INSTITUTIONS BEHIND CORPORATE NONMARKET STRATEGY

by

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To my mother

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by

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This dissertation examines firm behavior that seeks to reach new institutions or change existing institutions. I specifically extend the research on firm behaviors regarding institutions that are either unfriendly or hostile to these firms. The essays of this dissertation are devoted to firm behaviors that change institutions using the theoretical framework of nonmarket strategies, such as corporate political activity and corporate social responsibility, including environmental management.

This dissertation is composed of three essays that capture these interests. The first essay (Chapter 1) probes the impact of private incentives that influence firm behaviors when lobbying for collective benefits from antidumping protection. Firms are often tempted to free ride on others' contributions toward common interests. This collective action problem may also be found in corporate lobbying for antidumping protection. While the literature examines many examples of mitigated collective action problems, research on the impact of new private incentives is rare. This study leverages a natural experiment setting provided by an antidumping regulation called the Byrd Amendment in order to examine whether new private incentives encourage firms to secure benefits via their own individual lobbying.

The second essay (Chapter 2) examines the new products of firms as a trigger for nonmarket strategies. This study investigates how firms' new products lead to individual corporate lobbying for regulations that favor these new products. Firms creating new products may gain competitive advantages from new products. However, the novelty of such products may also involve the risk of failure in the market. According to this study, if carmakers introduce eco-friendly vehicles, then these firms would undertake lobbying for effective environmental protection in order to shape the institutional environment so as to favor the success of the new products. At the same time, firms' engagement in lobbying for favorable regulations would be under the influence of an external factor regarding substitute products and an internal factor regarding firms' integrity-based management practices.

The third essay (Chapter 3) explores how firms' nonmarket strategy of lobbying for private benefits of antidumping protection is influenced by the factors of market competition in which the lobbying firms engage. I analyze the Byrd Amendment as providing private incentives for antidumping protection in order to evaluate the question of why some firms are active, but other firms remain inactive with regard to antidumping protection lobbying. By leveraging the setting of the Byrd Amendment, I probe the impact of factors such as firms' foreign-source profit, the degree of competition in the industry of firms, and firms' organizational age toward lobbying for private benefits. I find that firms' potential size of private benefits could affect the factors in a way that would increase lobbying for private benefits.

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CHAPTER 1

WHEN COLLECTIVE ACTION PROBLEMS SUDDENLY DISSIPATE: THE CASE OF THE BYRD AMENDMENT IN ANTIDUMPING PROTECTION

1.1 Synopsis

Firms are often tempted to free ride on others' contributions toward common interests. This collective action problem may also be found in corporate lobbying for antidumping protection. While the literature has examined many examples of mitigated collective action problems, little research exists with regard to the impact of the emergence of new private incentives. We explore the impact of the emergence of new private incentives in antidumping protection by leveraging a natural experiment setting provided by an antidumping regulation known as the Byrd Amendment. We test this impact of new private incentives in a sample of lobbying firms; we find that new private incentives alleviate collective action problems in antidumping protection. We also discuss the implications of our findings on private incentives in an antidumping context.

1.2 Introduction

> *Virtually no one would be so absurd as to expect that the individuals in an economic system would voluntarily curtail their spending to halt an inflation, … [because] the rational individual … will not be willing to make any sacrifices to achieve the objectives he shares with others (Olson, 1965: 166).*

As for-profit entities, firms endeavor to maximize their self-interests. Firms therefore often cooperate for common industry interests if these common interests enhance the firms' self-

interests. Common interests in this context may include collective benefits that will benefit all firms within an industry (Olson, 1965; Ostrom, 1990), such as protecting local markets from foreign competition (Ehrenhaft, 1958). Firms are drawn to political action in the form of corporate lobbying for trade protections such as antidumping in order to pursue collective protection benefits (Marsh, 1998; Schuler, 1996). However, firms are often tempted to free ride on other firms' contributions since the protection is conferred to the entire industry, regardless of how much a given firm contributes to the protection effort (Buchanan, 1968; Williamson, 1985).

This phenomenon is referred to as the collective action problem in antidumping protection. This collective action problem involves a situation in which "rational, self-interested individuals will not act to achieve their common or group interests" (Olson, 1965: 2). The early literature, beginning with Olson (1965), asserts that the collective action problem leads to no production of collective benefits due to a lack of contribution by any group member. However, the literature proposes two changes that can mitigate this problem: change in industry structure, and change in incentives (Olson, 1965). First, a change in the industry's size or composition may encourage voluntary contributions toward collective benefits (Hardin, 1982; Ostrom, 1990).

