that test Hypotheses 1-3 – that is, the *Firm's Share of Power Generated from Coal*, *Firm's Share of Sales to Business Consumers*, and *Number of Activist Protests*.

In addition to the independent variables used to test the hypotheses, I control for a number of additional factors that are also likely to inform the actions of firms and environmental activists during their interactions. At the rate case-level, I control for the amount of change requested by the firm to its total rate base (*Firm's Regulated Revenue Requirement*). A utility's revenue requirement determines the value of capital investments made by the utility firm on which it is allowed to earn the PUC approved rate of return. As such, the revenue requirement is a critical determinant of profits earned by the utility and is frequently the primary issue of contention between firms and intervening stakeholders. A larger increase requested by the firm to its rate base is more likely to elicit stronger opposition from stakeholders and impact the nature of settlement negotiations. Next, I control for *Consumer Advocate Participation* in a rate case. Consumer advocates are publicly funded independent institutions who have the authority to represent the interests of consumers in rate review proceedings. Prior research has found that participation by consumer advocates alters the informational environment in regulatory proceedings (Fremeth & Holburn, 2016) and affects the rate of return a firm is permitted to earn and the allocation of costs across consumer classes (Fremeth, Holburn, & Spiller, 2014).

Next, two variables control for the extent of stakeholder opposition confronted by firms during regulatory proceedings. First, I include the variable *Total Business Consumer Intervenors* to capture the total number of intervenors who were either commercial or industrial ratepayers to control for the opposition presented by this stakeholder group. Second, I include the variable *Total Number of Intervenors* (excluding intervenors who are business consumers) to control for the degree of opposition firms confront from other key constituents who participate in the rate case, as it can have a significant bearing on regulatory outcomes (Bonardi, Hillman, & Keim,

2005). Data for all rate case-level control variables are obtained from publicly available regulatory documents from the respective state PUC websites.

At the firm-level, the variable *Firm's Share of Power Generated from Renewables* controls for the share of nameplate generation capacity at the utility-level that uses renewable sources – namely, Hydro, Wind, Solar, Geothermal or Biofuels – as their primary fuel source. I also include the variable *Years Since Firm's Previous Regulatory Proceeding* to control for the number of years elapsed since the firm's previous regulatory rate review, since a longer duration between rate cases can involve more substantial changes requested by the firm and influence the nature of negotiations between firms and intervenor groups. Finally, I control for *the Firm's Annual Revenue* as the log of total annual revenues earned by the utility which is obtained from EIA form 861.

At the activist-level I control for their prior experience participating in regulatory proceedings (*Activist Experience in Utility Regulatory Proceedings*) as that can influence the tactics employed by activists during the regulatory proceeding as well as the nature of their relationship with the firm. The variable is coded as the cumulative sum of all rate cases in which an activist participated prior to the focal rate case. I also control for the resource base of the environmental activist that can affect the response of firms to activist demands (Eesley & Lenox, 2006). Activist organizations that are active across multiple jurisdictions are more likely to have a larger membership base, and, as a result, elicit greater funding and have relatively greater resources compared to activist groups that focus on specific issues and operate in a single jurisdiction. As such, I create a variable *Multi-state Activist* to account for an activist's resource base. The variable takes a value of 1 for activists who were active in rate cases across multiple states during the sample period, and 0 otherwise.

At the state-level, I control for the enactment of renewable portfolio standards (RPS) policies. RPS require electric utility firms to generate or purchase a certain percentage of their total generation from renewable sources of energy and have been shown to increase firms' use of renewable sources to generate electricity (Carley, 2009; Menz & Vachon, 2006). To control for the effect of RPS on a firm's generation mix, as well as the nature of activist demands, I include the variable *State Renewable Share Goal* that identifies the percentage of electricity that utility firms are required to generate from renewable energy resources as mandated by the state RPS policy. Data on state enactments of RPS policies is obtained from the Berkeley Lab's annual status report on U.S. renewables portfolio standards (Barbose, 2019).

Finally, I include the variable *State Environmental Score* to satisfy the exclusion requirement of the Heckman selection model (Certo, Busenbark, Woo, & Semadeni, 2016). It is measured as the average of scores assigned to the members House of Representatives and the Senate in the US congress for each state by the League of Conservation Voters (LCV) based on how the members voted on environmental legislation. A higher average LCV score of legislators in a state represents a more pro-environment stance and is reflective of their preference for pro-environmental policies. While I expect this measure to influence how active environmental activists are in a state and therefore the likelihood of their participation in rate cases, it is unlikely to influence the outcomes of firm-activist interactions. Table 3 presents the descriptive statistics and the correlation matrix for all variables in the empirical analysis.

Table 3 Descriptive Statistics and Correlation Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Participation	1																
2	Agreement	.	1															
3	Firm's Share of Power Generated from Coal	0.15	-0.16	1														
4	Firm's Share of Sales to Business Consumers	0.08	-0.02	0.04	1													
5	Number of Activist Protests	-0.03	-0.05	-0.04	-0.01	1												
6	Share of Democrat Regulators	0.05	-0.16	0.06	-0.03	-0.08	1											
7	Firm's Share of Power Generated from Renewables	-0.08	0.07	-0.25	-0.05	-0.02	0.12	1										
8	Consumer Advocate Participation	0.04	-0.12	0.00	-0.07	0.03	0.11	-0.11	1									
9	Number of Business Consumer Intervenors	0.19	-0.09	0.31	0.20	-0.05	0.04	-0.06	0.05	1								
10	Total Number of Intervenors	0.28	-0.12	-0.01	0.19	0.02	0.01	-0.26	0.34	0.36	1							
11	Activist Experience in Utility Regulatory Proceedings	0.08	0.11	0.01	-0.01	0.06	0.02	0.04	-0.09	0.02	-0.06	1						
12	Multi-state Activist	0.12	0.03	0.11	0.00	0.13	0.03	0.09	-0.04	0.11	-0.02	0.57	1					
13	Firm Annual Revenue	0.12	-0.15	0.13	0.10	0.08	-0.07	-0.28	0.07	0.27	0.48	-0.06	-0.07	1				
14	State Renewable Share Goal	-0.08	0.05	-0.23	-0.02	0.09	-0.13	-0.05	0.33	-0.09	0.13	0.02	-0.10	0.07	1			
15	Years Since Firm's Previous Regulatory Proceeding	0.03	0.14	-0.05	0.04	-0.01	0.04	-0.08	0.16	0.10	0.06	-0.01	-0.04	-0.27	0.05	1		
16	Firm's Regulated Revenue Requirement	0.10	0.00	0.01	0.17	0.02	-0.04	-0.16	0.16	0.16	0.35	-0.03	0.01	0.49	0.19	-0.03	1	
17	State Environmental Score (LCV)	-0.12	-0.18	-0.35	-0.18	0.07	0.05	0.20	0.19	-0.29	0.02	-0.07	-0.13	0.04	0.50	-0.09	0.08	1
	N	1763	257	1763	1747	1763	1762	1763	1763	1763	1763	1763	1763	1747	1763	1758	1760	1763
	Mean	0.15	0.37	17.35	63.16	2.21	0.38	19.51	0.63	1.82	7.80	8.41	0.40	13.77	0.14	3.82	103.42	56.94
	SD	0.35	0.48	26.84	6.58	6.86	0.29	30.97	0.48	1.53	6.49	13.13	0.49	1.36	0.14	4.82	153.73	25.52

2.6 Results

Table 4 presents the results from the Heckman selection models that estimate the statistical relationship between firm, activist, and regulator characteristics on the likelihood of observing an agreement between the firm and the environmental activist. Model 1 presents the results of the first stage Probit regressions that identify the factors which influence environmental activists to participate in negotiated rate cases. Coefficient estimates indicate that environmental activists were more likely to participate in a regulatory proceeding when the *Firm's Share of Power Generated from Coal* in a firm's generation mix was higher, when *Firms' Share of Sales to Business Consumers* was lower, and when *Number of Activist Protests* was lower. Although the coefficient estimates on these variables are not statistically significant at conventional levels, the signs on the coefficients matches two out of the three hypothesized relationships, suggesting that activists were more likely to participate in regulatory proceedings where an agreement was more likely. Additionally, the coefficient on the variable *State Environmental Score*, included in the first stage models to satisfy the exclusion restriction, is positive (although not statistically significant at conventional levels) suggesting that a higher degree of support for pro-environmental policies in a state increased the probability of an environmental activist participating in the regulatory proceeding.

Table 4 Heckman Two-Stage Regression Models for Agreement–between firms and environmental activists

	(1)	(2)	(3a)	(3b)	(3c)
	Participation		Agreement		
Firm's Share of Power Generated from	0.00994	-0.0268***	-0.0291***	-0.0317***	-0.0265***
Coal (H1)	(0.0102)	(0.00873)	(0.00768)	(0.00878)	(0.00860)
Firm's Share of Sales to Business	-0.0158	-0.0875***	-0.0725**	-0.0832***	-0.0856**
Consumers (H2)	(0.0373)	(0.0328)	(0.0343)	(0.0312)	(0.0327)
Number of Activist Protests (H3)	-0.00204	-0.0183**	-0.0183**	-0.0184**	-0.0351**
	(0.00776)	(0.00869)	(0.00861)	(0.00887)	(0.0168)
Share of Democrat Regulators (H4)	-0.0396	-0.106	-0.565	-5.131**	-0.155
	(0.365)	(0.347)	(0.388)	(2.444)	(0.344)
			0.0120		

Firm's Share of Power Generated from Coal * Share of Democrat Regulators (H5)			(0.00922)		
Share of Sales to Business Consumers * Share of Democrat Regulators (H5)				0.0761** (0.0378)	
Number of Activist Protests * Share of Democrat Regulators (H5)					0.0314 (0.0300)
Firm's Share of Power Generated from Renewables	0.0158* (0.00844)	0.0427*** (0.0121)	0.0360** (0.0142)	0.0292** (0.0144)	0.0419*** (0.0122)
Consumer Advocate Participation	0.137 (0.309)	-0.534*** (0.162)	-0.644*** (0.181)	-0.602*** (0.169)	-0.540*** (0.164)
Business Consumer Intervenors	-0.145** (0.0683)	0.0504 (0.0621)	0.0521 (0.0607)	0.0536 (0.0647)	0.0547 (0.0619)
Total Number of Intervenors	0.131*** (0.0310)	0.0466 (0.0383)	0.0376 (0.0385)	0.0382 (0.0394)	0.0423 (0.0391)
Activist Experience in Utility Regulatory Proceedings	0.0137** (0.00629)	0.00720 (0.00498)	0.00656 (0.00497)	0.00682 (0.00504)	0.00772 (0.00528)
Multi-state Activist	0.112 (0.204)	0.293*** (0.107)	0.279** (0.108)	0.270** (0.109)	0.274** (0.104)
Firm Annual Revenue	0.410 (0.302)	-0.865*** (0.325)	-0.815** (0.338)	-0.924*** (0.318)	-0.893** (0.341)
State Renewable Share Goal	0.786 (1.067)	2.811*** (1.040)	2.461** (1.201)	2.550** (1.063)	2.799*** (1.046)
Years Since Firm's Previous Regulatory Proceeding	0.0624** (0.0265)	0.0414 (0.0315)	0.0499 (0.0345)	0.0387 (0.0322)	0.0408 (0.0320)
Firm's Regulated Revenue Requirement	0.000107 (0.000726)	0.000697 (0.000458)	0.000392 (0.000521)	0.000581 (0.000428)	0.000674 (0.000462)
State Environmental Score (LCV)	0.00273 (0.00709)				
Inverse Mills Ratio		0.968* (0.572)	0.906 (0.581)	0.903 (0.590)	0.915 (0.582)
Constant	-5.119 (3.606)	18.32*** (5.535)	17.13*** (5.864)	19.36*** (5.529)	18.74*** (5.777)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
N	1398	248	248	248	248

Notes: Standard errors in parentheses, clustered at the firm-level; * p<0.10 ** p<0.05 *** p<0.01

Model 2 presents the results from the second stage linear regressions that test the proposed hypotheses. The coefficient on the variable *Firm's Share of Power Generated from Coal* is negative (p = 0.002) and increasing the share of coal in a firm's fuel mix portfolio by one standard deviation from the mean value decreases the likelihood of agreement by about 70 percent. This result provides strong support for Hypothesis 1, which predicted that agreement

was less likely when the firm was more reliant on the contested practice. The coefficient on the variable *Firm's Share of Sales to Business Consumers* is negative ($p = 0.007$), and a one standard deviation increase in the share of sales to business ratepayers from the mean value decreases the likelihood of agreement by 58 percent. Further, the negative coefficient on the variable *Consumer Advocate* ($p = 0.001$) indicates that the presence of a consumer advocate – who represents the interests of consumers and negotiates with the firm on their behalf – reduced the likelihood of agreement by 53 percent. Together these results lend support to my argument that pressure from consumer groups decreases the ability of firms to reach agreements with activists.

The coefficient on variable *Number of Activist Protests* is negative ($p = 0.035$) and a one standard deviation increase from the mean value in the number of protests initiated by the activist during the sample period decreases the likelihood of agreement by about 13 percent. This supports the prediction in Hypothesis 3. The coefficient on variable *Share of Democrat Regulators* is negative, however not statistically significant at conventional levels. Thus Hypothesis 4 is not supported. Finally, the statistically significant coefficient on *Inverse Mills Ratio* ($p = 0.066$) suggests that data could be subject to potential sample selection bias, especially since several independent variables from the second stage are also significant predictors of the first-stage dependent variable (Certo, Busenbark, Woo, & Semadeni, 2016).

Models 3a, 3b, and 3c introduce the interaction terms that test Hypothesis 5, which predicted that ideological alignment between the activist and regulator positively moderates the relationships in Hypotheses 1, 2, and 3. To interpret the statistical significance of the interaction terms, I estimate the marginal effect of an increase in one unit of the hypothesized variables – that is, *Firm's Share of Power Generated from Coal*, *Firm's Share of Sales to Business*

Consumers, and *Number of Activist Protests* – on the likelihood of observing firm agreement at different values of *Share of Democrat Regulators*.

In Table 5, I assess the interaction between *Firm's Share of Power Generated from Coal* and *Share of Democrat Regulators*. As predicted the marginal effect of *Firm's Share of Power Generated from Coal* on the likelihood of agreement increases with the share of regulators who were members of the Democratic party. With respect to the magnitudes, the likelihood of observing an agreement increases from -2.9 percent to -1.8 percent for a unit increase in *Firm's Share of Power Generated from Coal*, as the *Share of Democrat Regulators* increases from 0 to 100 percent. Table 6 presents the interaction between *Firm's Share of Sales to Business Consumers* and *Share of Democrat Regulators.* The marginal effect of *Firms' Share of Sales to Business Consumers* on the likelihood of observing an agreement increases from -8.3 percent to -0.007 percent. Finally, Table 12 shows the results of the interaction between *Number of Activist Protests* and *Share of Democrat Regulators.* The marginal effect of activist protests on the likelihood of firm agreement increases with the share of commissioners who were democrats ranging from -3.5 percent to -0.004 percent. Taken together, these results provide strong support for Hypothesis 5.

Table 5 Marginal Impact of Firm's Share of Power Generated from Coal on Likelihood of Firm Agreement, Conditional on the Share of Democrat Regulators

Share of Democrat Regulators	**Firm's Share of Power Generated from Coal Coefficient (Model 3a)**
0%	-0.029***
10%	-0.028***
20%	-0.027***
30%	-0.026***
40%	-0.024**
50%	-0.023**
60%	-0.022**
70%	-0.021*
80%	-0.020
90%	-0.018

100%	-0.017

Notes: * p<0.10 ** p<0.05 *** p<0.01

Table 6 Marginal Impact of Firm's Share of Sales to Business Consumers on Likelihood of Firm Agreement, Conditional on the Share of Democrat Regulators

Share of Democrat Regulators	**Firm's Share of Sales to Business Consumers Coefficient (Model 3b)**
0%	-0.083**
10%	-0.076**
20%	-0.068**
30%	-0.060*
40%	-0.053
50%	-0.045
60%	-0.038
70%	-0.030
80%	-0.022
90%	-0.015
100%	-0.007

Notes: * p<0.10 ** p<0.05 *** p<0.01

Table 7 Marginal Impact of Number of Activist Protests on Likelihood of Firm Agreement, Conditional on the Share of Democrat Commissioners

Share of Democrat Regulators	**Number of Activist Protests Coefficient (Model 3c)**
0%	-0.035**
10%	-0.032**
20%	-0.029**
30%	-0.026**
40%	-0.023**
50%	-0.019**
60%	-0.016*
70%	-0.013
80%	-0.010
90%	-0.007
100%	-0.004

Notes: * p<0.10 ** p<0.05 *** p<0.01

2.7 Discussion and Conclusion

Firms often confront opposition from a variety of stakeholders in public institutions such as legislatures, courts, and regulatory agencies. Despite the outsized role of the state in determining

actions of firms and their overall performance, not much is known about firm-activist interactions that occur in the regulatory context. In this paper, I fill this gap in the literature by developing novel arguments about conditions under which firms reach agreements with environmental activists in the regulatory arena. In a statistical analysis, conducted in the context of firm-activist interactions that occur during regulatory rate review proceedings initiated in the U.S. electric utilities sector from 1990-2015, I find evidence consistent with these predictions. I find that, all else equal, firms where less likely to reach an agreement with an environmental activist when (i) firms relied more on coal to generate electricity, a practice vehemently contested by activists, (ii) firm had greater economic reliance on stakeholders whose interests conflicted with those of the environmental activist, and (iii) activists engaged in private politics actions to a greater extent. I also find that the ideological alignment between activists and regulators weakened the above relationships by increasing the likelihood of firms reaching an agreement with the activist.

My empirical context confers several advantages presenting an appropriate setting to examine how firms respond to opposition from activists in regulatory settings. First, the regulatory setting allows me to precisely observe the interaction between the firm and an environmental activist and whether it resulted in an agreement. In contrast, studies examining such interactions in the context of private politics have had to rely on more subjective measures such as media reports to evaluate the response of firms. Second, while extant studies have predominantly focused on dyadic interactions between firms and activists, these interactions do not usually occur in isolation but are subject to a multiplicity of pressures from other stakeholder groups. The empirical context allows me to observe and control for contemporaneous pressures that firms confront from a multitude of other stakeholders during their interactions with

environmental activists. Finally, examining firm responses to activist actions creates potential challenges of endogeneity if choice of activists to target a firm is motivated by their expectation of obtaining a favourable outcome. By allowing me to capture data on all rate review cases initiated by firms with state PUCs – regardless of participation by an environmental activist – the context allows me to control for the resulting selection bias.

My examination contributes to multiple streams of literature. First, I extend the literature at the intersection of stakeholder management and nonmarket strategy by examining the more commonplace, yet less visible, firm-activist interactions in the context of public politics where activists rely on public institutions such as regulatory agencies to affect organizational change. In doing so, I integrate theoretical perspectives from the nonmarket strategy literature which has extensively examined firms' actions aimed at public institutions to influence public policy with insights from the literature on stakeholder management to shed light on conditions under which firms and activists can reach agreements to strategically pre-empt stringent regulations.

Second, although stakeholder theory has empahsized the diversity of pressures firms confront from a myriad group of stakeholders (Freeman, 2010), studies have largely modeled firm-activist interactions as dyadic and disregarded how pressures from other influential stakeholders inform the nature of firm-activist interactions. Insofar as actions of firms directed at one stakeholder have implications for other groups, I argue that, studies need to account for the complex nature of interconnected relationships between firms and the multitude of stakeholders they confront in their institutional environment. By incorporating the notion of contemporaneous demands from both secondary and primary stakeholders, this examination extends the literature on stakeholder management by explicating the interactive affect of multiple stakeholder demands on firms.