Second, change in the incentives that spawn private benefits may also encourage voluntary private contributions (Alchian & Demsetz, 1973; Sandler, 1992). Unfortunately, few studies have examined *how* the emergence of *new* private incentives may mitigate the collective action problem. Relatively little attention has been devoted to the nature of collective benefits such as the non-rivalry and non-excludability of collective benefits, particularly in analyzing the relationship between private incentives and collective benefits (Dawes, 1980; Hillman, Zardkoohi, & Bierman, 1999; Liebman & Reynolds, 2006; Musgrave, 1959; Samuelson, 1954).

This study, by paying attention to the context of antidumping protection where non-rivalrous and non-excludable collective benefits are conferred to an entire industry we leverage a natural experimental setting provided by an antidumping regulation called the Byrd Amendment.[1]

Enacted in 2000 and repealed in 2007, this short-lived regulation permitted the distribution of antidumping duties collected from foreign dumpers to local producers who were injured by the dumping (Lee & Baik, 2010; Liebman & Reynolds, 2006). These monetary distributions may be qualified as private incentives (Alchian & Demsetz, 1973; Reynolds, 2006). New private incentives were introduced during the period when the Byrd Amendment was enforced, and these private incentives were taken away when the Byrd Amendment was repealed due to controversy as a double subsidy. The short-lived Byrd Amendment accordingly provides a meaningful background for delving into the impact of introducing new private incentives on firm behavior regarding antidumping protections where the collective action problem prevails.

We argue that the emergence of new private incentives changes the potential private shares of antidumping protection from non-rivalrous and non-excludable to rivalrous and excludable. We further contend that new private incentives encourage firms to cease free-riding on others' lobbying; these incentives also encourage them to secure private benefits via their own individual lobbying. We show how the emergence of new private incentives affects firms' contributions to antidumping protection using a sample of lobbying firms over two phases: with

[1] The official title of this regulation is the Continued Dumping and Subsidy Offset Act (CDSOA). The Byrd Amendment was named after Senator Robert Byrd who proposed the bill. However, Senator Mike DeWine initially introduced it in 1999 during the first year of the 106th Congress. The first CDSOA raised questions concerning its legal validity, and therefore lacked sufficient political support (Schmitz & Seale, 2004). Senator Byrd introduced the updated CDSOA during conference committee negotiations at the end of the 106th Congress and inserted it into an unrelated piece of legislation ("The Agricultural Appropriations Act"). Congress then had to vote on its entirety without any review by relevant committees with expertise (Rus, 2007).

versus without private incentives from the Byrd Amendment. As a contribution to prior research, we find that motivating firms' voluntary lobbying are affected by new private incentives that alleviate collective action problems in the antidumping protection. Figure 1.1 illustrates our theoretical framework.