Finally, my research contributes to the stream of literature at the intersection of corporate environmentalism and public policy (Lyon, 2010; Lyon & Maxwell, 2004). Prior examinations have focused on dyadic interactions between firms and activists to examine adversarial relationships between firms and activists (Baron, 2001; Hiatt, Grandy, & Lee, 2015; King, 2008; Odziemkowska, 2021; Pacheco & Dean, 2015, among others). Likewise, other studies have examined collaborative relationships when firms pursue collaborations with NGOs to gain competitive advantage in the market by acquiring new capabilities (London & Hart, 2004; Perez-Aleman & Sandilands, 2008; Rondinelli & London, 2003) or to supplement weak institutional environments in emerging markets (Ballesteros & Gatignon, 2019; Dahan, Doh, Oetzel, & Yaziji, 2010; McDermott, Corredoira, & Kruse, 2009; Quélin, Kivleniece, & Lazzarini, 2017)[10]. A parallel stream of literature has also examined dyadic interactions between firms and regulators when firms sign voluntary agreements with regulatory agencies through instruments such as negotiated agreements and public voluntary agreements (Blackman, Uribe, Hoof, & Lyon, 2012; Delmas & Marcus, 2004; Delmas & Montes-Sancho, 2010; Fleckinger & Glachant, 2011; Innes & Sam, 2008; Lyon & Maxwell, 2003; Segerson & Miceli., 1998). My study integrates these perspectives to conceptualize a triadic relationship where firms and activists voluntarily sign agreements in the shadow of regulatory institutions. As such, this research demonstrates how firms, activists, and public institutions interact to play a pivotal role in shaping public policy outcomes in the environmental domain.

[10] See Wassmer, Paquin, & Sharma (2014) for a review of literature on collaborative interactions between firms and environmental activists. Also, Kourula & Laasonen (2010) that presents a review of the broader literature on interactions between nongovernmental organizations, firms, and government.

This study is naturally subject to a variety of limitations. First, this examination is limited to a single industry, electric utilities, which is heavily regulated given its natural monopoly characteristics and, as a result, presents an institutional environment which might differ significantly across other industries that are regulated to a lesser extent. I expect regulatory pressures that firms confront from environmental activists to be particularly severe in the context of the electric utilities industry and to assume a central role in informing actions of firms. Second, my study does not account for other nonmarket actions of firms directed at regulators and policy makers. For instance, studies have found that firms also engage in corporate political actions such as making financial contributions to election campaigns of politicians who oversee regulators to shore up support when they face a greater degree of stakeholder opposition in the regulatory policy-making process (Fremeth, Holburn, & Vanden Bergh, 2016). Insofar as firms and activists strategically employ complementary nonmarket actions which have the potential to influence the outcomes of their interactions, my study does not account for them. Future examinations that integrate such broader strategic actions can therefore contribute additional insights to our understanding of firm-activist interactions. Notwithstanding these limitations, this research develops novel insights towards research at the intersection of corporate environmentalism and public policy to highlight the increasingly pivotal role assumed by firms and activists in addressing global environmental challenges such as climate change.

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Chapter 3

3 Competing over Regulatory Entry Barriers: Lobbying by Ridesharing and Taxi Firms

3.1 Introduction

Over the last decade, peer-to-peer sharing economy firms such as Airbnb, Lending Club and Uber have disrupted nonmarket as much as market environments, asserting that traditional rules and regulations do not apply to innovative new business models and practices (Baron, 2018; Garud, Kumaraswamy, Roberts, & Xu, 2020; Uzunca, Rigtering, & Ozcan, 2018). Ensuing debates between new market entrants and incumbents about the scope of applicable regulations have prompted governments to review industry regulation and legislation to determine whether and how sharing economy firms should be regulated, thereby triggering nonmarket competition between rival firms over the future 'rules of the game' (North, 1990).

In this paper, we examine how sharing economy market entrants and incumbents compete through political lobbying strategies to shape regulatory standards, which can act as barriers for firms considering entering new markets (Acs & Audretsch, 1989; Dean & Brown, 1995; Djankov, Porta, Lopez-de-Silanes, & Shleifer, 2002; Shapiro & Khemani, 1987). While lobbying is often a core component of firms' nonmarket strategies, research on lobbying has largely focused on the perspective of a single firm or organization seeking to influence policy outcomes (de Figueiredo and Silverman, 1997; Hillman & Hitt, 1999; Jia, 2018; Lee & Baik, 2010; Schuler, Rehbein, & Cramer, 2002), overlooking the impact of rival firm strategies as well as firms' unique capabilities and resources (Dahan, 2005; Frynas, Mellahi, & Pigman, 2006; Grandy and Hiatt, 2020; Holburn & Zelner, 2010; Jia and Mayer, 2016; Jia, Zhao, Zheng & Lu,

2021). Here, we draw on insights from nonmarket strategy research (Dorobantu, Kaul & Zelner, 2017) and the resource-based view of the firm (Barney, 1991; Wernerfelt, 1984) to argue that incumbents and entrants pursue distinct lobbying strategies, specifically targeting different types of legislators when building support within a legislature for their competing positions on regulatory entry standards. We predict that incumbents, who can have a political advantage based on established economic rent chains within a jurisdiction, as well as political ties and tacit institutional knowledge, will lobby legislators whom, we argue, are likely to be allies: members of legislative committees with responsibility for industry regulation, legislators with longer experience in office, and those with stronger pro-government regulation ideology. By providing friendly legislators with policy-relevant information and political intelligence, incumbents enable them to mobilize and recruit other legislators within the legislature to support stringent regulation that applies equally to sharing economy entrants. We argue that entrants, as newcomers to the jurisdiction, will generally not compete head on with incumbents for the support of the same set of legislators but will instead target those who are not naturally sympathetic to the incumbents. We also expect that sharing economy entrants, being less secure in their political support than incumbents, will be more likely to counteractively lobby their priority legislators if they are targeted by their rivals.

We statistically test our predictions in the context of the ridesharing industry in Toronto, Canada, where Uber's low cost peer-to-peer UberX service competed directly with the taxicab industry after launching in September 2014, but without first obtaining permits or complying with other extant taxicab regulations. An important research advantage of this context is that, unlike any other jurisdiction that we are aware of, the City of Toronto mandates full public disclosure of all details of lobbying of elected officials - including the identities of lobbying

individuals and organizations, names of officials lobbied, subject topics discussed, the method of communication, and precise dates of lobbying contacts – which enables us to examine firms' targeting strategies in ways that other studies have not been able to accomplish.[11] The data reveal that Uber's entry initiated an intense 21-month period of lobbying by both Uber and the taxi industry, during which each side sought to gain the support of Toronto city councillors in their votes on two major legislative bills that set out the scope and stringency of ridesharing regulation. Using repeated-event hazard rate models of Uber's and the taxi industry's lobbying contacts with the councillors representing the 44 districts and the mayor, we find empirical support for our hypotheses, indicating that the two rivals targeted largely different types of councillors deemed to be allies: taxi firms (Uber) were more (less) likely to lobby councillors who were members of the committee responsible for taxi regulation, had longer experience in office, and had weaker pro-competition political ideology. Our study advances understanding of whom firms target in their lobbying – an underexplored topic in nonmarket strategy research – and we provide the first statistical analysis of rival firms' lobbying strategies on a contested policy issue.

3.2 Theoretical Background

3.2.1 The Sharing Economy and Industry Regulation

The emergence of sharing economy firms and innovative digital platform-based business models in a range of industries has led to a number of high profile disputes with incumbents about the nature of industry regulation, as typified by Uber versus the taxi industry, Airbnb versus the

[11] Lobbying data are publicly available through the Toronto Lobbyist Registrar at https://www.toronto.ca/city-government/accountability-operations-customer-service/accountability-officers/lobbyist-registrar/

hotel industry, and fintech lenders versus the banking sector in various jurisdictions (Light, 2017; Paik, Kang, & Seamans, 2019; Rauch & Schleicher, 2017). Market entrants have argued that because they are digital technology companies providing platform-based services on which consumers and producers individually connect and transact, and because they do not own or operate the transaction assets, they are exempt from entry rules and regulations that govern incumbent firms who directly provide services to consumers. As such, sharing economy firms have frequently entered new geographic markets without first applying for regulatory approval, obtaining operating licenses or fully complying with legislated practices and standards, thereby obtaining a cost advantage relative to incumbents (Baron, 2018). Uber, for instance, has competed with its ridesharing UberX service against the taxi industry in many cities without obtaining regulated taxi permits, which in some municipalities have cost hundreds of thousands of dollars (Garud et al., 2020; Thelen, 2018). Incumbent firms have counter-argued that, by skirting regulations designed to protect the public interest, platform-based entrants jeopardize consumer safety, disregard privacy standards, and create new environmental and other local negative externalities (Thelen, 2018) – all at the expense of firms that comply with regulatory requirements while competing on an 'uneven playing field'. The economic impact on incumbent firms of unregulated entry has been significant, as evidenced, for example, by shrinking market shares and the dramatic drop in the financial value of tradeable taxi permits in cities following the rise of ridesharing (Barro, 2014; Commonwealth, 2016; Sidak, 2016; Williams Z. , 2018; Van Zuylen-Wood, 2015).

While disputes over regulatory compliance between sharing economy market entrants and incumbents have frequently been adjudicated by the courts (Atiyas & Doğan, 2007; Ostroff, 1983; Srivastava & Sinha, 2001), the courts have rarely been able to provide sustainable

resolutions that reflect the demand for updated or revised regulations that account for the new policy issues associated with digital platform-based firms (Gorriz, 2019). Consequently, rival firms have turned instead to elected government institutions to directly address the regulatory grey zone and to revise industry regulations through legislation: incumbents have tried to ensure that legislation explicitly requires regulations to be applied unambiguously to platform-based firms while sharing economy market entrants have sought legislative exemptions or separate light-touch regulatory regimes (Collier, Dubal, & Carter, 2018; Taylor, et al., 2016; Wyman, 2017).

3.2.2 Nonmarket Strategy

Business scholars have begun to examine how sharing economy firms have sought to shape their institutional environment through the usage of various nonmarket strategy tactics and their impact, if any, on industry regulation (Paik et al., 2019; Uzunca et al., 2018). Noting that rapid unregulated entry and expansion into new markets has often triggered opposition from a variety of local stakeholders as well as negative media attention, several studies have described how firms such as Uber and AirBnb have partnered with established NGOs (e.g. Mothers Against Drunk Driving) or local community organizations to bolster their legitimacy (Ricart, Snihur, Carrasco-Farré, & Berrone, 2020; Uzunca et al., 2018). They have also attempted to improve their public reputations by initiating extensive media campaigns and reframing public narratives around beneficial local impacts, including geographic service expansion and employment growth (Garud et al.,2020; Seidl, 2020). Stakeholder mobilization, especially of consumers, is a commonly cited tactic (Baron, 2018; Holburn and Raiha, 2017): digital platforms afford firms low cost methods of communicating instantaneously with customers about current policy issues and requesting their political support, for instance by signing electronic petitions, directly

contacting legislators, or attending rallies to publicly voice support for the firm. Anecdotal evidence suggests that the scale of grassroots mobilization by large sharing economy firms has in some cases been effective in influencing political decision-making around regulatory reform (Holburn and Raiha, 2017), which is consistent with research finding that governments are more accepting of entry by large platform-based businesses in their jurisdictions when they are more concerned about their re-election prospects (Paik et al., 2019).

Although this nascent stream of research offers new insights into some of the ways in which sharing economy firms have overcome local stakeholder resistance when entering new markets, it is limited in several respects. First, it has largely ignored the role of political lobbying as a nonmarket tactic employed by entrants even though independent reports have found that sharing economy firms regularly launched major lobbying campaigns at city and state levels as part of their entry strategies (Borkholder, Chen, & Smith, 2018; Helderman, 2014; Martineau, 2019; Weinberg, 2018; Weise, 2015). For instance, in 2014, Uber employed more than 160 local lobbyists in cities across the U.S. and was reported as being the most significant lobbying presence in several (Helderman, 2014; Weise, 2015). One of the likely reasons that researchers have not examined sharing economy firms' lobbying strategies is the absence of systematic publicly available data on lobbying at city or state levels, which stems from minimal or zero disclosure requirements. Unlike firms' financial contributions to political election campaigns, which are minutely documented and disclosed, firms generally do not have to disclose full details of their lobbying activities – individual targets, topics, dates, expenditures – especially at the local level, and even federal lobbing reports omit important aspects such as which individual policy-makers firms lobbied and the dates of meetings.

A second limitation of existing research is that it focuses on the nonmarket strategies of entrants, implicitly assuming that industry incumbents have little impact on how entrants shape their strategies or, if they do mount a nonmarket counter-defense, that they are not sufficiently politically effective to succeed. In many cases, however, and in contrast to the popular media depiction of large sharing economy firms politically 'steamrollering' over rivals, incumbents have in fact managed to prevent entry by winning regulatory appeals or court injunctions. Paik et al. (2019) document that 36% of U.S. cities that Uber entered initially banned the UberX service following reactive opposition from local taxi firms and drivers, suggesting that incumbents can have significant political clout and can outmaneuver sharing economy market entrants, at least for a period of time. It is thus plausible that market entrants will carefully evaluate the nonmarket environment and adjust their nonmarket entry strategy to account for the strength and type of opposition in a jurisdiction. Hence, given the frequently contested nature of sharing economy firms' entry into new markets, a comprehensive analysis of their nonmarket strategies should simultaneously consider the interplay with incumbents' own nonmarket defense strategies.

In the next section we address these gaps in current research on nonmarket strategy in the sharing economy by developing new hypotheses about both sharing economy market entrant and incumbents' lobbying strategies, specifically the choice of which legislators to target when lobbying. By providing information to friendly legislators on the expected impacts of policy proposals, stakeholder positions and strategies, and general political intelligence, firms can enable legislators to recruit and mobilize other legislators in forming a voting majority (Hall & Deardorff, 2006; Schnakenberg, 2017).

3.3 Hypotheses

A crucial decision for firms when seeking political support for their preferred legislative outcomes – content, timing, and votes on bill proposals – is which legislators to focus on in their lobbying activities. Prior studies in the political science literature have found that three legislator attributes tend to be associated with higher levels of lobbying by interest groups: first, legislators with positions of institutional power, such as legislative committee members and chairs or party leaders, are attractive targets for lobbying given their institutionally-based advantage in shaping the wording and timing of legislation and in building coalitions within the legislature (Austen-Smith & Wright, 1994; Evans, 1996; Hojnacki & Kimball, 1998; Kingdon, 1989, p.181). Second, qualitative and empirical studies report that interest groups often lobby friendly legislators rather than opponents: by providing information on the expected impacts of policy proposals, stakeholder positions and strategies, and general political intelligence, firms can help already sympathetic legislators in their internal lobbying efforts within the legislature to gain support from others who are undecided or opposed (Baumgartner & Mahoney, 2002; Hall & Deardorff, 2006; Hojnacki & Kimball, 1998; Schnakenberg, 2017). Legislators' natural policy preferences reflect the interests of relevant organized groups within their electoral constituencies who shape their election prospects, as well as political ideological considerations (Denzau & Munger, 1986). Third, some scholars have argued that in competitive contexts, interest groups may lobby legislators if they have previously been lobbied by rivals in order to win back their support (Austen-Smith & Wright, 1992; Austen-Smith & Wright, 1994; Baron, 2006).

We build on this research, which has primarily focused on single interest group settings and supply-side characteristics of the political market (Bonardi, Hillman, & Keim, 2005), by examining how differences in the unique resources and capabilities of incumbent firms and sharing economy market entrants shape their respective targeting strategies. Due to their first

mover status in a market, industry incumbents have the opportunity to develop extensive economic rent chains (with suppliers, employees, and customers) and relationships with policy-makers that subsequent sharing economy market entrants cannot easily or quickly replicate – which, we argue, causes each side to target distinct types of legislators. In the rest of this section we develop specific predictions about how firm-level factors interact with legislator attributes to determine firms' priority lobbying targets.

3.3.1 Committee Membership

A common finding in studies of firms' legislative influence strategies is that firms often target members of committees who oversee the industry in which a firm is active (Grenzke, 1988; Grier & Munger, 1986; Grier & Munger, 1991; Kroszner & Stratmann, 1998). Committee members control the initial content and timing of legislative bills before presentation to the broader legislature, and they also act as expert information providers to non-committee members (Schneier & Gross, 1993). As such, committee members have a comparative advantage in shaping legislative outcomes, which makes them focal targets for lobbying by, and campaign contributions from, organized interests.

Despite committee members' procedural and informational influence, we propose that industry incumbents are more likely than sharing economy market entrants to lobby them since, we argue, committee members generally tend to be more aligned with incumbents than with entrants. Committee alignment arises because legislators have an incentive to join committees that are relevant for organized groups – such as incumbent firms who employ workers and source from suppliers within their electoral district – who affect their election prospects (Adler & Lapinski, 1997; Frisch & Kelly, 2004; Rohde & Shepsle, 1973). As Shepsle and Weingast (1985, p. 119) note, *"most legislators gravitate to the committees and subcommittees whose*

jurisdictions are most relevant to their geographic constituencies." Industry incumbents can further augment committee support by strategically locating new investments over time in committee members' districts, reinforcing mutual policy interests. Sharing economy firms, by contrast, often do not make substantial local investments in assets, employees, or supply chains when entering new markets, due to the digital platform nature of their businesses - but an asset-light entry strategy is unlikely to win the support of legislators who value investment and job creation within their districts (Bonardi & Urbiztondo, 2013; Macher & Mayo, 2015; Raiha, 2018).

Hence, to the extent that incumbent firms possess more extensive economic rent chains than do sharing economy market entrants within a committee member's jurisdiction, legislative committee members are more likely to favor incumbents' interests over entrants. Incumbents will consequently target allies such as committee members in their lobbying activities as they seek to build broader support within the legislature for their preferred legislative outcomes. By providing relevant information on policy impacts and alternatives, and on political developments, incumbents enable committee members to lobby other legislators on their behalf and to win over those who are undecided or opposed (Hall and Deardorff, 2006). Alignment between legislative committee members and incumbent firms creates a political hurdle for sharing economy entrants. Market entrants may be able to develop alternative political support, however, among non-committee members of the legislature, since non-committee members are less likely to be aligned with incumbents. This leads to our first hypothesis:

> ***Hypothesis 1:*** *Incumbent firms are more likely than sharing economy market entrants to lobby legislators who are members of legislative committees that oversee the industry, all else equal.*

3.3.2 Legislator Experience

In addition to legislators who are committee members, empirical research has found that firms and organized interest groups target politicians who have greater political experience (Endersby & Munger, 1992; Kroszner & Stratmann, 2000; Battaglini, Sciabolazza, & Patacchini, 2018; Snyder, 1990). Over time, legislators gain experience of the policy-making process and they develop relationships with other legislators and bureaucrats, enhancing their effectiveness and ability to affect legislation and regulation (Anderson, Box-Steffensmeier, & Sinclair-Chapman, 2003; Frantzich, 1979; Miquel & Snyder, 2006). Obtaining the support of experienced legislators can thus be an effective strategy for firms seeking to build a majority coalition for their preferred policy outcomes within a legislature.

Incumbent firms are likely to have an advantage over sharing economy market entrants, however, in winning the support of more experienced politicians, for two reasons. First, by virtue of operating for a longer period of time in a jurisdiction than sharing economy entrants, incumbents are able to develop relationships with legislators based on prior interactions and a history of quid pro quo exchanges. Since explicit exchanges between firms and legislators of valuable resources such as campaign contributions or information in return for policy favors are generally illegal, firms tend to foster long-term relationships with legislators through repeated interactions that yield mutual trust (Snyder, 1991). Sharing economy market entrants are not able to immediately replicate such relationships with experienced legislators when they first start operating in a jurisdiction, putting them at a competitive disadvantage when seeking allies among experienced legislators. A second advantage that incumbents possess is a better understanding of legislators' unique policy preferences and of the opportunities for mutual gain, which are learned through prior exchanges and interactions. As a legislator's time in office

increases, incumbents become more adept at identifying and serving the legislator's unique interests and hence in shaping policies to protect their own business operations, including from the threat of entrants (Hadani & Schuler, 2013). Indeed, political economy scholars have long argued that industry incumbents capture regulation to extract rents for themselves at the expense of other stakeholders (Buchanan & Tullock, 1962; Peltzman, 1976; Stigler, 1971), for instance by raising the costs of entry for new firms (Baron, 2001; Bonardi, 2004; McWilliams, Van Fleet, & Cory, 2002).

Incumbent firms' relationships with, and deeper understanding of, legislators with greater political experience make them natural lobbying targets for incumbents when seeking support on new policy issues. But at the same time, incumbents' relational ties with experienced legislators act as a political barrier for sharing economy entrants. Legislators who have been more recently elected to political office are less likely to have been captured by incumbents, however, opening the door for entrants to obtain their support through lobbying. This leads to the following hypothesis:

> ***Hypothesis 2****: Incumbent firms are more likely than sharing economy market entrants to lobby legislators with greater political experience, all else equal.*

3.3.3 Pro-Competition Ideology

It is well established that ideological considerations affect the decisions of elected politicians on policy issues independently of constituency interests (Ansolabehere, Snyder, & Stewart, 2001; Jenkins, 2006). For instance, in the U.S. Congress, a single liberal-conservative political ideology dimension can explain a majority of observed historical variation in legislators' roll call votes (Poole & Rosenthal, 1991). Accordingly, firms and organized interest groups account for the ideology of legislators when lobbying and making election campaign contributions, with

research finding that interest groups often target ideologically-aligned politicians (Bonica, 2013; Bronars & Lott, 1997; Grenzke, 1988; Poole, Romer, & Rosenthal, 1987). McKay (2010) and Brunell (2005), for example, demonstrate that trade unions and environmental groups tend to donate more to Democratic politicians, who are typically more aligned with social and environmental causes, whereas trade and professional associations give more to Republicans, who traditionally are more sympathetic to business interests.

Evidence from a range of industries suggests that political-ideological factors shape policy-making around regulation and deregulation. In the telecommunications and electricity sectors, which have witnessed considerable technological innovation and regulatory reform over the last two decades, studies have found that Republican politicians have championed deregulation policies more than Democrats, a pattern that is consistent with Republican ideology favoring stronger competitive forces (Guerriero, 2020; Teske, 1991). Similarly, in the U.S. state banking sector, Republican-dominated states have been quicker to eliminate restrictions on intrastate branching than have Democratic states (Kroszner & Strahan, 1999).

Extending this rationale, we propose that incumbents and sharing economy market entrants will target legislators in their lobbying activities according to legislators' ideological preferences for competition and market-based outcomes within an industry. Political parties and politicians frequently differentiate themselves based on ideological positions around the appropriate scope of market forces versus government intervention in the economy, which firms may leverage depending on their position within the industry. Incumbents who are threatened by the prospect of new competition are more likely to seek the support of legislators who put greater weight on government regulation in protecting the public interest, while sharing economy entrants will seek political support from free market, pro-competition legislators. Hence:

Hypothesis 3: *Incumbent firms are less likely than sharing economy market entrants to lobby legislators who are ideologically more supportive of greater market competition, all else equal.*

3.3.4 Counteractive Lobbying

Besides the impact of legislator attributes on firms' lobbying strategy, scholars have argued that firms may engage in 'counteractive' lobbying – that is, lobbying legislators after they have been lobbied by an opponent as a defensive tactic to reverse any potential change in support (Austen-Smith & Wright, 1994). If an opponent lobbies a firm's allies in the legislature, the firm may be induced to lobby them in the subsequent period after the opponent's lobbying efforts. Doing so enables the firm to maintain its political support and reduce that of its rival.

We argue, however, that the likelihood of firms engaging in counteractive lobbying is contingent on the security of their political support. Incumbent firms are more likely to be confident of retaining dependable political support among their allies, stemming from their relationships forged over time and the closer alignment with constituency interests. As such, incumbents are less likely to be threatened by sharing economy market entrants lobbying their (the incumbents') political allies, finding less need to respond in kind. On the other hand, sharing economy entrants are less likely to have strong relationships with their political allies and hence are more vulnerable to the loss of support if their allies are lobbied by their rivals. As such, we expect entrants to counteractively lobby their priority legislators if they are lobbied by incumbent firms to prevent dissipation of support. This leads to the following hypothesis:

Hypothesis 4: *Incumbent firms are less likely than sharing economy market entrants to engage in counteractive lobbying if rivals lobby their legislative allies, all else equal.*

3.4 Empirical Analysis

3.4.1 Industry Context

To test our hypotheses, we examine the lobbying strategies of Uber, a ridesharing company, and taxi companies in a single jurisdiction, the city of Toronto, which Uber entered with its UberX service on September 8th, 2014. As in other cities that Uber entered, it competed directly with the incumbent taxi industry in the personal passenger transportation market, triggering public and political debates about whether and how ridesharing companies should be regulated. On the one hand, the taxicab industry argued that ridesharing companies should operate under the same regulatory framework that governed taxi firms – proscribing fares, license numbers, and vehicle and driver standards – to ensure a level playing field for all competitors. [12] On the other hand, Uber claimed that since its UberX business model utilized new app-based technology to connect customers and private car owners, it did not classify as a taxicab firm and consequently should be exempted from taxi industry regulatory requirements (City of Toronto v Uber Canada Inc. et al., 2015). The competing demands for industry regulation resulted in a contested nonmarket environment with each side - the taxi industry and Uber - lobbying Toronto city politicians to gain support for opposing policy positions. The 44-member Toronto City Council, which regulated the city's taxi industry, ultimately voted on two legislative proposals that reshaped the scope and nature of regulation: first, on September 30th, 2015, more than a year after the UberX service was launched, council voted on a bill, proposed by the mayor, to develop a new set of

[12] Toronto restricted the number of taxi vehicles through a medallion system, which was capped at 5,000 licenses in 2015. Four firms dominated the taxi industry, accounting for 63% of the market (Beck Taxi, Diamond Taxi, Coop Cabs and Royal Taxi) (City of Toronto, 2015). The taxi firms were vocal about their opposition to UberX's operation in Toronto (CityNews, 2015; CP24, 2015). The Toronto Taxi Alliance, an industry association representing plate owners, drivers, brokerages, fleets, agents, and other permit holders, also criticized Uber as a "rogue agency that does whatever it wants" and warned of the risk posed by UberX to public safety (CBC News, 2015). Uber was the only digital platform-based ridesharing company operating in Toronto during our period of study. Lyft, Uber's major competitor in North America, did not enter Toronto until November 2017.

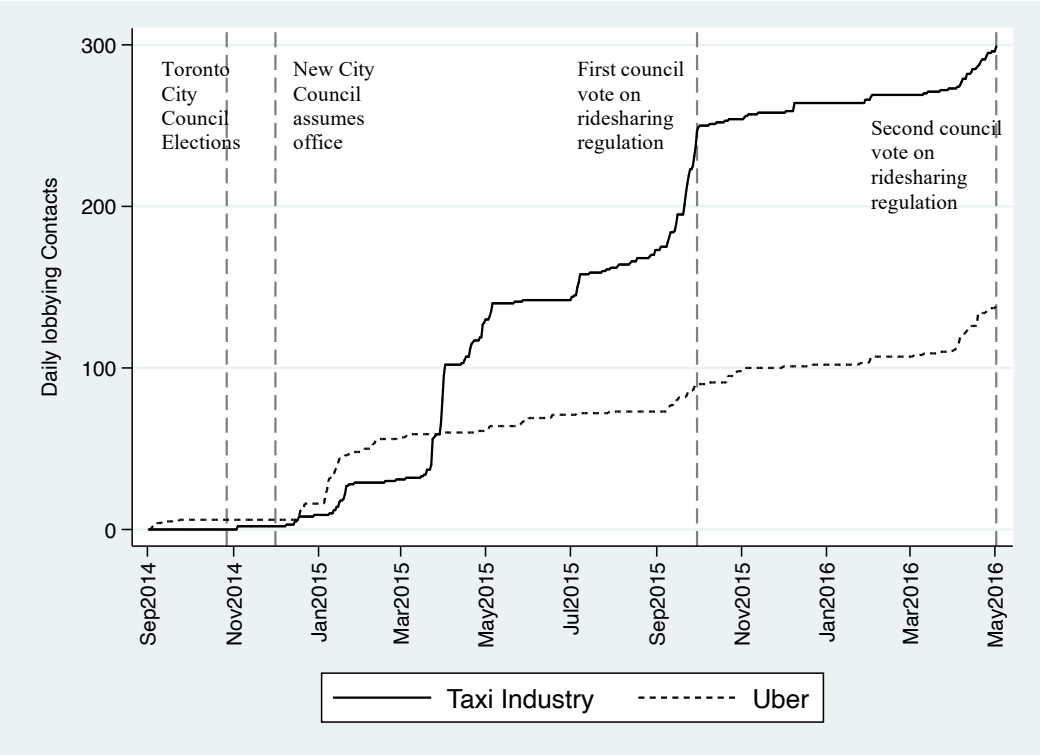
regulations specifically for a "Private Transportation (PTC) license class, which would permit and regulate private vehicles to offer transportation services, such that UberX provides". The motion, approved by a 32-12 vote, was perceived as a win for Uber since it essentially exempted ridesharing companies from complying with existing taxicab regulations and set the stage for a distinct and potentially lighter regulatory environment.[13] Second, on May 3rd, 2016, council debated and passed a bill on the specific regulatory standards for ridesharing companies as well as revisions to taxicab regulations, as proposed in a city staff report. The council voted on more than 60 motions – on issues ranging from license and training requirements for taxi drivers, rates that taxi firms could charge, surge pricing, insurance requirements and vehicle safety standards – ultimately creating new regulations for ridesharing firms and revised standards for taxicab firms. The period from September 2014 to May 2016 was marked by sustained lobbying of Toronto's councillors and mayor by Uber and the taxi industry as they sought to influence the outcome of each of these legislative proposals and votes.

3.4.2 Lobbying Data

We use a uniquely detailed contact-level dataset on organizational lobbying activities, obtained from the City of Toronto, that provides information on all in-person meetings and phone calls between councillors, their staff and registered lobbyists, including data on the name, organization and title of each party, the lobbyist's client or organization, the date of the contact, and issues

[13] See https://toronto.ctvnews.ca/city-council-takes-another-step-toward-uber-regulations-1.2588129 and Toronto City Council meeting record at http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.LS6.1. The motion stated: "That City Council request the Executive Director, Municipal Licensing and Standards to report back to the Licensing and Standards Committee in Spring 2016 on a framework to regulate alternate ground transportation providers and to begin consulting on the appropriate regulations to ensure a level playing field in the ground transportation industry".

discussed.[14] A core advantage of this data is that, compared to the vast majority of empirical lobbying studies, many of which use U.S. federal-level data (de Figueiredo & Richter, 2014), we are able to identify the individual politicians that firms targeted and the intensity of their lobbying activities, as measured by the precise timing and frequency of contacts. We compiled data on all lobbying activities by Uber and by Toronto taxi companies and taxi industry associations during the 21-month period from September 1st, 2014, the month when UberX commenced operations, until the second council vote on May 3rd, 2016. We included all in-person meetings and phone calls between lobbyists (internal executives and external hired consultants) and councillors and their staff. [15] The resulting dataset consisted of 139 lobbying contacts by Uber and 299 contacts by the taxi industry during the sample period (see Figure 3).



[14] "Toronto Municipal Code, Chapter 140, Lobbying." Toronto City Council. https://www.toronto.ca/legdocs/municode/1184_140.pdf (accessed March 11, 2019)

[15] The Toronto City Council consists of 44 councillors, elected to represent individual district wards in the city, and the mayor. Our sample period spans two election terms since there was an election on October 27, 2014. Seven new councillors and a new mayor were elected in 2014, and a by-election in March 2016 led to another new councillor joining the council. Our data sample thus includes 54 unique councillors and mayors over the 21-month period.

Figure 3 Daily Cumulative Lobbying of Toronto Councillors by Uber and the Taxi Industry, 2014-2016

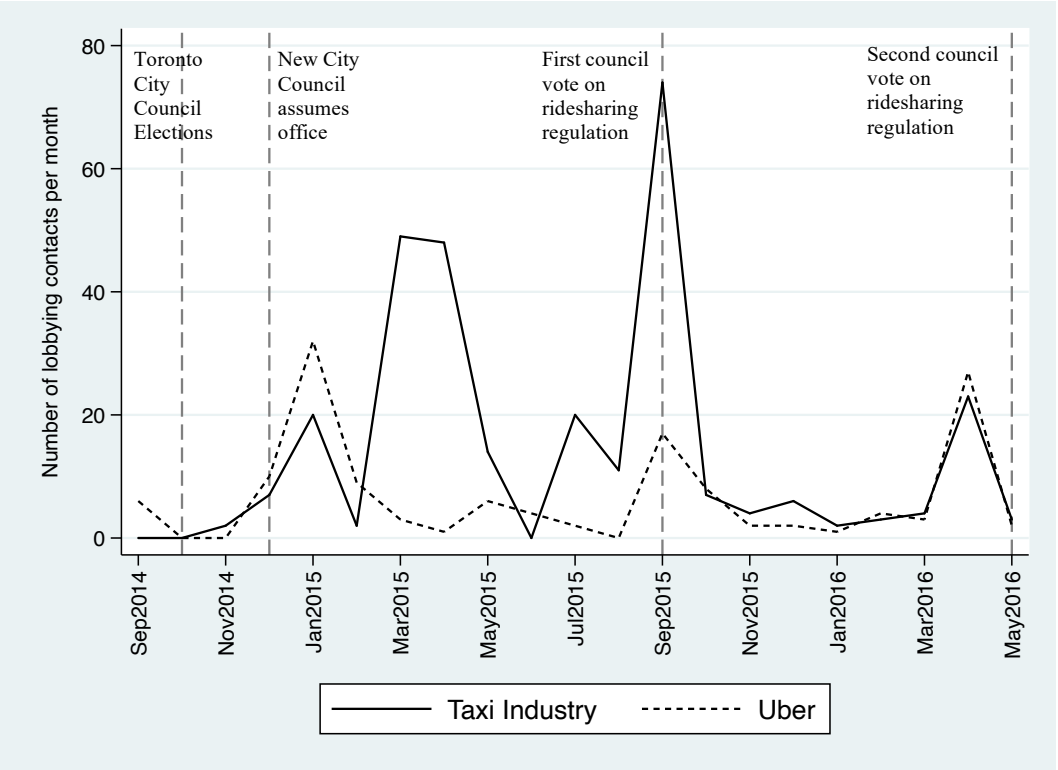


Figure 4 Monthly Lobbying Intensity of Toronto Councillors by Uber and the Taxi Industry, 2014-2016

As Figure 3 illustrates, Uber began lobbying on September 3rd, shortly before it launched UberX, and it scaled up its campaign in January 2015, meeting 44 times with 25 councillors and the mayor within three months. The taxi industry appears to have responded to Uber's lobbying by subsequently implementing its own intensive campaign, meeting 111 times with 26 councillors and the mayor during the three-month period from March to May 2015. Figure 4 indicates that each side increased its lobbying activities in the weeks running up to the September 30th council vote, and then again before the May 3rd vote. Figures 5 and 6, visually illustrate the intensity of lobbying meetings between the incumbent taxi firms and Uber with the

councillors representing the 44 districts of Toronto. Districts in darker shades reflect a greater number of lobbying meetings between the firms and the councillor representing those districts. The taxi firms conducted meetings councillors representing 39 districts during the sample period demonstrating significant variance in their intensity of lobbying across these districts. The three most lobbied councillors all belonged to the Municipal Licensing and Standards (ML&S) Committee which was responsible for business licensing, standards, and regulation in the taxi-industry. On the other hand, Uber lobbied councillors representing 34 districts and only one of their three most lobbied councillors belonged to the ML&S Committee.

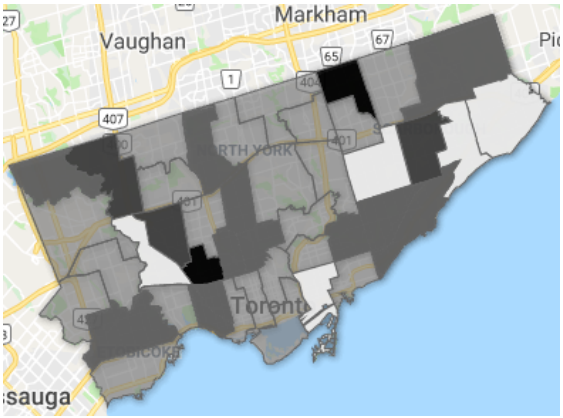


Figure 5 District-Wise Distribution of Meetings Between the Incumbent Taxi Firms and Councillors

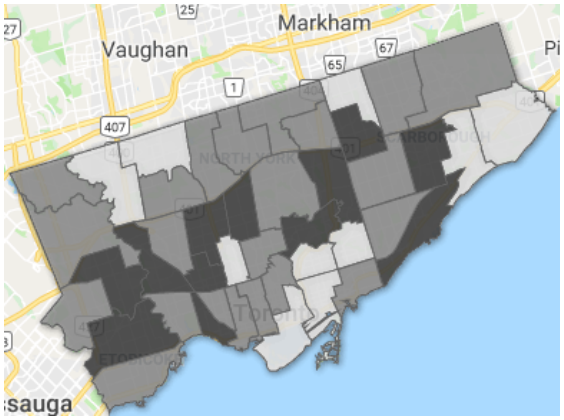


Figure 6 District-Wise Distribution of Meetings Between the Market Entrant, Uber, and Councillors

3.4.3 Method

To analyze the impact of the independent variables on the likelihood that Uber or the taxi industry lobbied a specific councillor, we use a repeated-event Cox proportional hazard rate model, which estimates the hazard of lobbying at each point in time conditional on covariate values (Box-Steffensmeier & Jones, 2004; Cleves, 2008 Cox, 1972). Hazard rate models are appropriate when the dependent variable can be expressed as the duration of time between events and when observations are right-censored, meaning that for some units an event did not occur in the final period of the sample. We estimate separate models of lobbying for Uber and the taxi industry using the Prentice-Williams-Peterson (PWP) extension of the Cox model (Prentice, Williams, & Peterson, 1981), which allows for the inclusion of multiple ordered lobbying events, whereby a subject is not at risk for the kth event until he/she has experienced event k−1st. The hazard that a councillor, *i*, will be lobbied on day *t* by the focal organization is expressed as

$$\lambda_k(t \mid Z_{ki}) = \lambda_{0k}(t)\, e^{\beta Z_{ki}(t)}$$

where λ_{0k} is the baseline hazard function for the kth event (k=1,…,K), and Z_{ki} is a vector of covariates for councillor *i* with respect to the kth event at time *t*. The Cox model is semi-parametric in that it does not assume a particular functional form for the baseline hazard and covariates are assumed to have a constant effect across all ordered events. The duration of time between lobbying events (spell time) is measured in days, with the first spell beginning on Monday September 1st, 2014. All subsequent spells start immediately after a councillor has been lobbied by the focal party (Hsieh, Tsai, & Chen, 2015). To account for potential serial correlation within councillors, we estimate robust clustered standard errors (Williams, 2000). Table 8 presents a sample illustration of our data set-up for Uber's lobbying of two councillors during the sample period.

Table 8 Descriptive Statistics and Correlation Matrix for Taxi Industry Lobbying Models

Date	Uber Meeting	Councillor	Event	Spell	Gap time
01-SEP-2014	0	Vincent Crisanti	0	-	-
23-SEP-2015	1	Vincent Crisanti	1	1	388
12-APR-2016	1	Vincent Crisanti	1	2	202
02-MAY-2016	0	Vincent Crisanti	0	3	20
01-SEP-2014	0	Mark Grimes	0	-	-
20-JAN-2015	1	Mark Grimes	1	1	142
02-MAY-2016	0	Mark Grimes	0	2	468

Variables. The dependent variable in the proportional hazards model is the duration of time between lobbying events, which yields an estimate of the instantaneous hazard of a firm lobbying a councillor. During the sample period, Uber lobbied 39 councillors and the mayor, with a median of three contacts per councillor and a median spell duration of 98 days for councillors lobbied during the sample period. The taxi industry also lobbied 39 councillors and the mayor, however, it was significantly more active than Uber, with a median of four contacts per councillor and a median spell duration of 17.5 days for councillors lobbied during the sample period.

To test Hypothesis 1, we use a binary indicator variable, Committee Member, which denotes whether a councillor was a member of the Municipal Licensing and Standards (ML&S) committee that had oversight of the taxi industry and taxi regulations. The ML&S Committee consisted of six councillors and was responsible for business licensing, standards, and regulation, including for the taxi industry which was a core focus of the committee.[16] Members of the ML&S committee were appointed by the council and the chair was appointed by the mayor.