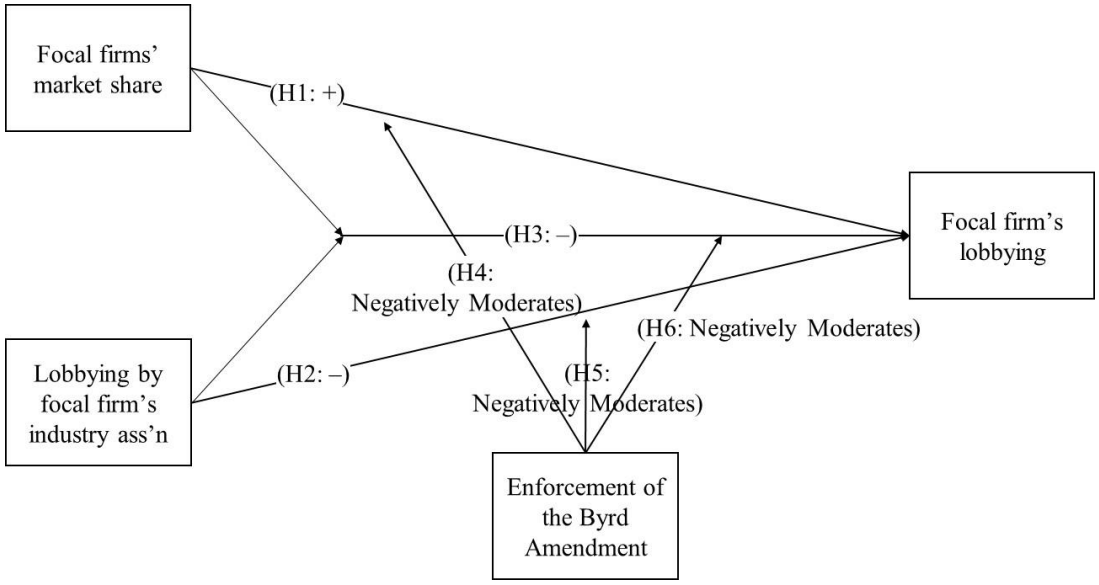

Figure 1.1. Theoretical Framework of the Arguments

1.3 The Collective Action Problem in Antidumping and Private Incentives

1.3.1 Collective Action and Free-Riding

Collective action is tied to collective benefits. Firms organize collective action in order to cooperate in achieving firms' common interests, that is, collective benefits (Olson, 1965; Ostrom, 1990). Since individual action is oriented toward the interest of the individual actor rather than the common interests of a specific group, individual action may not be appropriate for accomplishing common interests (Sandler, 1992). Instead, collective action is often more effective than individual action in the pursuit of common interests, given that firms coordinate

their common interests with other firms in organizing collective action (Eggertsson, 1990). Collective action is also more cost-efficient than the individual action of a single firm (Wilson, 1973). The costs of collective action individually distributed to each firm are smaller than the costs that a firm would have to bear when undertaking the action alone (Sabatier & Weible, 2007).

The effectiveness and efficiency of collective action mentioned above would persuade firms to organize for collective action when they seek collective benefits (Olson, 1965). However, collective action would also have its own inefficiency, which may originate from the two characteristics of collective benefits. First, collective benefits are non-rivalrous, in that any member of a group may enjoy them without any detriment to the benefits enjoyed by other group members (Samuelson, 1954; Sandler, 1992). Second, collective benefits are non-excludable. It is impossible to exclude any firms within a group from enjoying the benefits, even if these firms did not participate in efforts to secure these benefits (Musgrave, 1959; Ostrom, 1990).
Both the non-rivalry and non-excludability of collective benefits prevent any single firm within a group from *privately* enjoying the protection, even if a given firm bears the full cost to secure these benefits (Alchian & Demsetz, 1973; Eggertsson, 1990). It is therefore natural that each firm would not consider bearing the full costs of securing the collective benefits (Jones, 1984; Olson, 1965). Instead, group members would demonstrate free riding (Albanese & van Fleet, 1985; Alchian & Demsetz, 1972).

Free riding refers to an opportunistic behavior performed in order to "secure the benefits without contributing to the cost" (Buchanan, 1968: 87; Williamson, 1975). When a group shares a common interest pertaining to collective benefits, the members of the group *rationally* attempt

to avoid pursuing action to secure the collective benefits for the group (Olson, 1965; Sandler, 1992). Rather, these members would hope that other members make efforts to secure the collective benefits at the other members' own personal cost (Hayes, 1981). Ultimately, individual members may enjoy collective benefits without bearing any costs (Hillman et al., 1999; Marwell & Ames, 1979).

1.3.2 A Solution: Private Incentives

As mentioned above, the collective action problem may originate from non-rivalry and non-excludability, the characteristics of collective benefits. The literature proposes several solutions to the collective action problem, which elucidate these two characteristics. To this end, private incentives may be the best solution because private incentives ensure rivalry and excludability.

Private incentives refer to the benefits conferred exclusively to a natural or legal person (Alchian & Demsetz, 1973; Demsetz, 1967). Contrary to collective benefits, private incentives are both rivalrous and excludable. When a private incentive is conferred to individual group members, the private incentive does not operate collectively for the whole group, but rather *privately* for members who secure the benefit (Samuelson, 1954; Sandler, 1992). Furthermore, private incentives permit the cost-bearing claimant to exclude others from enjoying the benefits (Musgrave, 1959; Ostrom, 1990). The private shares of collective benefits shall therefore be reserved only for participants who contributed to the collective benefits if a private incentive is introduced into a setting where collective action problems exist (Dawes, 1980).