[16] The ML&S committee set standards and issued licenses for businesses in several sectors including the taxi industry, food and beverages, entertainment services, personal services, and cannabis retail. Taxi industry issues accounted for the single largest number of business-related committee agenda items and motions from 2011 to 2014 (the pre-Uber council session) and also from 2015 to 2018.

For Hypothesis 2, we created the variable *Councillor Experience,* the number of years a councillor served as an elected politician on the Toronto city council and, where relevant, as a prior member of the provincial legislature, which had regulatory oversight of taxi vehicle insurance requirements.[17] Hypothesis 3 focuses on the role of councillors' pro-competition ideology, which we measure using district-level voting data from the 2014 mayoral election to create the variable *Councillor Pro-Competition Ideology*. We assume that a councillor's pro-competition ideology reflects that of the voters in their electoral district. In 2014, one candidate for mayor, John Tory, a former CEO of Rogers Communications, ran on a strong pro-competition and pro-business platform, including privatizing garbage collection, reducing regulatory burdens for businesses, and removing entry restrictions in sectors such as food trucks and ridesharing.[18] We thus use the share of votes in the mayoral election that John Tory achieved in a district as a proxy for that district councillor's pro-competition ideology.

To test Hypothesis 4, which examines counter-active lobbying, we created *Competitor Lobbying*, an indicator variable that denotes whether an organization's competitor (i.e. Uber or the taxi industry) had lobbied the focal councillor in the prior 30-day period. We interact *Competitor Lobbying* with *Ally*, a binary variable that indicates whether a councillor was likely to be a natural ally, as proposed in the first three hypotheses. Hence, the taxi industry's allies are defined as those councillors who were ML&S committee members and who had values of

[17] Some Toronto city councillors had previously been elected to the Ontario legislature, bringing prior experience and political relationships to their council positions. The provincial government set regulations regarding vehicle insurance, accessibility, and safety standards (Highway Traffic Act, 1990). Two bills were introduced in the provincial legislature in 2014 and 2015 that affected taxi and ridesharing companies by proposing to levy penalties on drivers who transported passengers without the requisite license, permit or authorization (Legislative Assembly of Ontario, 2014, 2015). Taxi firms and associations were registered lobbyists of the provincial legislature.

[18] John Tory publicly supported Uber's entry in Toronto, commenting shortly after his election as mayor that, "Uber and services like it, are here to stay. It is time our regulatory system got in line with evolving consumer demands in the 21st century. As Mayor, I intend to see that it does, while being fair to all parties, respecting the law and public safety."(Mangione, 2014).

Councillor Experience greater than the median and of *Councillor Pro-Competition Ideology* less than the median. Uber's *Ally councillors* are defined as those who were not ML&S committee members and who had values of *Councillor Experience* less than the median and of *Councillor Pro-Competition Ideology* greater than the median.

In addition to the independent variables, we control for councillor-level and socio-demographic district-level factors that could influence the lobbying behavior of the parties. *Councillor Election Majority*, measured as the difference in the share of votes received by the winning councillor and the runner-up candidate in the 2014 municipal election, captures the degree of political competition in a district, and is expected to be negatively associated with lobbying frequency (Bonardi et al., 2005; Fremeth & Holburn, 2010). *Mayor* is an indicator variable that denotes whether the lobbying target is the mayor who, as leader of the council has particular influence over the legislative agenda, and is thus expected to be lobbied more frequently than other councillors. At the district level, we include *Population Density* since more densely populated districts are likely to have higher demand for taxi and ridesharing services, making industry regulation especially salient for those councillors. Similarly, we include *Median Household Income, Number of Subway Stations,* and *Median Age of Population* using data from the Census and National Household Survey, as these factors are expected to also affect demand for taxi and ridesharing services. Two variables, sourced from National Household Survey data, capture the likely prevalence of taxi drivers in a district: *Share of Employment in Transportation* and *Immigrant Share of Population* (more than 80% of the taxi drivers in Toronto were immigrants (Xu, 2012)). Finally, to control for local economic conditions we include *Unemployment Rate,* which may influence the demand for personal transportation services as well as the supply of drivers. Tables 9 and 10 present descriptive statistics for all the variables.

Table 9 Descriptive Statistics and Correlation Matrix for Taxi Industry Lobbying Models

		N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Taxi Industry Lobbying	341	0.88	0.4	1.00														
2	Committee Member	341	0.36	0.48	0.20	1.00													
3	Councillor Experience	341	12.66	9.72	0.08	0.51	1.00												
4	Councillor Pro-Competition Ideology	341	34.84	14.6	-0.12	-0.43	-0.55	1.00											
5	Ally	341	0.34	0.48	0.22	0.96	0.55	-0.47	1.00										
6	Competitor Lobbying	341	0.20	0.4	-0.14	-0.20	-0.34	0.26	-0.20	1.00									
7	Population Density	341	5.16	2.01	0.02	0.12	-0.17	0.17	0.12	0.04	1.00								
8	Unemployment Rate	341	9.92	1.87	0.14	0.39	0.46	-0.72	0.36	-0.21	-0.37	1.00							
9	Share of Employment in Transportation	341	10.79	5.1	0.13	0.31	0.36	-0.80	0.33	-0.13	-0.31	0.52	1.00						
10	Median Age of Population	341	39.52	2.57	-0.04	0.14	0.16	0.28	0.16	-0.08	-0.22	-0.21	-0.37	1.00					
11	Median Household Income	341	58.33	10.2	-0.07	-0.25	-0.40	0.72	-0.25	0.15	-0.16	-0.59	-0.52	0.37	1.00				
12	Immigrant Share of Population	341	51.22	12.9	0.11	0.50	0.63	-0.69	0.50	-0.23	-0.37	0.75	0.35	0.14	-0.46	1.00			
13	Councillor Election Majority	341	29.43	22.5	-0.14	-0.10	0.00	0.22	-0.08	-0.14	-0.01	0.02	-0.47	0.21	0.00	0.05	1.00		
14	Number of Subway Stations	341	1.16	2.02	-0.12	-0.43	-0.41	0.46	-0.41	0.22	0.40	-0.48	-0.49	-0.12	0.06	-0.45	0.28	1.00	
15	Mayor	341	0.07	0.25	0.08	-0.20	-0.28	0.10	-0.19	0.28	-0.02	-0.09	-0.09	-0.06	0.00	-0.05	-0.27	0.05	1.00

Note: The number of observations includes the number of unique councillor-days when the taxi industry lobbied councillors and the right-censored observations for each councillor corresponding to the end of the sample period. The sample excludes 9 observations when the taxi industry lobbied a specific councillor for the second time on the same day.

Table 10 Descriptive Statistics and Correlation Matrix for Uber Lobbying Models

	N	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

1	Uber Lobbying	190	0.73	0.46	1.00														
2	Committee Member	190	0.13	0.34	-0.01	1.00													
3	Councillor Experience	190	8.27	8.33	-0.18	0.20	1.00												
4	Councillor Pro-Competition Ideology	190	40.61	14.93	0.05	-0.16	-0.48	1.00											
5	Ally	190	0.42	0.49	0.19	-0.33	-0.62	0.61	1.00										
6	Competitor Lobbying	190	0.35	0.48	0.04	0.11	-0.05	-0.08	0.10	1.00									
7	Population Density	190	5.16	2.13	0.08	0.06	-0.20	0.25	0.12	0.00	1.00								
8	Unemployment Rate	190	9.44	1.91	0.00	0.37	0.32	-0.62	-0.58	0.05	-0.33	1.00							
9	Share of Employment in Transportation	190	9.32	4.72	0.00	0.30	0.45	-0.85	-0.51	0.06	-0.49	0.58	1.00						
10	Median Age of Population	190	39.38	2.44	-0.04	-0.18	0.07	0.20	0.17	-0.08	-0.52	-0.24	-0.03	1.00					
11	Median Household Income	190	59.95	11.54	-0.06	-0.21	-0.36	0.67	0.48	-0.05	-0.22	-0.59	-0.47	0.41	1.00				
12	Immigrant Share of Population	190	47.06	11.30	-0.04	0.19	0.46	-0.71	-0.61	0.09	-0.40	0.72	0.59	-0.03	-0.55	1.00			
13	Councillor Election Majority	190	32.55	24.29	-0.08	-0.11	0.11	0.06	-0.11	-0.14	0.08	-0.04	-0.21	0.06	-0.12	0.00	1.00		
14	Number of Subway Stations	190	1.72	2.62	0.03	-0.26	-0.28	0.33	0.40	0.02	0.60	-0.40	-0.53	-0.32	-0.09	-0.36	0.23	1.00	
15	Mayor	190	0.12	0.32	0.14	-0.14	-0.23	-0.01	0.36	0.25	-0.03	-0.03	-0.02	-0.06	-0.05	0.05	-0.38	-0.03	1.00

Note: The number of observations includes the number of unique councillor-days when Uber lobbied councillors and the right-censored observations for each councillor corresponding to the end of the sample period. The sample excludes one observation when Uber lobbied a specific councillor for the second time on the same day.

3.5 Results

We begin by charting the inequality curves for lobbying by the taxi-industry and Uber. Figure 7 shows that the taxi industry concentrated its lobbying on a smaller share of councillors than did Uber: 25 percent of councillors accounted for 71 percent of the taxi industry's lobbying during the sample period, versus 51 percent of Uber's lobbying. These curves are indicative of the broader difference in their lobbying strategies, where the incumbent taxi firms appear to target a smaller group of councillors repeatedly, as compared to Uber that lobbied a greater number of councillors, but, on average, had fewer contacts with each of them.

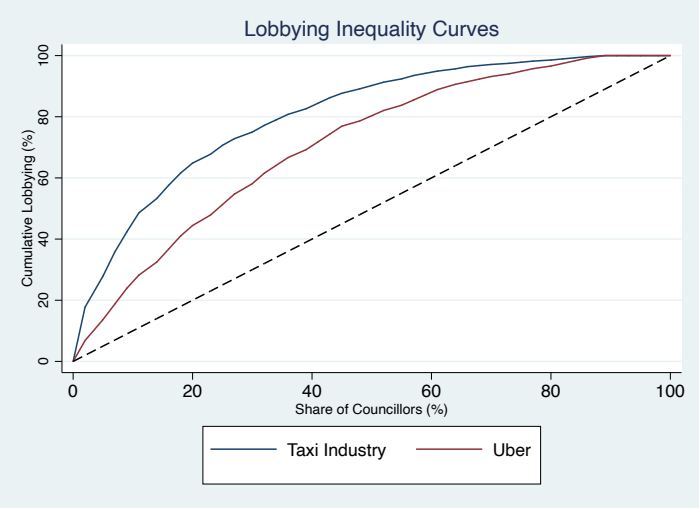


Figure 7 Lobbying Inequality Curves for the Taxi Industry and Uber

Next, we report univariate statistics that indicate how the taxi industry and Uber allocated their lobbying across councillors with different attributes. Table 11 shows first that while ML&S committee members accounted for 14% of the total number of councillors, the taxi industry devoted a significantly higher share (44%) of its total lobbying contacts over the sample period to committee members, which is consistent with the first hypothesis. Uber, by contrast, allocated 15% of its lobbying to committee members. Second, the taxi industry disproportionately favored

more experienced councillors while Uber focused its lobbying on more recently-elected councillors: 53% (23%) of the taxi industry's (Uber's) lobbying contacts were with councillors with more than 130 months of legislative experience – versus 28% (62%) with councillors with less than 45 months of experience. Third, approximately three quarters of the taxi industry's lobbying contacts were directed at councillors with pro-competition ideology scores less than the median value, while the equivalent share for Uber was less than one half. Each of these unconditional univariate distributions is consistent with the predictions of the first three hypotheses, but of course they do not control for other factors that may influence the choice of lobbying targets.

Table 11 Distribution of Uber and Taxi Industry Lobbying by Councillor Attributes

Councillor Attribute	**Councillors (percent of total)**	**Taxi Industry Lobbying (percent)**	**Uber Lobbying (percent)**
ML&S Committee			
Members	14%	44%	15%
Non-members	86%	56%	85%
	100%	*100%*	*100%*
Councillor Experience			
< 45 months	43%	28%	62%
45-130 months	23%	18%	15%
> 130 months	34%	54%	23%
	100%	*100%*	*100%*
Pro-Competition Ideology Score			
< 25%	25%	36%	21%
25% - 39%	27%	38%	25%
40% - 49%	27%	8%	21%
> 49%	20%	19%	34%
	100%	*100%*	*100%*
Ally for Taxi Industry			
Ally councillor	11%	39%	8%
Not an ally councillor	89%	61%	92%
	100%	*100%*	*100%*
Ally for Uber			
Ally councillor	32%	27%	49%

Not an ally councillor	68%	73%	51%
	100%	*100%*	*100%*

Note: Allies for the taxi industry are defined as councillors who are members of the ML&S committee and who have greater than median values of *Councillor Experience* and less than median values for *Pro-Competition Ideology*. Allies for Uber are defined as councillors who are not members of the ML&S committee and who have less than median values of *Councillor Experience* and greater than median values for *Pro-Competition Ideology*.

We turn now to the results of the Cox proportional hazard models which estimate the marginal impact of the independent variables on the hazard of a firm lobbying a focal councillor, controlling for councillor and district-level covariates. Coefficient estimates are reported as odds ratios: a value lower than one indicates that a one-unit increase in the independent variable decreases the instantaneous likelihood of lobbying, and a value greater than one indicates an increase. Table 12 presents the results of models that test the hypotheses, rotating in the independent variables. The models are grouped in pairs with separate models estimating lobbying events by Uber and by the taxi industry.

In model 1a (taxi industry lobbying), the estimated coefficient for *Committee Member* has a value greater than one (p=0.013), indicating that the taxi industry was 80 percent more likely to lobby a councillor, relative to the baseline hazard rate, if the councillor was a member of the ML&S committee. In model 1b (Uber lobbying), the coefficient for *Committee Member* is less than one but it is not statistically different from a value equal to one. Together, these results provide support for Hypothesis 1, which predicts that, all else equal, industry incumbents are more likely to lobby legislative committee members than are sharing economy market entrants.

Table 12 Cox Proportional Hazard Models of Lobbying by the Taxi Industry and Uber

	Taxi Lobbying	**Uber Lobbying**	**Taxi Lobbying**	**Uber Lobbying**	**Taxi Lobbying**	**Uber Lobbying**	**Taxi Lobbying**	**Uber Lobbying**	**Taxi Lobbying**	**Uber Lobbying**
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)	(5a)	(5b)
Committee Member (H1)	1.794	0.833					1.766	0.585		
	(0.422)	(0.230)					(0.402)	(0.154)		
	[0.013]	[0.509]					[0.012]	[0.042]		
Councillor Experience (H2)			1.023	0.967			1.020	0.973		
			(0.0110)	(0.0126)			(0.0112)	(0.0124)		
			[0.037]	[0.011]			[0.065]	[0.031]		
Councillor Pro-competition Ideology (H3)					1.008	1.048	0.997	1.055		
					(0.0149)	(0.0120)	(0.0149)	(0.0147)		
					[0.586]	[0.000]	[0.827]	[0.000]		
Ally									2.466	1.631
									(0.524)	(0.403)
									[0.000]	[0.048]
Competitor Lobbying									0.633	0.679
									(0.157)	(0.177)
									[0.066]	[0.137]
Ally * Competitor Lobbying (H4)									0.968	4.041
									(0.363)	(1.542)
									[0.931]	[0.000]
Population Density	1.170	1.208	1.295	1.186	1.286	1.234	1.184	1.363	1.119	1.286
	(0.0649)	(0.119)	(0.0785)	(0.108)	(0.0765)	(0.110)	(0.0778)	(0.144)	(0.0623)	(0.117)
	[0.005]	[0.054]	[0.000]	[0.062]	[0.000]	[0.018]	[0.010]	[0.003]	[0.044]	[0.006]
Unemployment Rate	1.104	1.246	1.213	1.185	1.168	1.212	1.150	1.258	1.129	1.278
	(0.0699)	(0.105)	(0.0882)	(0.0876)	(0.0684)	(0.0927)	(0.0883)	(0.106)	(0.0715)	(0.105)
	[0.119]	[0.009]	[0.008]	[0.021]	[0.008]	[0.012]	[0.070]	[0.006]	[0.056]	[0.003]
Share of Employment in Transportation	1.050	1.061	1.065	1.063	1.085	1.165	1.040	1.227	1.021	1.055
	(0.0349)	(0.0412)	(0.0305)	(0.0343)	(0.0475)	(0.0441)	(0.0416)	(0.0556)	(0.0343)	(0.0305)
	[0.142]	[0.130]	[0.027]	[0.059]	[0.063]	[0.000]	[0.323]	[0.000]	[0.532]	[0.063]
Median Age of Population	1.080	1.074	1.094	1.078	1.101	1.053	1.074	1.076	1.062	1.063
	(0.0470)	(0.0542)	(0.0404)	(0.0561)	(0.0523)	(0.0553)	(0.0382)	(0.0575)	(0.0400)	(0.0553)

	[0.076]	[0.155]	[0.016]	[0.148]	[0.043]	[0.325]	[0.045]	[0.171]	[0.108]	[0.244]
Median Household Income	1.027	1.024	1.043	1.014	1.033	1.013	1.035	1.017	1.023	1.013
	(0.0130)	(0.0158)	(0.0138)	(0.0157)	(0.0131)	(0.0150)	(0.0147)	(0.0144)	(0.0131)	(0.0148)
	[0.038]	[0.129]	[0.001]	[0.364]	[0.011]	[0.373]	[0.014]	[0.240]	[0.078]	[0.361]
Immigrant Share of Population	1.012	0.984	1.009	0.991	1.020	0.999	1.004	1.009	1.004	0.997
	(0.0111)	(0.0111)	(0.0105)	(0.0103)	(0.0119)	(0.0133)	(0.0117)	(0.0135)	(0.00979)	(0.0129)
	[0.281]	[0.151]	[0.384]	[0.412]	[0.097]	[0.956]	[0.760]	[0.489]	[0.686]	[0.815]
Councillor Election Majority	0.995	1.000	0.996	1.001	0.996	1.000	0.995	1.002	0.991	0.998
	(0.00399)	(0.00468)	(0.00372)	(0.00463)	(0.00383)	(0.00409)	(0.00373)	(0.00413)	(0.00372)	(0.00416)
	[0.211]	[0.949]	[0.239]	[0.875]	[0.309]	[0.950]	[0.151]	[0.606]	[0.017]	[0.595]
Number of Subway Stations	1.063	1.076	1.059	1.057	1.037	1.091	1.082	1.064	1.076	1.010
	(0.0590)	(0.0629)	(0.0547)	(0.0604)	(0.0540)	(0.0539)	(0.0612)	(0.0496)	(0.0678)	(0.0539)
	[0.268]	[0.209]	[0.271]	[0.334]	[0.482]	[0.079]	[0.166]	[0.186]	[0.244]	[0.851]
Mayor	2.190	5.300	2.409	5.020	1.953	5.946	2.623	5.697	2.403	2.834
	(0.662)	(2.124)	(0.817)	(1.685)	(0.542)	(2.538)	(0.945)	(2.057)	(0.814)	(0.705)
	[0.010]	[0.000]	[0.009]	[0.000]	[0.016]	[0.000]	[0.007]	[0.000]	[0.010]	[0.000]
N	341	190	341	190	341	190	341	190	341	190

Notes: Exponentiated coefficients; robust standard errors clustered by councillor in parenthesis; p-values in square brackets.

Models 2a and 2b introduce the variable *Councillor Experience*, which tests Hypothesis 2. In model 2a (taxi industry), the coefficient estimate is greater than one (p=0.037) while in model 2b (Uber), the coefficient is less than one (p=0.011). Increasing a councillor's political experience by one standard deviation from the mean value is estimated to increase the likelihood of a councillor being lobbied by the taxi industry by 22 percent, but to decrease the likelihood of being lobbied by Uber by 26 percent, relative to the baseline hazard rate. We thus find strong statistical support for Hypothesis 2, namely that incumbents will tend to court more experienced legislators while sharing economy market entrants will seek out support from those that have been more recently elected.