The collective action literature has explored how firms behave when they are provided with a private incentive (Hardin, 1982; Olson, 1965; Ostrom, 1990; Sandler, 1992). However,

the question involves how firms behave differently toward collective benefits with the emergence of private incentives vis-à-vis the absence of these incentives. In particular, the dynamic change of a firm's free-riding behavior, with or without private incentives, has been relatively unexplored. In order to analyze such changes, before and after the emergence of private incentives, we employ a research context of antidumping protection and antidumping legislation called the Byrd Amendment.

1.3.3 Case: Corporate Lobbying for Antidumping Protection and the Byrd Amendment

Dumping refers to selling a product below the cost of production in different markets (Lash, 1998). The purpose of antidumping regulation is to protect domestic producers from unfair foreign competition by charging extra duties on imports (Irwin, 2005). Local firms within the protected industry may not incur further injury from dumping behaviors when antidumping protection is enacted (Ehrenhaft, 1958).

Antidumping protection can be deemed as a commodity sold and bought within a political market, given that domestic producers frequently engage in corporate lobbying (Grossman & Helpman, 1994; Hayes, 1981; Hillman & Keim, 1995).[2] However, all firms within the industry enjoy antidumping protection, since it is awarded to a particular industry as a whole (Irwin, 2005). Therefore, antidumping protection is a collective benefit conferred to all firms operating within an industry (Hillman et al., 1999).

Since non-contributing firms are not excluded from enjoying antidumping protection, firms would be tempted to free ride with respect to other firms' spending on lobbying for

[2] The implementation of antidumping protection begins with a petition (Buchanan, 1985; Lash, 1998); however, the final decision for antidumping within a given industry may be attributed to corporate lobbying (Lenway & Rehbein, 1991; Marsh, 1998; Reynolds, 2006; Schuler, 1996; Tullock, 1967).

antidumping (Lenway & Rehbein, 1991). This temptation to free ride among firms may bring about collective action problems for antidumping protection (Dawes, 1980; Olson, 1965). Firms would be incentivized to withhold their spending on lobbying for antidumping, even if the firms' industry as a whole requires antidumping production, which leads to a suboptimal appropriation of antidumping production for the industry and its member firms (Green & Shapiro, 1994; Hayes, 1981; Samuelson, 1954).

In the real world, however, voluntary contributions are made to secure antidumping protection. These voluntary contributions improve inefficiency in the production of antidumping protection (Johansen, 1977; Margolis, 1981). Among the antecedents that encourage voluntary lobbying for antidumping, we contend that the Byrd Amendment played a critical role in improving economic inefficiency by its distinguishing feature: direct fund distribution. Before the Byrd Amendment was enacted, injuries from dumping were irreparable. Firms expected that antidumping protection would prevent probable future injury by deterring further dumping, even though the injury from dumping is irreparable (Ehrenhaft, 1958; Irwin, 2005). However, the Byrd Amendment ruled that the antidumping duties collected from foreign producers should be distributed to injured domestic producers.

In the context of the Byrd Amendment, firms must claim themselves as injured parties in a dumping case in order to receive a distribution. The emergence of new private incentives made the private benefits of antidumping protection rivalrous and excludable, and the protection benefits were more likely to benefit contributing firms. This may then rule out the temptation to free ride on other firms' antidumping lobbying (Schmitz & Seale, 2004; Tullock, 1967). Thus,

we contend that the Byrd Amendment introduced private incentives for direct fund distribution into conventional antidumping protection, thereby alleviating collective action problems.

1.4 Antecedents of the Collective Action Problem versus Private Benefits

The traditional collective action literature finds that several antecedents encourage voluntary contributions and discourage free riding among group members (Dawes, 1980; Hardin, 1982; Sandler, 1992); antidumping protection is not an exception. We find that not all firms within an industry withhold their lobbying to secure the antidumping protection when pure private incentives do not exist (Hillman, Keim, & Schuler, 2004; Lenway & Rehbein, 1991). Such antecedents may warrant researchers' attention in order to answer the following questions. What antecedents (dis)incentivize firms' voluntary lobbying for antidumping in the absence of private incentives?

In developing hypotheses, we first examine a context where private incentives are not so apparent (no Byrd Amendment in place) and show what makes firms to lobby for antidumping protection. Then, we introduce a context where private incentives emerge (under the Byrd Amendment) and argue how the emergence of private incentives changes the lobbying behavior of the firms. Thus, below we first make arguments when firms lobby more than others under an environment where collective action problems vividly exist.