Models 3a and 3b assess the impact of *Councillor Pro-competition Ideology*, which tests Hypothesis 3. As predicted, the estimated coefficient for Uber's lobbying has a value greater than one in Model 3b (p=0.000). Increasing the value of *Councillor Pro-competition Ideology* by one standard deviation from its mean almost doubles the likelihood of a councillor being lobbied by Uber relative to the baseline hazard rate. The coefficient estimate in the taxi industry model (model 3a) is not statistically different from one. Hence, these results support the prediction that sharing economy entrants are more likely than incumbents to lobby legislators with stronger pro-competition ideological positions. The coefficient estimates and pattern of statistical significance remain similar in models 4a and 4b, which include all the prior independent variables.

Models 5a and 5b test whether entrants and incumbents lobby counter-actively, using the interaction of the *Competitor Lobbying* and *Ally* variables. In model 5a (taxi industry), the coefficient estimate on the interaction term is not statistically significant, implying that the industry did not engage in counter-active lobbying when Uber lobbied one of the taxi industry's priority allies. However, the coefficient estimate is positive (p=0.000) in the Uber model (model

5b), providing support for the prediction that sharing economy market entrants are more likely to counter lobby than are incumbents. If the taxi industry had recently lobbied one of Uber's allied councillors, Uber was subsequently almost three times more likely to lobby that councillor. We thus find strong support for Hypothesis 4.

Results for several of the control variables are noteworthy: both Uber and the taxi industry were estimated to be more likely to lobby councillors representing districts with greater population density (p=0.006 and p=0.062 for Uber and the taxi industry, respectively) and with higher rates of unemployment (p=0.003 and p=0.056). This pattern is consistent with the two parties competing for the support of the same councillors in core customer markets for personal transportation services and in areas with a greater supply of potential or actual drivers. Similarly, both Uber and the taxi industry lobbied the mayor more frequently than other councillors (p=0.000 and p=0.010), which may be explained by the mayor's institutional leadership position in the Council.

3.5.1 Robustness

Although our statistical analysis is constrained by a limited sample size, we undertake several robustness tests of our results, utilizing alternative models and data samples. First, instead of the Cox proportional hazard model, we estimate a Poisson count model where the dependent variable is the number of times each party lobbied a councillor between November 2014 and May 2016, and where the independent variables are the same as for Models 1-4 in Table 12. Models 1a and 1b in Table 13 present the results for lobbing by the taxi industry and Uber, respectively, estimated for the sample of 45 councillors and mayor who were elected to office in October 2014. Despite the small sample, the pattern of results is very similar to that from the

hazard rate model. Coefficients for the core variables testing the first three hypotheses are all signed as expected and several are statistically significant; notably, the taxi industry was more likely to lobby councillors who were committee members (p=0.034) and those with greater political experience (p=0.109), while Uber was less to lobby councillors with greater experience (p=0.085) and more likely to lobby those with higher pro-competition ideology scores (p=0.000).

Second, we re-estimate the Cox proportional hazard model but exclude from the sample the early lobbying contacts a party had with each councillor. Given the novelty of ridesharing services in Toronto and the associated uncertainty about its impact on different stakeholders, it may have been unclear ex ante to the taxi industry and Uber the level of support or opposition they could expect from individual councillors. Initial meetings with councillors may thus have been exploratory in nature rather than strategic, as the parties sought to determine councillors' positions on regulating the ridesharing industry - and hence whether further meetings with a specific councillor would be beneficial. Models 2a and 2b in Table 5 drop the first lobbying contact with each councillor and Models 3a and 3b drop the first three lobbying contacts. The results of these models are very similar to those estimated with the full sample in terms of coefficient signs and levels of statistical significance, further strengthening confidence in our primary results. Finally, we test the counter-active lobbying hypothesis using a 14-day rather than a 30-day window definition for the *Competitor Lobbying* variable, and again find similar results (see Models 4a and 4b).

Table 13 Robustness Tests for Lobbying by the Taxi Industry and Uber

	Poisson Regressions		Hazard Rate Models: Sample excluding the first lobbying contact with each councillor				Hazard Rate Models: Sample excluding the first three lobbying contacts with each councillor				Hazard Rate Models: Competitor Lobbying in the prior 14-day period	
	Taxi Lobbying	Uber Lobbying	Taxi Lobbying	Uber Lobbying	Taxi Lobbying	Uber Lobbying	Taxi Lobbying	Uber Lobbying	Taxi Lobbying	Uber Lobbying	Taxi Lobbying	Uber Lobbying
	(1a)	(1b)	(2a)	(2b)	(2c)	(2d)	(3a)	(3b)	(3c)	(3d)	(4a)	(4b)
Committee Member (H1)	0.988	-0.427	1.951	0.515			1.940	0.152				
	(0.465)	(0.322)	(0.468)	(0.175)			(0.499)	(0.0927)				
	[0.034]	[0.184]	[0.005]	[0.050]			[0.010]	[0.002]				
Councillor Experience (H2)	0.0343	-0.0252	1.033	0.965			1.036	0.929				
	(0.0214)	(0.0146)	(0.0126)	(0.0158)			(0.0123)	(0.0334)				
	[0.109]	[0.085]	[0.008]	[0.030]			[0.003]	[0.041]				
Councillor Pro-competition Ideology (H3)	-0.000624	0.0664	0.990	1.072			0.988	1.130				
	(0.0220)	(0.0143)	(0.0168)	(0.0188)			(0.0165)	(0.0422)				
	[0.977]	[0.000]	[0.538]	[0.000]			[0.463]	[0.001]				
Ally					2.697	2.085			2.432	2.225	2.416	1.808
					(0.581)	(0.770)			(0.611)	(1.428)	(0.505)	(0.448)
					[0.000]	[0.047]			[0.000]	[0.213]	[0.000]	[0.017]
Competitor Lobbying					0.644	0.731			0.702	0.417	0.716	0.744
					(0.188)	(0.260)			(0.198)	(0.422)	(0.174)	(0.201)
					[0.132]	[0.378]			[0.210]	[0.388]	[0.169]	[0.274]
Ally * Competitor Lobbying (H4)					1.243	4.014			1.065	20.32	0.910	3.170
					(0.537)	(2.091)			(0.528)	(24.28)	(0.306)	(1.376)
					[0.614]	[0.008]			[0.899]	[0.012]	[0.780]	[0.008]
Population Density	0.247	0.249	1.232	1.475	1.145	1.385	1.312	1.679	1.226	1.552	1.131	1.252
	(0.121)	(0.0981)	(0.0933)	(0.203)	(0.0692)	(0.199)	(0.106)	(0.556)	(0.0807)	(0.449)	(0.0604)	(0.111)
	[0.042]	[0.011]	[0.006]	[0.005]	[0.025]	[0.023]	[0.001]	[0.118]	[0.002]	[0.129]	[0.021]	[0.011]
Unemployment Rate	0.245	0.188	1.224	1.322	1.173	1.368	1.267	1.563	1.211	1.813	1.136	1.243
	(0.153)	(0.0777)	(0.107)	(0.143)	(0.0808)	(0.168)	(0.124)	(0.324)	(0.101)	(0.410)	(0.0699)	(0.101)
	[0.108]	[0.015]	[0.021]	[0.010]	[0.020]	[0.011]	[0.016]	[0.032]	[0.022]	[0.008]	[0.039]	[0.008]
Share of Employment in Transportation	0.0522	0.214	1.046	1.310	1.032	1.085	1.063	1.426	1.048	1.056	1.019	1.053
	(0.0612)	(0.0485)	(0.0467)	(0.0875)	(0.0408)	(0.0550)	(0.0555)	(0.193)	(0.0481)	(0.0993)	(0.0341)	(0.0312)
	[0.394]	[0.000]	[0.316]	[0.000]	[0.429]	[0.106]	[0.243]	[0.009]	[0.303]	[0.559]	[0.575]	[0.080]
	0.0881	0.0289	1.097	1.121	1.087	1.080	1.128	1.210	1.125	1.195	1.062	1.052

Median Age of Population	(0.0525)	(0.0461)	(0.0386)	(0.0754)	(0.0463)	(0.0715)	(0.0425)	(0.211)	(0.0500)	(0.189)	(0.0419)	(0.0543)
	[0.093]	[0.531]	[0.008]	[0.089]	[0.050]	[0.248]	[0.001]	[0.275]	[0.008]	[0.261]	[0.128]	[0.323]
Median Household Income	0.0459	0.0113	1.052	1.020	1.031	1.026	1.068	1.002	1.043	1.035	1.023	1.013
	(0.0218)	(0.0135)	(0.0162)	(0.0200)	(0.0149)	(0.0229)	(0.0196)	(0.0489)	(0.0172)	(0.0450)	(0.0126)	(0.0148)
	[0.035]	[0.401]	[0.001]	[0.307]	[0.035]	[0.254]	[0.000]	[0.968]	[0.010]	[0.429]	[0.070]	[0.379]
Immigrant Share of Population	0.00798	0.00956	0.997	1.011	1.005	0.998	1.000	1.031	1.011	0.985	1.005	0.996
	(0.0201)	(0.0114)	(0.0143)	(0.0160)	(0.0103)	(0.0154)	(0.0136)	(0.0389)	(0.0106)	(0.0330)	(0.0102)	(0.0124)
	[0.372]	[0.784]	[0.844]	[0.492]	[0.603]	[0.888]	[0.995]	[0.426]	[0.307]	[0.657]	[0.638]	[0.778]
Councillor Election Majority	-0.00641	0.000928	0.996	1.005	0.991	1.002	0.995	1.000	0.990	0.998	0.991	0.998
	(0.00718)	(0.00339)	(0.00433)	(0.00522)	(0.00454)	(0.00461)	(0.00533)	(0.0116)	(0.00539)	(0.0102)	(0.00383)	(0.00404)
	[0.692]	[0.400]	[0.323]	[0.320]	[0.059]	[0.725]	[0.389]	[0.991]	[0.067]	[0.862]	[0.018]	[0.607]
Number of Subway Stations	0.100	0.0655	1.138	1.086	1.126	1.021	1.162	1.100	1.128	1.032	1.063	1.009
	(0.0910)	(0.0466)	(0.0753)	(0.0587)	(0.0807)	(0.0597)	(0.0847)	(0.105)	(0.0788)	(0.0745)	(0.0632)	(0.0551)
	[0.270]	[0.160]	[0.051]	[0.127]	[0.099]	[0.728]	[0.040]	[0.314]	[0.085]	[0.661]	[0.303]	[0.875]
Mayor	1.949	1.961	3.603	8.468	2.737	3.794	4.027	8.001	2.671	7.099	2.290	3.097
	(0.317)	(0.177)	(1.338)	(3.685)	(0.868)	(1.342)	(1.475)	(4.532)	(0.730)	(4.648)	(0.740)	(0.844)
	[0.000]	[0.000]	[0.001]	[0.000]	[0.002]	[0.000]	[0.000]	[0.000]	[0.000]	[0.003]	[0.010]	[0.000]
Constant	-9.542	-8.912										
	(4.011)	(3.613)										
	[0.017]	[0.014]										
N	45	45	301	149	301	149	245	97	245	97	341	190

Notes: Exponentiated coefficients (Models 2a-3d); robust standard errors clustered by councillor in parenthesis; p-values in square brackets.

3.6 Discussion and Conclusion

Competition between firms in the nonmarket environment often arises when legislation and regulation have uneven impacts on firms with heterogeneous organizational resources and capabilities, affecting their ability to compete in the marketplace. Despite the importance of nonmarket contests and outcomes for firms' market-based strategies and financial performance, scant academic research has examined how rival firms design competitive nonmarket strategies. Here, we help fill this gap in the literature by developing novel arguments about how sharing economy market entrants and industry incumbents – who are frequent rivals – compete by lobbying legislators in order to gain political support for industry regulations that favor their business models and operating practices while disadvantaging those of their opponents. We argue that differences between incumbents and entrants in their economic and political resources in a jurisdiction lead them to target different types of legislators when seeking support for preferred policy outcomes. In a statistical analysis using novel data on lobbying actions by a ridesharing entrant (Uber) and the taxi industry in Toronto, we find evidence consistent with our predictions: all else equal, the taxi industry was more likely to lobby city councillors who (1) were members of the taxi licensing committee, (2) had greater experience as elected politicians, and (3) had ideological positions supportive of greater government regulation of industry. Uber, by contrast, was less likely to lobby these targets of the taxi industry, all else equal. We also find evidence that Uber was more likely to lobby its allies on council if they had recently been lobbied by the taxi industry, which we interpret as a defensive counter measure to shore up uncertain political support. Hence, in the same way that firms develop differentiated market

strategies in competitive settings (Porter, 1980, 2008), we demonstrate that they also design differentiated lobbying strategies.

Our findings contribute to research on how firms manage their nonmarket environment in three primary ways. First, we extend existing research, which has focused on grassroots mobilization and public communications, on how sharing economy market entrants attempt to overcome local stakeholder resistance to their practices, by demonstrating that lobbying is also a core tactic. In Toronto, the scale and scope of Uber's lobbying campaign, the initiation of lobbying before the launch of UberX, and the extended duration all suggest that Uber relied significantly on lobbying to achieve its policy goals. Uber naturally did not lean on lobbying alone: consistent with the findings from studies of Uber's entry in other jurisdictions (Collier et al., 2018; Garud et al., 2020; Holburn & Raiha, 2017), Uber mobilized its Toronto customers through an online petition, though this occurred only once – in the week before the first council vote on regulating ridesharing (the petition achieved more than 60,000 signatures within a week).[19] It is notable, in addition, that, as in other cities, Uber eschewed making financial contributions to councillors' election campaigns, even though there was a municipal election less than two months after UberX was launched. Uber thus had a distinct integrated approach to formulating its nonmarket strategy that emphasized some methods, including lobbying, over others, and which evolved at different stages of its campaign. Understanding how sharing economy firms coordinate multiple tactics such as lobbying and grassroots mobilization as part

[19] At the time, Uber stated that it had 400,000 registered riders and 16,000 drivers (see https://torontosun.com/2015/09/30/uber-taxi-battle-lands-at-council). See also https://toronto.citynews.ca/2015/09/22/uber-petition-has-40000-signatures-and-climbing/

of a broader nonmarket strategy to overcome incumbent objections and regulatory entry barriers would be a valuable avenue for future research.

Second, our analysis contributes new insights on whom firms target in their lobbying and how firm-level attributes shape their targeting strategy. As far as we can ascertain, this is the first paper to explore these questions and to provide comprehensive evidence on which legislators competing firms lobby on a specific issue. A few studies in the political science literature have used survey data to identify interest groups' lobbying targets but such data are limited in scope (only a subset of legislators are typically considered), are subject to respondent recall errors and biases, and are purely cross-sectional in nature (Carpenter, Esterling, & Lazer, 2004; Hojnacki & Kimball, 1998; Wright, 1990). By contrast, our uniquely detailed observational panel data allows us to test predictions and to develop new empirical insights that other research contexts are unable to accomplish. Consistent with this prior work, we find that firms, in general, do tend to lobby their natural allies more than their opponents. However, one new finding that emerges from our analysis is that legislative committee members are not necessarily the focal lobbying targets of firms, as prior studies have commonly argued due to their institutional influence over policy (Austen-Smith & Wright, 1994; Hojnacki & Kimball, 1998; Wright, 1990). While we find that incumbent firms indeed do focus their lobbying activities on committee members, we argue and confirm empirically that the opposite holds for sharing economy market entrants – who concentrate instead on developing support among non-committee members. The reason for this dichotomy is that incumbents, as the first mover in a jurisdiction, have the opportunity over time to 'capture' committee members (Dal Bó, 2006). Further, legislators who represent the districts where incumbents and their stakeholders are economically important have an incentive to serve

on the relevant regulatory committee, so as to promote their constituents' policy interests. The resulting alignment between incumbents and committee members constitutes a political barrier for sharing economy market entrants who, as the second mover, are more likely to find allies among non-committee members and other legislators who are not already sympathetic to incumbents.

In our case study of Toronto, there is some evidence that over time the taxi industry had strategically developed ties and relationships with councillors on the ML&S committee. The taxi industry regularly made election campaign contributions at a significantly higher level to committee members than to non-members: in the 2014 municipal election, the industry donated $5,283 on average to councillors on the ML&S committee versus an average donation of $468 to non-committee members.[20] In the previous two election periods, the average contributions to committee and non-committee members were $850 and $460, respectively, demonstrating a similar pattern of currying favor with the committee in the years prior to Uber's entry. In an interview with the authors of this study, one of the leading lobbyists for the taxi industry stated that part of the taxi industry's strategy was to lobby for allied councillors to be appointed to the ML&S committee. A stacked committee that leaned towards the taxi industry was a valuable political resource – which the industry leveraged through heavy lobbying when it was threatened by ridesharing competition – and it simultaneously presented a political hurdle for Uber, forcing it to seek support elsewhere within the council. A majority of the ML&S committee voted for the

[20] In the 2014 municipal election, councillors received approximately $45,000 on average in election campaign donations.

taxi industry in the council vote on ridesharing regulation on September 30, 2015, consistent with the capture hypothesis.

Our third contribution is that we begin to unpack the complex question of how firms compete in the nonmarket environment to shape the 'rules of the game'. While there sometimes may be policy issues for which competing firms have a common interest, and hence cooperate in their nonmarket strategies, on other issues intra-industry interests diverge, leading rivals to compete for their individually preferred outcomes. Our observation that incumbents and sharing economy entrants pursue differentiated nonmarket strategies is apparent empirically in other dimensions besides lobbying in the ridesharing and taxi industry context: Uber has regularly organized online customer petitions, a form of grassroots mobilization, in markets where lawmakers are reviewing industry regulation (Holburn and Raiha, 2017), while the taxi industry has instead organized driver protest rallies to exert their own political pressure. Similarly, financial campaign contribution records from the Institute for Money in State Politics indicate that the taxi industry has been an active and regular contributor to state politicians' election campaigns in many states, but Uber has largely refrained from engaging with politicians in this way (FollowTheMoney, 2019). What explains these firm-level differences in nonmarket strategy? Extending the resource-based view of the firm (Barney, 1991), our findings here suggest that firms leverage their unique economic and political resources within a jurisdiction so as to seek political influence in ways that are not easily replicated by competitors. Uber's unique resource is its extensive rider base, which prefers low cost ridesharing relative to taxi services, and which can be easily called upon through its digital platform to sign online petitions; the taxi industry's unique resources, on the other hand, are full-time taxi drivers and license owners, who

are motivated to enjoin public protests, and taxi firm executives' relationships with regulators and local politicians, especially those on relevant legislative committees. Firms thus target and politically mobilize their stakeholders – including those in their economic rent chains – who are unique allies, thereby achieving a hard-to-imitate political competitive advantage. In this sense, a firm's market-based strategy, characterized by a distinct configuration of customers, employees, suppliers, and investors, creates unique opportunities as well as constraints for its nonmarket strategy. Future research could explore in more detail the conditions under which a firm's market assets and economic stakeholders can be deployed to create and capture political value for the firm.

A natural extension of our analyses is to examine how lobbying by firms affects eventual policy outcomes. In our empirical context, the Toronto City Council voted to legalize the operations of the new entrant (Uber), allowing them to compete with the incumbent taxicab firms. However, to ensure a level playing field for the incumbent firms the city council also extended concessions to the taxicab industry by allowing them more flexibility in setting rates, removal of training requirements, and reducing the licence application and renewal fees among others. Figure 8 charts the relative lobbying intensities of the incumbent and the new entrant between January 2015 and September 2015 by comparing their respective z-scores. Wards in black indicate wards where the new entrant had a relatively higher z-score highlighting the legislators they focused their lobbying efforts on. Similarly, wards in white indicate wards where the incumbent focused their lobbying efforts. In Figure 9, we chart the votes of legislators in the Toronto City Council on 30th September 2015 on Motion 9 which was advanced by Councillor Jim Karygiannis – "*City Council request Uber to stop operating in the City of Toronto until such*

time as the Executive Director, Municipal Licensing and Standards reports on a framework to regulate alternate ground transportation providers." The city council voted 24-20 in favor of the motion. Figures 8 and 9 demonstrate a moderate degree of correlation between the relative intensity of lobbying by the taxi industry and Uber and the manner in which the legislators voted on the motion. Of the 16 legislators where the taxi industry relatively out-lobbied Uber (based on relative z-scores) 14 legislators voted in favor of the incumbents. While these results are suggestive of lobbying's influence on policy outcomes, more thorough examinations are needed which account for the endogenous nature of lobbying as well as unobserved characteristics of legislators.

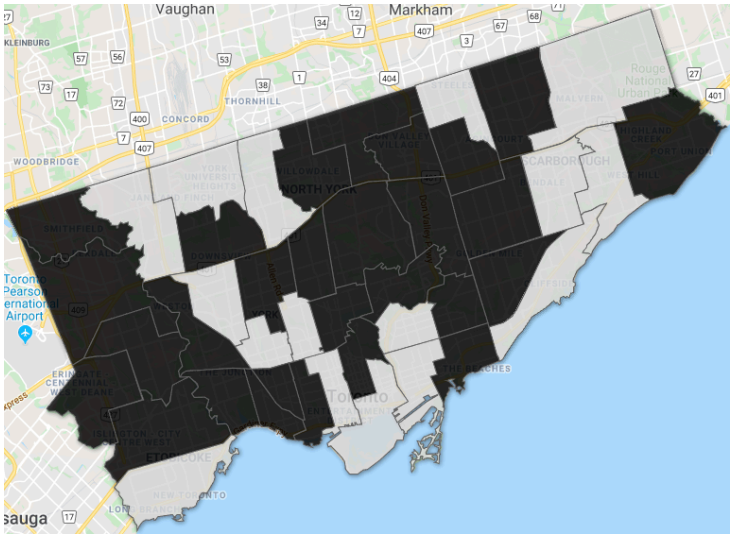


Figure 8 Difference in Z-Scores

Notes: Black – Wards where new entrant had a higher Z-Score
White – Wards where the incumbent had a higher Z-score

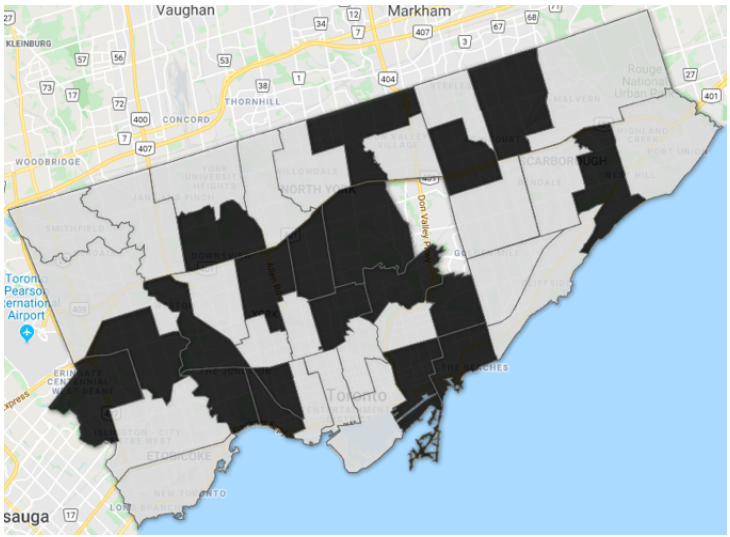


Figure 9 City council vote on Motion 9 September 30th, 2015

There are naturally a host of limitations to our study that should lead to caution in interpreting the results and drawing broader conclusions. Importantly, the empirical analysis relies on a small dataset, which limits statistical inference, and it focuses on the lobbying actions of two parties in a single municipal jurisdiction. One notable feature of municipal governments is that political parties are often absent, so there is no formal party leadership, unlike at state/provincial or federal levels, that could be a focal target for lobbying by organized interests. Additional tests of the hypotheses in other industry and institutional contexts would help to establish the generalizability of our findings. A second challenge is that we lack comprehensive data on the distribution of the economic interests of Uber and the taxi industry across political districts in Toronto (e.g. numbers of riders and drivers), which would otherwise allow for a more precise identification of councillors' constituency-based preferences towards ridesharing regulation. Relatedly, established measures of political ideology (which we examine in Hypothesis 3) such as Poole and Rosenthal's liberal-conservative scores for U.S. federal

politicians (Poole and Rosenthal, 1997) are not available at the municipal level, requiring us to utilize an indirect proxy.

Notwithstanding these and other drawbacks, our paper provides new insights into how incumbent firms and sharing economy entrants compete against each other using political lobbying strategies to shape regulatory entry barriers. We hope that future research will build on our analysis to examine in more detail how rival firms compete on other dimensions of nonmarket strategy, a topic that would benefit from further theoretical and empirical development.

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Chapter 4

4 The Impact of the U.S. Federal Government Bailout of Chrysler: Synthetic Control Estimates of Chrysler Brand Sales

4.1 Introduction

Macroeconomic shocks, such as those triggered by the Dotcom bubble of 2001, the U.S. subprime crisis of 2008, and more recently due to the COVID-19 pandemic, often pose existential threats to firms prompting governments to come to their rescue. In response to the COVID-19 pandemic, the US federal government has thus far allocated $4 trillion, half of which has been earmarked to provide financial assistance to distressed firms across multiple industries in the form of loans, tax deferrals, or equity investments (Megginson & Fotak, 2020). However, interventions by government can extend beyond capital injection into management of firms when financial assistance is accompanied by conditions that necessitate firms to relinquish a certain degree of control on their operations. For instance, when Air Canada suffered substantial losses as a result of the COVID-19 pandemic, the Government of Canada's C$5.9 billion in financial assistance required Air Canada to restrict share buybacks, maintain employment levels, and follow through on a deal to purchase 33 Airbus A220s manufactured at its Quebec facility (Rastello & Bolongaro, 2021).

Several studies on corporate bailouts have examined how state capital affects firm-level outcomes (Berger & Roman, 2015; Boardman & Vining, 1989; Borisova & Megginson, 2011; Duchin & Sosyura, 2014; Roberts & Sweeting, 2016; Jiang, Kim, & Zhang, 2014). However,

much less is known about government interventions that influence management decisions in firms and how they affect performance of firms. In this study, I address this gap in the literature by examining the government's bailout of Chrysler, which followed the financial crisis of 2008, allowing the US federal government significant control in its management. Specifically, I focus on the effect of government bailout on the performance of Chrysler's four brands, with an aim to explicate how government intervention permeated within firm boundaries to affect firm-level outcomes. In doing so, I build upon the analysis conducted by Fremeth, Holburn, and Richter (2016) that found that government intervention had an adverse effect on Chrysler's performance. Similar sentiments were echoed by several industry reports as well as in the post-bailout review conducted by the Office of the Special Inspector General for the Troubled Asset Relief Program (SIGTARP, 2013). As such, the primary objective of this study is to examine the underlying mechanisms through which government intervention affected Chrysler's performance by emphasizing the extensive role of the government in Chrysler's management, and how it impacted the performance of Chrysler's brands – namely, Chrysler, Dodge, Jeep, and RAM.

Prior debates on the effect of government ownership of private enterprises have centered on the disparities between the objectives of governments and private shareholders. While the primary motivation of private shareholders is profit maximization, studies have argued that governments often use firms as vehicles to prioritize political and social goals, often at the expense of profitability (Bai & Xu, 2005; Cuervo & Villalonga, 2000; Dharwadkar, George, & Brandes, 2000; Kole & Mulherin, 1997). Several examinations have sought to understand the effect of government ownership on firm performance (Boardman & Vining, 1989; Cuervo & Villalonga, 2000; Mahoney, McGahan, & Pitelis, 2009; Shleifer, 1998) in the context of state-

owned enterprises in emerging economies. On the other hand, much less is known about how government involvement in firms' management affects their performance as the focus of the studies on corporate bailouts has predominantly been on examining the effect of state capital on firms' subsequent behavior (Berger & Roman, 2015; Duchin & Sosyura, 2014). This study contributes to the literature on corporate bailouts in two primary ways. First, I emphasize the role of government in Chrysler's bailout that was "hands-on" and actively affected management decisions via bailout conditions that required Chrysler to rationalize its dealership network and product portfolio, make changes in leadership, and to seek government approval on any material transactions. Second, I examine how government intervention permeated firm boundaries to argue how government intervention affected the internal operations of Chrysler and its overall performance via its impact on the brands of Chrysler.

To do so, I first present qualitative evidence on the nature of government intervention in Chrysler by highlighting the conditions that accompanied the bailout. Specifically, I focus on the government's decision to abruptly terminate a significant proportion of Chrysler's dealerships and how the nature of those dealerships vis-à-vis the brands they sold, and their geographic location had potentially varying effects on the brands. Next, I statistically test the impact of government bailout on the performance of brands, by following Fremeth et al. (2016) who use the synthetic control methodology developed by Abadie and Gardeazabal (2003), to quantify the magnitude of government's intervention on the performance of each brand. Results at the firm-level indicate that Chrysler, as a whole, experienced a 29 percent reduction in average monthly sales as compared to its synthetic counterfactual during the period of government intervention. However, I find that this decrease in sales was felt differentially across the firm's four brands.

The Chrysler brand was the most severely affected and underperformed its synthetic counterfactual in average monthly sales by 51 percent, followed by RAM (40 percent), Dodge (21 percent), and Jeep (19 percent).

4.2 Theory and Literature

Debates over the role of state ownership on firms has intensified over the last couple of decades as governments across several jurisdictions have come to the rescue of firms in financial distress due to macroeconomic shocks (Jiang, Kim, & Zhang, 2014). State capital can help firms in financial distress cope with external contingencies by facilitating access to bank loans (Faccio, 2006) or by providing explicit or implicit guarantees, and therefore have a net positive effect on a firm's performance (Borisova & Megginson, 2011; Borisova, Brockman, Salas, & Zagorchev, 2012; Beuselinck, Cao, Deloof, & Xia, 2017). Moreover, government intervention, through bailouts, can also endow indirect benefits to firms in the form of expanded business scope, enhanced legitimacy, and organizational survival (Pfeffer & Salancik, 1978; Baum & Oliver, 1991; North, 2005; Hillman, Withers, & Collins, 2009). Indeed, studies examining the bailout of financial institutions via the US government's Troubled Assets Relief Program (TARP) find that bailed out banks benefited through an increase in their market share and market power (Berger & Roman, 2015), and were more likely to revert to pre-bailout performance (Jiang, Kim, & Zhang, 2014). However, bailouts can also negatively affect firms' behavior as government guarantees in the form of bailouts can encourage firms to take greater risk by inducing moral hazard. For instance, prior examinations have found that banks that received TARP funds initiated riskier

securities, had higher volatility and default risk (Duchin & Sosyura, 2014), and engaged more in earnings-decreasing managements (Fan, Huang, Jiang, & Liu., 2020).

Much of this literature has primarily sought to understand how state capital affects firms' subsequent behavior. However, much less is known about how government interventions that assume a more operational role in firms' management affect the performance of firms. The inherent differences in the motivations of private shareholders and governments leads to the general expectation that interference by government in the operations of private firms can lead to principal-agent conflicts resulting in a host of distortions that materially affect the performance of firms. For instance, governments could use corporate bailouts to transfer rents to specific constituencies to maximize their political interests (Shleifer, 1998; Shleifer and Vishny, 1998), as policy vehicles to accomplish nationalistic goals (Kole & Mulherin, 1997), or prioritize social objectives, such as maintaining high levels of employment or servicing less-profitable consumers, over profitability (Bai & Xu, 2005; Cuervo & Villalonga, 2000; Dharwadkar, George, & Brandes, 2000). Moreover, ambiguity with respect to who the relevant principal is – the ruling government, the minority shareholders, or society as whole (Musacchio, Lazzarini, & Aguilera, 2015) – can result in complex objectives for managers adversely affecting the performance of firms.

Moreover, I argue that when governments undertake a more active role in a firm's management and operational decisions, interventions can have significant implications within firm boundaries. Control over management decisions by governments with respect to allocation of resources, knowledge transfers, resolution of conflicts, and prioritization of organizational goals can often benefit some business units at the expense of others and have a heterogenous

effect on performance at the intrafirm levels (Kotabe & Murray, 1996; Takeishi, 2001; van Everdingen & Wiereng, 2002). As such, given the government's "hand-on" approach in Chrysler's bailout, an analysis at the intrafirm-level – that is, the brands of Chrysler – presents a more appropriate means to explicate the mechanisms through which intervention by government manifested at the firm-level.

4.3 U.S. Federal Government Bailout of Chrysler and General Motors

The financial crisis of 2008 had a catastrophic impact on the automotive industry in the US. Annual auto sales in the US dropped from a peak of almost 17 million in 2006, to under 10 million by 2009 and the 'Big Three' domestic automakers – Chrysler, Ford, and General Motors (GM) – were hit the hardest as they confronted high legacy costs, rising fuel prices and a short-term shock in aggregate demand and credit markets (Benmelech, Meisenzahl, & Ramcharan, 2017). General Motors, the largest among the US automakers, posted losses of $40 billion in 2007 and $31 billion in 2008 (Goolsbee & Krueger, 2015). Given the existential threat faced by the automakers, and its implications for the entire automotive industry, regional employment, and the broader economy, the federal government provided Chrysler and GM with financial support through the Troubled Asset Relief Program (TARP)[21]. Under President Obama's administration, a dedicated Presidential Task Force on the Auto Industry was created to oversee

[21] Although Ford suffered large losses during 2008-09, it did not take government support and relied on borrowings from its restructuring efforts in 2006 to withstand the crisis (Goolsbee & Krueger, 2015).

the usage of TARP funds by the firms and the government's intervention lasted from January 2009 to May 2011 in Chrysler, and from January 2009 to December 2012 in GM.

While the bailout of the automakers was a part of the larger TARP program, it differed substantially from the bailouts of the financial institutions. First, while bailout funds were made readily available to the financial institutions without substantive conditions, the US Department of Treasury (henceforth, Treasury) required the automakers to file for bankruptcy, required rationalization of their product portfolios and dealership networks, replaced some top management, and subjected them to close monitoring by the Presidential Task Force (Congressional Oversight Panel, March 2011). Second, the Task Force identified several operational factors for the automakers' future viability, on which the bailout was contingent. These included developing more fuel-efficient vehicles, increasing product quality scores, more competitive pricing, reducing legacy liabilities such as employee pensions and health care costs, and expanding outside of North American markets. Third, post restructuring the Treasury assumed the role of being a regulator, creditor, and a shareholder of Chrysler, all at once. As such, the Treasury's role in the bailout process lacked clear objectives, ranging from making the company viable in the long-term, to ensuring that the taxpayers saw a return of their money to broader policy goals such as improving fuel efficiency of American manufactured cars and preserving manufacturing jobs (Congressional Oversight Panel, September 2009).

4.3.1 Treasury's Bailout of Chrysler.

As part of the TARP funds, the Bush administration created the Automotive Industry Financing Program (AIFP) on December 19, 2008, allowing the Treasury to invest in Chrysler. Following this, Chrysler received an

intermediate financing of $4 billion from the TARP funds with the condition that it present plans to make itself viable in the long-term. After President Obama took office in 2009, a Presidential Task Force (Task Force) on the Auto Industry was created to review Chrysler's restructuring plan which was required as a part of its loan agreement. In addition, a Treasury Auto Team, reporting to the Task Force, was created with specialists from various backgrounds but with little experience in the auto industry and was responsible for evaluating Chrysler's restructuring plans and negotiating terms of any further assistance (SIGTARP, 2013). On February 17, 2009, Chrysler's restructuring plan was rejected by Treasury as inadequate, and a more serious and tough restructuring effort was ordered under the guidance of the Task Force. The administration believed that all stakeholders of Chrysler, including creditors, employees, dealers, and suppliers would have to make meaningful concessions to ensure its long-term viability. As Chrysler confronted limited financial options in the beginning of 2009, after having tried and failed to find strategic partners or capital from the markets, the federal government became a lender of last resort[22].

As a result of the fallout over creditors' claims, Chrysler filed for bankruptcy under Chapter 11 of the Bankruptcy Code on April 30, 2009, and New Chrysler was launched in 42 days, a relatively swift turnaround given that such large bankruptcies usually take years to complete (Kim & Bailey, 2009). Since Chrysler had significant existing debts, an equity stake was deemed a more reasonable choice which also provided the federal government with the possibility to recoup all or part of its investment if Chrysler survived in the long-term. Post the

[22] Chrysler's CEO Robert Nardelli approached several CEOs including Rick Wagoner of GM, Carlos Ghosn of Nissan and Renault and Sergio Marchionne of Fiat to negotiate for potential merging opportunities as early as June 2006 (Rattner, 2009).

restructuring, the US Department of Treasury held a 9.85 percent of the equity, the governments of Canada and Ontario received a 2.5 percent equity stake for their loan of $3.02 billion, Fiat owned 20 percent, and the United Auto Workers (UAW) received a $4.6 billion unsecured note and 67.7 percent of the company's stock (Canis & Yacobucci, 2011).

4.3.2 Dealerships Terminations

One of the most controversial requirements of the Treasury mandated restructuring process called for a rapid termination a large number of Chrysler's dealerships to increase dealer profits[23], retain the best talent, and improve brand equity and the overall health of the remaining network. The Auto Team required Chrysler to terminate 789 dealerships within 3 weeks (25% of its network), that significantly differed from Chrysler's initial proposal of gradually closing 1181 dealers over the next five years (SIGTARP, 2010). Several dealerships criticized the plan and challenged the rationale of terminating a large number of dealerships, including once that were profitable (Chesto, 2011), when the company was trying to increase sales (Moore, 2009). Moreover, dealership terminations had direct consequences on the nature of local competition as happened when a Dodge dealership in Florida that was asked to terminate in Florida pivoted to selling Volkswagen vehicles (Business Observer, 2012).

[23] Based on the "Toyota Model" in which competition between dealerships is low and sales volumes are high for the smaller dealership network. Such analysis was conducted by BCG and Rothschild, external financial advisors contracted by the Auto Team to provide additional industry analysis.

Table 14 presents data on the number of dealerships that were affected by the terminations for each of the four brands of Chrysler[24]. Jeep was the most affected brand with about 21 percent of its existing dealerships being terminated. Likewise, between 16 and 18 percent of Dodge, RAM, and Chrysler's dealerships were terminated during the 3-week window. These data show that dealership terminations impacted the dealerships of each brand differently. All else equal, these differences are likely to translate into differences in sales of vehicles at the brand-level.

Table 14 The effect of Dealership Terminations on Chrysler Brands

Dealership	Terminated	Survived	Total	% Terminated
Dodge	429	2130	2559	16.76%
Dodge Truck (RAM)	432	2132	2564	16.85%
Chrysler	469	2112	2581	18.17%
Jeep	531	1998	2529	21.00%

Another important factor in these dealership terminations was the type of brand dealerships that were affected. Retail distribution channels for new vehicles sales are often set up as franchised dealerships that typically sell vehicles manufactured by a single automaker. While it is common for franchised dealerships to sell multiple brands manufactured by an automaker, some franchises are setup as single-brand dealerships that exclusive sell a specific brand. For instance, Jeep branded vehicles were sold across 2,529 dealerships across the US, of which 531 were targeted for termination. However, not all these dealerships were structured in the same way, in regard to the brand of vehicles they sold. Of the 531 dealerships that sold Jeep branded

[24] Total terminated dealerships in Table 1 across all four brands equal 1,861 and not 789 because several dealerships sold vehicles of more than one Chrysler brand.

vehicles, and were asked to terminate, 157 were single-brand Jeep dealerships – that is, they only sold Jeep branded vehicles – and the remainder of the 374 dealerships sold Jeep branded vehicles along with one or more of Chrysler's other brands.

Overall, Chrysler's franchise network included a total of 300 single-brand dealerships that sold only Chrysler or Jeep brand of vehicles. Table 15 presents the proportion of single-brand dealerships that were affected by the task force's decision. Data demonstrate that both Chrysler and Jeep brands suffered a significant reduction in their single-brand dealerships as a result of the termination process. For instance, the 67 single-brand dealerships of Chrysler required to terminate represent about 83 percent of all single-brand dealerships that sold Chrysler branded vehicles exclusively. Likewise, Jeep's 157 single-brand dealerships, which were required to terminate, represented 78 percent of all single-brand dealerships that sold Jeep branded vehicles exclusively. All else equal, termination of single-brand dealerships is likely to have a greater impact on sales of a brand, than do terminations of dealerships that sell more than one brand. As such, the nature of dealerships terminations likely exacerbated the difference in the performance of the brands.

Table 15 The effect of Dealership Terminations on Chrysler Brands, by Dealership Type

Dealership	Total Dealerships Terminated	Single Brand Dealerships Terminated	Multi-Brand Dealerships Terminated
Dodge	429	0	429
Dodge Truck (RAM)	432	0	432
Chrysler	469	67	402
Jeep	531	157	374

Finally, I examine the impact of dealership closures on Chrysler's brands vis-à-vis their geographical locations. To do this, I identify the location of all dealerships that were terminated and map them to the US Census Bureau's 2010 data on urban-rural classification[25]. Table 16 presents data on the number of dealerships in rural areas that were terminated and survived as a part of the dealership rationalization strategy. The data highlight that all four brands were impacted to a similar extent with the share of rural dealerships terminated ranging between 22 percent and 25 percent.

Despite several assertions from the firm[26] as well as industry experts that domestic automakers, such as Chrysler, had a loyal customer base in rural markets because of their pickup trucks[27] (Nealson, 2010; Toljagic, 2009; Young, 2010), RAM dealerships were meted out similar treatments as the ones selling Chrysler branded vehicles that were popular in urban markets. On the other hand, Ford focused on closing dealerships in metro areas rather than in rural markets, with their then vice president of sales and marketing emphasizing that "protecting rural dealers because of our truck business" (Snell, 2009) was a strategic priority. As such, the differences in the nature of dealerships closures of Ford – that did not seek assistance from the government – and Chrysler further call into question the role of government and how that might have impacted brands such as RAM to a greater extent.

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[25] The Census Bureau identifies two types of urban areas: (i) Urbanized Areas (UAs) of 50,000 or more people, and (ii) Urban Clusters (UCs) of at least 2,500 and less than 50,000 people. "Rural" encompasses all population, housing, and territory not included within an urban area.

[26] Chrysler's spokesperson Kathy Graham suggested that Chrysler examined sales, market share, and local among other factors to decide which dealerships should close, adding that "Some dealers in rural areas were allowed to remain because of the strength of truck sales." (Samples, 2009)

[27] For instance, Dodge RAM pickup truck was the number one selling vehicle in the rural markets in Oregon before the financial crisis (The Wire, 2008).

Table 16 The effect of Dealership Closures on Rural Dealerships

Dealership	Terminated	Survived	Total	% Terminated
Dodge	46	156	202	22.77%
Dodge Truck (RAM)	48	156	204	23.53%
Chrysler	52	154	206	25.24%
Jeep	48	150	198	24.24%

Several experts shared concerns regarding the choice of dealership terminations that particularly affected the sales of RAM trucks in small and mid-sized towns (SIGTARP, 2010). The Auto Team proposed cuts across the board in metropolitan areas, hubtowns and rural areas, while several experts and the firms themselves disagreed with this approach. When consulted by the Office of the Special Inspector General for the Troubled Asset Relief Program (SIGTARP) as part of their audit on dealership terminations, the Center for Automotive Research (CAR) and J.D. Power and Associates, challenged the Task Force's mandate to terminate dealerships in rural areas, where Chrysler had an advantage over its foreign competitors such as Toyota, Honda, and Nissan (SIGTARP, 2010).

4.3.3 Government involvement in Chrysler's leadership and strategic decisions.

While the Obama administration maintained that the government did not want to be in the auto business and would take a hands-off approach, the Task Force believed that changing the

corporate culture at Chrysler was integral to its long-term success (Canis & Yacobucci, 2011)[28]. Although the government did not assign a representative to be a part of Chrysler's board, the Task Force was instrumental in the selection of executives and board of directors (Goolsbee & Krueger, 2015). The terms of the restructuring allowed Treasury to appoint four of the nine directors on the Chrysler board (Black, 2010) who played an influential role in management decisions in contrast to the former board which had little oversight on the management.

The TARP loan agreement also granted Treasury the right to approve "material transactions" (any asset sale, investment, contract, or commitment) over $100 million (Canis, et al., 2009) allowing them control over strategic investments of Chrysler. The bankruptcy law also granted a new investor (which the government was) the right to allocate capital however it chose (Rattner, 2010). In particular, Chrysler's partnership with Fiat that laid emphasis on promoting fuel efficient vehicles might have allowed the government to prioritize some brands over others resulting in the bailout affecting the brands heterogeneously. While the government insisted that it did not micromanage the decision making at Chrysler, the board appointed by the Task Force kept a tight leash on the management of the firm and the role of the Auto Team was far more than advisory and its influence was far beyond what the Treasury conceded.

Overall, two main insights emerge from discussion on the nature of government intervention Chrysler was subject to as part of its bailout. First, unlike the bailout of financial institutions, Chrysler's bailout was contingent on stringent conditions including rationalization of its product portfolio, changes in leadership, close monitoring by the Presidential Task Force, and operational factors that would ensure future viability. Second, the nature of dealership

[28] The While House, "Remarks by the President on General Motors Restructuring", June 1, 2009

terminations, as well as the government's involvement in Chrysler's management that allowed it control over strategic decisions lead to the general expectation that government's intervention had a heterogeneous impact on the brands of Chrysler. In the following section, I outline the empirical strategy employed in identifying how the intervention by government affected the performance of each brands.

4.4 Methods and Data

4.4.1 Analytical Method.

Unlike examinations of the impact of government bailout on financial institutions during the 2008 financial crisis that have access to a large sample of firms allowing use of standard statistical inference methods (Berger and Roman, 2015; Duchin and Sosyura, 2014) this setting results in a small data sample given the relatively fewer number of firms in the US automotive industry. Moreover, given the objective to identify the impact of government intervention on the performance of Chrysler's brands, a time-series analysis will be contaminated by the 2008 financial crisis that had widespread effect on the automotive industry as well as the broader economy. On the other hand, a simple comparison of brands of automakers that were bailed out with those that weren't would also be misleading since firms that received government assistance were likely to differ inherently from those that did not. To address this inference challenge, I employ the synthetic control technique, developed by Abadie & Gardeazabal (2003) that has been introduced in the management literature by Fremeth *et al.* (2016), which provides a systematic way to construct a counterfactual unit (a synthetic control), that closely resembles the treated unit on the key outcome measure but was not subject to the focal treatment. The impact

of the treatment (government's intervention) is then identified by comparing the performance of the treated unit (each of Chrysler's brands) with that of the synthetic control during the post-treatment period.

The following discussion illustrates the mechanics of the analytical approach through which a synthetic control is generated using Jeep, one of Chrysler's four brands, as an example. I start by creating a "donor pool" of control units comprising of all brands of US automakers that were not subject to government intervention. That is, brands of GM and Chrysler are excluded from the donor pool which were also bailed out via the federal government's Troubled Asset Relief Program. The donor pool consists of *K* brands where *k* = 1 to *k* = *K* are the potential comparison units that will comprise the synthetic control. Longitudinal data including the outcome and its predictors for Jeep's monthly sales volume and the control units are captured for a defined number of preintervention and postintervention period, T_0 and T_1, respectively. The intervention has no effect on either Jeep or brands in the control groups during T_0, however in T_1 Jeep is subject to government intervention, whereas other brands are not affected by it. The procedure then approximates the preintervention performance of Jeep to create a synthetic control by mathematically assigning weights to brands in the control group through an optimization process that minimizes the difference in the values of the predictor and outcome variables for Jeep and the synthetic control. The synthetic control can be represented by a ($K \times 1$) vector of weights W = (w_1,…, w_K), such that $0 \leq w_k \leq 1$ for each brand in the donor pool and $w_1 + \ldots + w_k = 1$. W is chosen to minimize the difference between the preintervention characteristics of Jeep and the synthetic control as follows:

$$\sum_{m=1}^{j} v_m (X_{1m} - X_{0m} W)^2 \qquad (1)$$

where X_1 is a ($J \times 1$) vector comprising the preintervention values of variables for Jeep and X_0 is a ($j \times$ K) matrix consisting of the same set of variables for brands in the control group. The central premise of the methodology is that when analyzing the effect of an intervention on a particular entity, a combination of comparison units – or the *synthetic control* unit – is better at reproducing the characteristics of the focal unit (Abadie, Diamond, & Hainmuller, 2015). The optimization process assigns a weight v_m to the mth variable in order to minimize the term $X_1 - X_0 W$ and construct a synthetic control that closely resembles Jeep's attributes in the preintervention period. In the postintervention period T_1, the effect of treatment is given by the comparison between the outcomes for Jeep and the synthetic control as follows:

$$Y_{1t} - \sum_{k=1}^{K} w_k Y_{kt} \qquad (2)$$

where Y_{1t} is the value of the outcome variable for Jeep in postintervention time period *t*, and Y_{kt} is postintervention outcome values for the kth control unit in corresponding time period.

As long as a good fit is achieved on the outcome variable between Jeep and its synthetic control based on a sufficiently large number of preintervention periods, the method is able to control for unobserved factors and heterogeneity of the effect of intervention on the observed and unobserved factors on the outcome (Abadie, Diamond, & Hainmuller, 2010). That is, as long as Jeep and the synthetic control exhibit similar behaviour in the preintervention period, any differences in the outcome variable in the postintervention period can be interpreted as the effect of the government intervention on Jeep. This procedure is then repeated separately for each of the other three brands of Chrysler.

4.4.2 Data.

I use monthly data on vehicle sales in the U.S. and complement it with other vehicle level attributes including price, fuel economy, engine size, valves per cylinder, weight, length, and the number of series and segments the automaker is active in. Where applicable, these variables are calculated as the weighted average of all vehicles sold by the firm in the corresponding month. These data are obtained for 19 major auto companies selling in the U.S. from WardsAuto, an auto industry data provider, for the sample period January 2005 to December 2012. The synthetic units are constructed based on a 48-month pre-treatment window which starts in January 2005 and ends in December 2008. The treatment period spans a 29-month beginning from January 2009 and ending in May 2011 when the government ended its intervention in Chrysler. The outcome measure for the analysis is the monthly sales volume of light vehicles sold by Chrysler and its brands.

4.5 Results

I start by presenting the overall results for Chrysler at the firm-level illustrated in Figures 10 and 11. Figure 10 presents the monthly sales volume of Chrysler and its synthetic – in the pre-intervention period (January 2005 – December 2008), the intervention period (Jan 2009 – May 2011), and the post-intervention period (June 2011 – December 2012) – to visually illustrate the comparison between their monthly sales volumes. The results indicate that prior to government intervention in January 2009, the performance of Chrysler and the synthetic control track each other closely indicating a good fit between their pre-intervention outcomes. However, during the period of government intervention (between the dotted vertical lines), Chrysler underperforms the synthetic control, indicating that Chrysler sold significantly fewer vehicles than it would have

in the absence of government intervention. Figure 11 charts the gap in the monthly sales volumes of Chrysler and its synthetic during the sample period. In terms of magnitude, the average difference between the monthly sales volumes of Chrysler and its counterfactual during the preintervention period was 511 vehicles (or 0.43% of monthly sales). On the other hand, during the time of government intervention, Chrysler sold 35,828 fewer vehicles each month (28.4% of monthly sales), on average, as compared to the counterfactual. This result is consistent with the findings of Fremeth *et al*. (2016) that Chrysler sold approximately 29% fewer vehicles than its synthetic counterfactual over the period of government intervention.

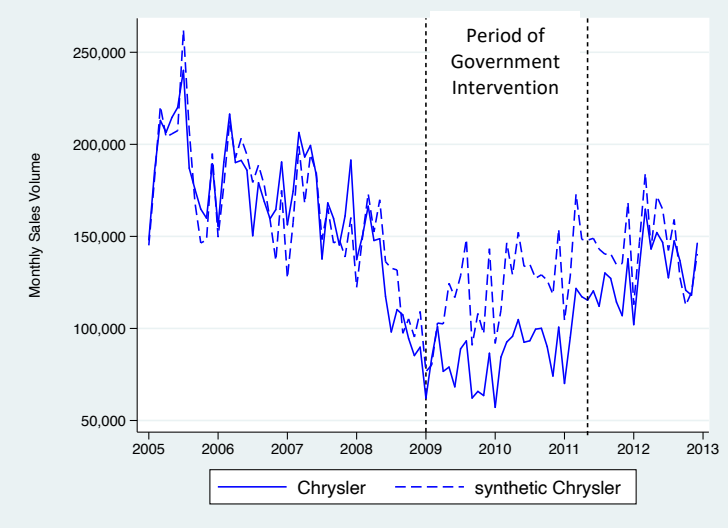

Figure 10 Chrysler's (Firm) and the Synthetic's Sales Volumes

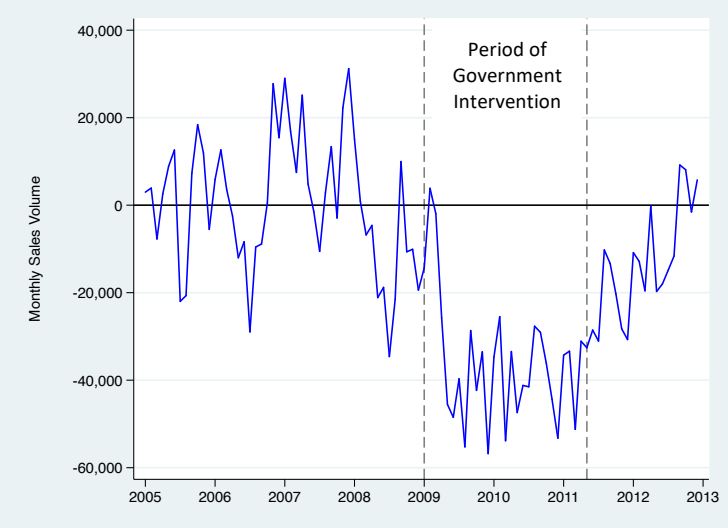

Figure 11 Difference between Chrysler's (Firm) Actual and Synthetics Sales Volumes

Next, I move on to my main analyses that examines the impact of government intervention on the brands of Chrysler – Chrysler, Dodge, Jeep, and Dodge Trucks (later rebranded as RAM). Chrysler's brands sold vehicles across several market segment groups targeted at diverse consumer groups – while Chrysler and Dodge produced vehicles that spanned several segment groups, Jeep focused primarily on Sport Utility Vehicles and RAM on Pickup trucks and vans (Table 17).

Table 17 Vehicle segment groups for Chrysler's Brands

	Chrysler	Dodge	Jeep	RAM
Cross Utility	✓			
Large Car	✓	✓		
Luxury Car	✓	✓		
Middle Car	✓	✓		
Medium Duty				✓
Pickup				✓
Small Car	✓	✓		
Sport Utility		✓	✓	

Van	✓	✓		✓

For the analysis at the brand-level, the donor pool used to construct the synthetic control consists of brands of automakers that were not subject to government intervention. Table 18 lists the donor brands of the synthetic control for each of the four brands of Chrysler. For instance, the synthetic control for the Chrysler brand comprises of – Ford (a brand of Ford), Lincoln (Ford), Mitsubishi (Mitsubishi), Suzuki (Suzuki), and Volkswagen (VW). The positive weight on these brands highlights the similarity in the fleets of vehicles sold under the Chrysler brand – which sold a mix of mid and large-sized cars, cross-utility vehicles, and vans – with those of the donor brands. Similarly, RAM that primarily sold pick-up trucks has a synthetic composed of Ford and Jaguar Land Rover whose vehicle fleets also comprised larger vehicles.

Table 18 Weights of Brands in Synthetic Brands of Chrysler and GM

	Chrysler Brands			
Control Firms in the Donor Pool	Chrysler	Dodge	Jeep	Ram
Daimler - Mercedes-Benz	0	0	0.589	0
Ford - Ford	0.197	0.142	0.13	0.209
Ford - Lincoln	0.206	0.174	0	0
JLR - Land Rover	0		0.193	0.791
Kia - Kia	0	0.431	0	0
Mazda - Mazda	0	0.252	0	0
Mitsubishi - Mitsubishi	0.5	0	0	0
Suzuki - Suzuki	0.056	0	0.087	0
VW - Volkswagen	0.042	0	0	0

Figures 12 and 13 present the results from the synthetic control procedure for the vehicles sold under the Chrysler brand. From Figure 12 it is observed that the monthly sales volume of

Chrysler and its synthetic control closely resemble each other before the bailout, suggesting that the synthetic control procedure was able to find a good fit between them in the pre-intervention period. However, during the period of government intervention, the monthly sales volume of the Chrysler brand consistently underperforms the synthetic control. Figure 13 visually illustrates the differences in the monthly sales volumes of Chrysler and its synthetic control during the sample period. In terms of magnitude, the difference in average monthly sales between the two during the pre-intervention period was 169 vehicles (0.9 % of monthly vehicle sales) however, during the time of government intervention, Chrysler's sales lagged that of the synthetic control by 16,787 vehicles each month (51.1% of monthly vehicle sales), on average. These results suggest that Chrysler significantly underperformed the synthetic control in the monthly sales volume during the period of government intervention.

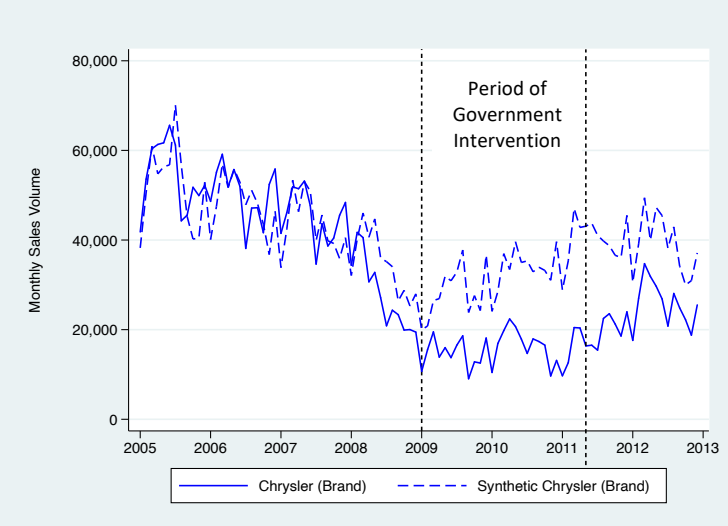

Figure 12 Chrysler's (Brand) and the Synthetic's Sales Volumes

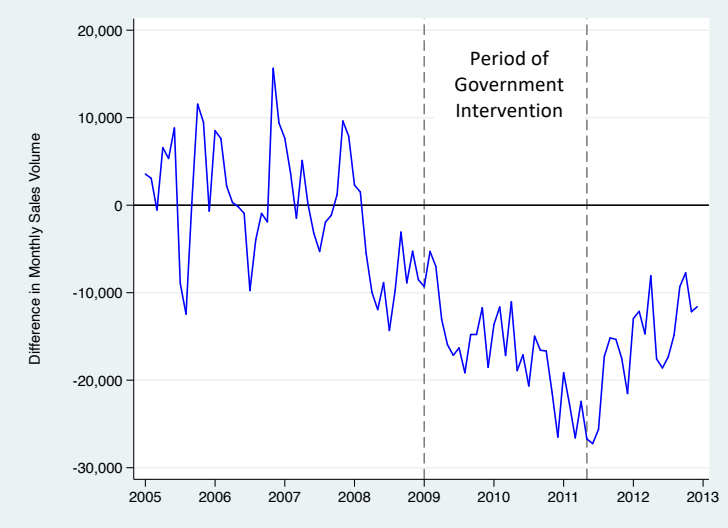

Figure 13 Difference between Chrysler's (Brand) Actual and Synthetics Sales Volumes

Figures 14 and 15 present the results from the synthetic control procedure for the vehicles sold under the Dodge brand. Results again indicate that during the period of government intervention Dodge consistently underperformed the synthetic. The average difference in the monthly sales volumes of Dodge and the synthetic control during the preintervention period was 718 vehicles (2.5 % of monthly vehicle sales). On the other hand, during the time of government intervention, Dodge's sales lagged that of the synthetic control by 8,251 vehicles each month (20.7% of average monthly sales), on average.

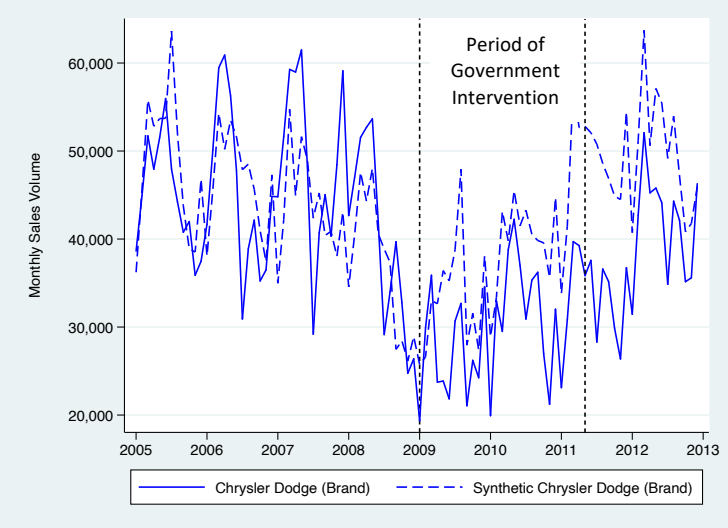

Figure 14 Chrysler Dodge's (Brand) and the Synthetic's Sales Volumes

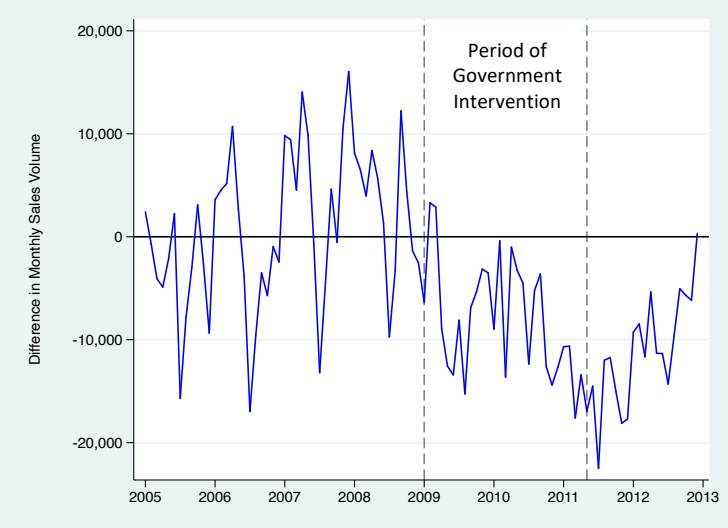

Figure 15 Difference between Chrysler Dodge's (Brand) Actual and Synthetics Sales Volumes

Figures 16 and 17 present the results from the synthetic control procedure for the vehicles sold under the Jeep brand. Magnitudes from table 19 indicate that the average difference between the monthly sales volume of Jeep and the synthetic control during the preintervention period was 551 vehicles (1.7 % of monthly vehicle sales). However, during the time of government

intervention, Jeep's sales lagged that of the synthetic control by 5,621 vehicles each month (19.1% of average monthly sales), on average.

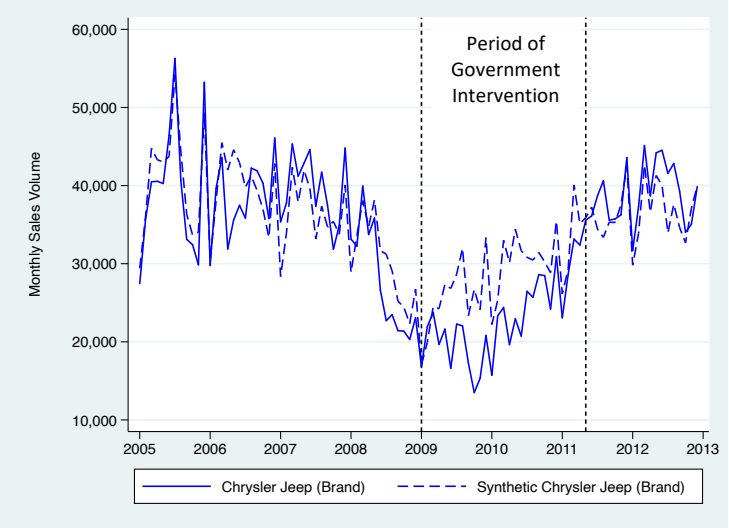

Figure 16 Chrysler Jeep's (Brand) and the Synthetic's Sales Volumes

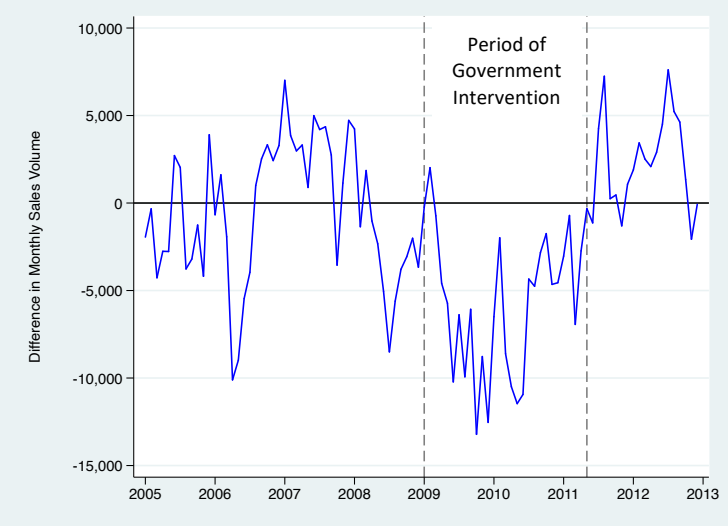

Figure 17 Difference between Chrysler Jeep's (Brand) Actual and Synthetics Sales Volumes

Finally, figures 18 and 19 present the results from the synthetic control procedure for the vehicles sold under the RAM brand. Table 19 indicates that the average difference between the monthly sales volumes of RAM and the synthetic control during the preintervention period was

289 vehicles (1.6 % of monthly vehicle sales). However, during the time of government intervention, RAM's sales lagged that of the synthetic control by 12,879 vehicles each month (40.4% of average monthly sales), on average.

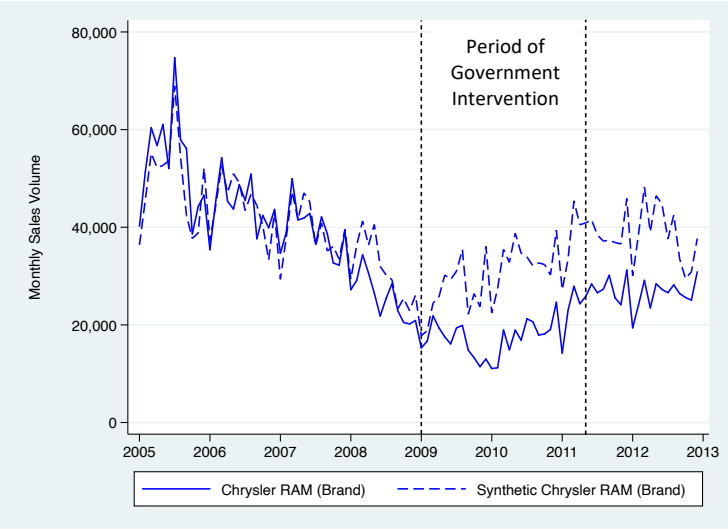

Figure 18 Chrysler RAM's (Brand) and the Synthetic's Sales Volumes

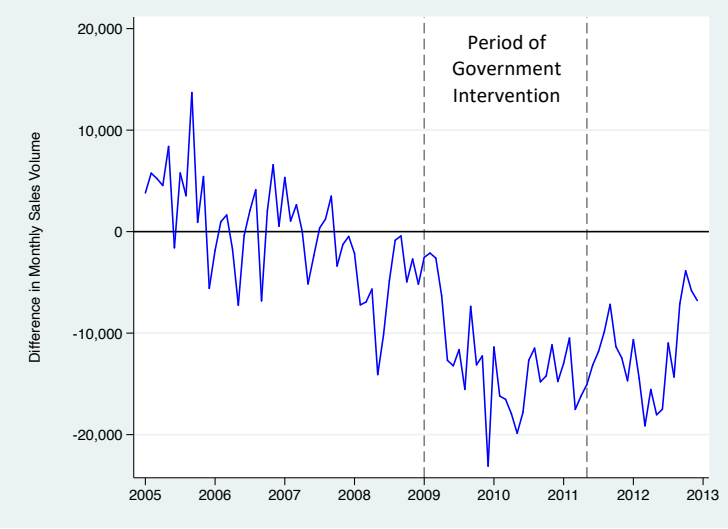

Figure 19 Difference between Chrysler RAM's (Brand) Actual and Synthetics Sales Volumes

Table 19 Difference between Chrysler Brands and their Synthetics before and during the government intervention

	Pre-Treatment Period	Treatment Period

Brand	(Jan 2005 - Dec 2008)		(Jan 2009 - May 2011)	
	Percentage	Amount	Percentage	Amount
Chrysler	-0.90%	-169	-51.10%	-16,787
Dodge	2.50%	718	-20.70%	-8,251
Jeep	-1.70%	-551	-19.10%	-5,621
RAM	-1.60%	-289	-40.40%	-12,879

Overall, Table 19 indicates that the synthetic control procedure was able to achieve a good fit between each of the brands and their respective synthetic controls during the preintervention period where the gap in monthly sales volume between them ranged between -1.7 percent and 2.5 percent. However, during the period of government intervention, all four brands substantially underperform their respective synthetic controls. More importantly, the results suggest that the bailout affected the brands differently as evidenced by the significant heterogeneity in their performance during the period of government. Chrysler was the most affected brand and experienced a reduction of more than 50 percent in its monthly sales volume, followed by RAM that underperformed its synthetic control by more than 40 percent. On the other hand, Dodge and Jeep saw relatively modest reductions of 20 percent and 19 percent respectively.

4.6 Discussion and Concluding Remarks

Macroeconomic shocks over the past two decades, such as those resulting from the Dotcom bubble in 2000, the US subprime crisis of 2008 or more recently due to COVID-19, have prompted governments around the world to come to the rescue of distressed firms through fiscal stimulus programs (Whoriskey, MacMillan, & O'Connell, 2020). In several jurisdictions, state

capital has come in the form of investments allowing governments to assume equity ownership in private enterprises and control over their management decisions. Yet, much less is known about how such government intervention affects firm performance when governments use firms as vehicles to promote political and social goals, such as in the recent case of Air Canada, or when the US Government bailed out the auto industry following the 2008 financial crisis.

This study contributes to the literature on corporate bailouts by presenting evidence on how interference by governments in strategic decisions permeates within firm boundaries to affect firm-level performance. The focus of my examination is on the US government's ownership and control over Chrysler, to understand its impact on the performance of Chrysler's four constituent brands. The study discusses the hands-on role of the government in Chrysler's strategic decisions in regard to mandated dealership terminations, changes in leadership, and control over strategic investments to argue how these had intrafirm repercussions that heterogeneously impacted the brands of Chrysler. In particular, I emphasize the government's decision to abruptly terminate a quarter of Chrysler's dealerships to present a qualitative assessment of why the government's intervention had a heterogenous effect on the brands' performance. Further, I demonstrate that the number and types of dealerships terminated, as well as their geographical location contributed to the relatively more adverse effects on the performance of Chrysler and RAM brands. In subsequent statistical analysis, I employ the synthetic control procedure to quantify the magnitude and direction of the effect of government intervention on the performance of Chrysler's brands. First, I find that Chrysler's monthly sales volume significantly underperformed that of its synthetic control, suggesting that government intervention adversely affected the performance of Chrysler. Second, I find that the four brands

of Chrysler – Chrysler, Dodge, Jeep, and RAM – sustained varying impacts as a consequence of government intervention.

A central argument of the study is that the stringent conditions associated with Chrysler's bailout that affected their day-to-day management decisions led to its overall adverse performance. To further probe this argument, I repeat the analysis for Chevrolet, a brand of General Motors', that accounted for 60 percent of its sales, on average, in the four years preceding the bailout. While GM also filed bankruptcy in 2009 and received government assistance through the Automotive Industry Financing Program, the conditions of its bailout differed significantly from those of Chrysler (Goolsbee & Krueger, 2015). While there was a strong case for bailing out GM based on its large market share and the subsequent impact on the industry supply chains, the bailout of Chrysler was more contentious given its relatively smaller size that did not pose a systemic threat, and a series of poor performances through multiple restructuring efforts even before the financial crisis. While eventually the Task Force decided to bail Chrysler out, the conditions for its bailout were relatively more stringent and required Chrysler to partner with Fiat, which agreed to acquire a 20 percent stake in Chrysler in return for technology transfer for small and fuel-efficient vehicles (Webel & Canis, 2012). Another key difference was the manner in which dealership terminations were managed across the two firms. While GM was also required to terminate a large share of its dealerships, the government afforded it a much more gradual timeline, and also allowed dealerships to appeal terminations resulting in 666 of the initial 1,454 dealerships required to terminate to be reinstated after arbitration. Table 20 lists the key differences in the bailout conditions for Chrysler and General Motors.

Table 20 Bailout conditions for Chrysler and GM by the Task Force

	General Motors	**Chrysler**
Automobile Industry Financing Program (AIFP) and conditions	Received $ 13.4 billion.	Received $ 4 billion
	Conditions on: - Executive compensation: Termination of benefit plans (including golden parachute agreements), no bonuses or incentives to the 25 most highly compensated employees. - Divesture assets such as private passenger aircrafts - Transactions above $100 million to be approved by the President's designee. - Weekly status reports and monthly certification on compliance with the expense policy.	
Factors identified for viability	1) Adopting a more realistic assumption of GM's market share 2) Improving pricing 3) Improving the mix of products to steer the company away from trucks and sport utility vehicles ("SUVs") 4) Reducing legacy liabilities such as employee pensions and health care costs 5) Reducing the number of brands and dealerships	1) Dedicating more research and development to each platform 2) Increasing product quality scores 3) Improving the product mix (adding more fuel-efficient autos) 4) Increasing manufacturing capability 5) Expanding outside NA to take advantage of developing markets.
Post-Bankruptcy Structure	Treasury - 60.8% Unsecured Creditors - 10% Governments of Canada and Ontario - 11.7% United Automobile Workers (UAW) - 17.5%	Treasury - 9.85 % Governments of Canada and Ontario - 2.46 % UAW - 67.7 % Fiat owned - 20%
Changes in Leadership	Replaced CEO Rick Wagoner and appointed ten of the thirteen directors on the board.	Appointed four of the nine directors on the board
Brand and Dealership Rationalization	Phase out or sell Saturn, Saab and Hummer brands which would reduce 30% of its dealer network. Another 1300 of its 6000 dealerships were to be closed by 2010.	Close 789 of its 3200 dealerships in 22 days.
Partnership with other Auto Manufacturers	N/A	1) Fiat received an initial stake of 20% in the New Chrysler in exchange for its technology and overseas distribution network. 2) At government's discretion, Fiat had the right to earn an additional 15% equity in Chrysler (in tranches of 5% each).

		However, Questions were raised on these as Fiat fared poorly in JD Power figures ranking 28th of 28 in UK satisfaction ranking which indicated that Fiat's cars were deemed unreliable in the European market.

Figures 20 and 21 illustrate the results from the synthetic control procedure that compares the sales volume of Chevrolet and its synthetic control during the sample period. The magnitude of the gap indicates that Chevrolet sold 13,800 (8.6% of monthly sales) fewer vehicles each month, on average, relative to the synthetic control during the period of government intervention. While the results suggest that the government intervention did affect Chevrolet's performance negatively, its magnitude was significantly muted as compared to Chrysler, whose brands underperformed between 19 percent and 50 percent during this period. These results further lend support to the argument that the extent of government's involvement had significant ramifications for the performance of Chrysler's brands.

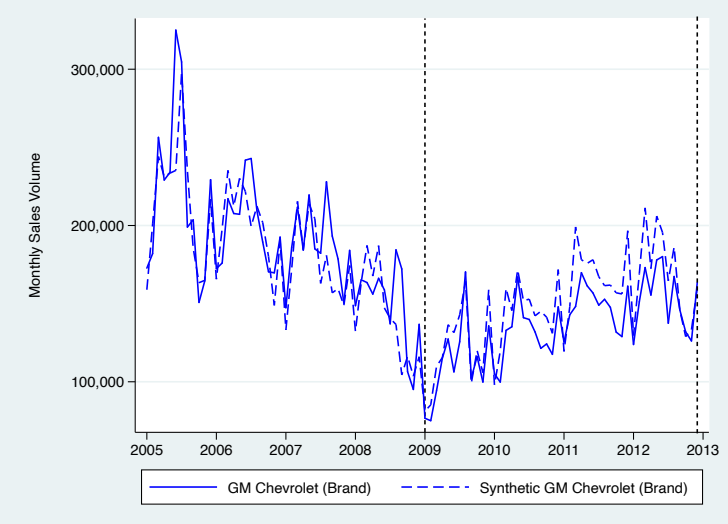

Figure 20 Chevrolet's and the Synthetic's Sales Volumes

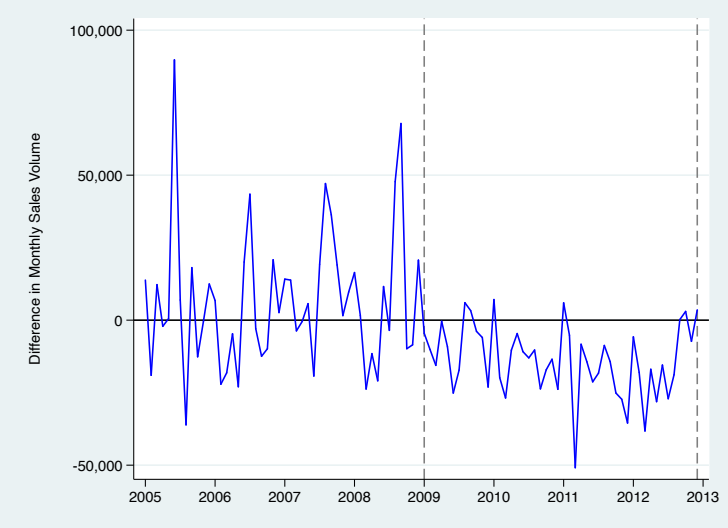

Figure 21 Difference between Chevrolet's Actual and Synthetics Sales Volumes

The findings of this study contribute to research on government intervention in private enterprises in two primary ways. First, it extends existing research, which has focussed on the role of state capital on firm behaviour, by demonstrating how involvement by government in the management of firms can significantly affect firms' performance. Through Chrysler's bailout, the government employed a hands-on approach that not only involved capital injection, but influenced key strategic decisions, and affected changes within the corporate culture. The study demonstrates how the conspicuous nature of these interventions affected the performance of Chrysler by heterogeneously affecting the performance of Chrysler's four brands. Second, this analysis contributes empirically to the ongoing debate in the literature where predictions of government intervention on firm performance have ranged from positive to negative. The study employs a novel methodology to generate estimates on how Chrysler performed vis-à-vis its synthetic counterfactual during the period of government intervention. The strength of the method lies in its transparent estimation of a counterfactual outcome for the treated unit

(Billmeier & Nannicini, 2013) and its ability to deal with endogeneity biases arising from time-varying unobservable confounders (Abadie, Diamond, & Hainmueller, 2010). As such, not only does this allow me to present an in-depth qualitative case-study of Chrysler's bailout, but also generate estimates to quantify the magnitude of the impact of government's intervention on Chrysler's performance.

This study is naturally subject to a host of limitations that lead to caveats in generalization of its results. First, it focuses on just one firm, Chrysler, in an industry characterized by relatively few firms. As such, the nature of government intervention as well as its impact on Chrysler might be contingent on the industry context and might not translate to firm bailouts in other contexts. Second, while the study presents qualitative arguments on the mechanisms through which government intervention affected Chrysler and its brands, I am unable to statistically test them due to unavailability of data. For instance, data on dealerships of other automakers and the nature of competition in geographic locations where Chrysler dealerships were terminated could allow for a better explication of the reasons for why Jeep underperformed to a lesser degree as compared to the Chrysler brand given that both suffered significant cuts to single-brand dealerships. Notwithstanding these and other limitations, this research makes a meaningful contribution to the literature on interactions between firms and governments by presenting new insights into the implications of state interference in private enterprises.

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