1.4.1 Firm Stakes in Collective Benefits

One of the important antecedents is the size of each member's stake in the collective benefit. If members expect the shares to exceed the costs incurred then they may voluntarily contribute (Caves & Porter, 1977; Ostrom, 1990; Schuler, Rehbein, & Cramer, 2002). Whether

firms free ride or voluntarily lobby may also depend on the size of the firms' stake in antidumping protection.

Firms with smaller stakes may withhold their spending on lobbying for antidumping because the expected benefits of protecting their market stakes may be too small to cover the cost of lobbying (Liebman & Reynolds, 2006; Mann & McCormick, 1980). Firms with smaller stakes may therefore hold back on individual lobbying for antidumping and hope to free ride on other firms with larger stakes (Hayes, 1981; Schuler, 1996). In contrast, firms with larger stakes within a given market may acquire greater benefits from antidumping protection than firms with smaller stakes (Mann & McCormick, 1980). When firms' stakes are large then dumping by foreign producers is more detrimental (Liebman & Reynolds, 2006). Firms with larger stakes may therefore voluntarily bear the costs of individual antidumping lobbying since the portion of the private benefit is still sufficiently large for collective benefits (Marwell & Ames, 1979).

The motivation of firms with larger stakes toward voluntary lobbying may accordingly remain valid even if other firms within the same industry do not share the burden of lobbying costs (Lenway & Rehbein, 1991; Sandler, 1992). Although some firms may free ride, the industry as a whole does not completely lose antidumping protection due to the contributions of larger stake-holding firms (Marsh, 1998). We therefore argue:

> HYPOTHESIS 1. *A focal firm's stake in collective protection will be positively associated with the firm's antidumping lobbying.*

1.4.2 Collective Action via Trade Association

The decision in terms of whether to lobby alone (independently) or with other firms is one of the key decisions in corporate political strategy (Hillman & Hitt, 1999). As a way to coordinate lobbying, firms operating within certain industries work together and allow their trade

associations to undertake lobbying for antidumping protection on behalf of member firms. A trade association refers to a special interest group representing firms' common interests within a specific domain and exerting influence in seeking common interests (Aldrich & Staber, 1988; Wilson, 1973). Trade associations are composed of a relatively small number of members and accordingly, among member firms, develop a "high degree of organization of business interests" compared to the interest groups of individuals such as workers or consumers (Olson, 1965: 143). Trade associations are therefore, "the most active sector of the interest group community" (Drope & Hansen, 2009: 304). In particular, lobbying is a typical trade association activity that voices member firms' coordinated interests regarding collective benefits (Grossman & Helpman, 2001; Knoke, 1988).

Lobbying via trade associations presents the advantages of collective action that may not be found in individual lobbying (King & Walker, 1992). Among others, the first notable representational advantage is a unified voice toward policymakers regarding the common interests of association members. Policymakers regard associational activities as evidence of industry-wide concerns that might not have been accurately captured by individual firm actions (Drope & Hansen, 2009). These industry-wide concerns delivered by trade associations cannot be dealt with lightly by policymakers (Bauer, Pool, & Dexter, 1972). Organized efforts such as trade association activities are therefore more efficient in communicating collective action than individual efforts (Grier, Munger, & Roberts, 1994).

The second notable representational advantage is lower costs, thanks to the member contributions to trade association activities. The costs of associational activities are reasonably distributed among trade association members, generally in the form of membership dues

(Wilson, 1973). The compulsory characteristic of such payments prevents firms from easily avoiding membership dues, and the distributed costs are smaller than the entire costs that a single firm would bear with individual effort instead (Sabatier & Weible, 2007). Associational activities may accordingly provide a way for member firms to save costs (Bresser, 1988; Marsh, 1998).

These representational advantages incentivize firms to depend on associational activities for antidumping protection. Firms voluntarily organize trade associations in order to coordinate each firm's interests, cooperate in achieving common goals, and alleviate collective action problems (Eggertsson, 1990; Ostrom, 1990). Given that the characteristics of the collective benefits from antidumping protection may dissuade firms from engaging in individual lobbying, firms may be more likely to engage in lobbying through trade associations on the behalf of member firms (de Figueiredo & Tiller, 2001). Firms affiliated with trade associations that engage in antidumping lobbying may then spend less on individual lobbying (King & Walker, 1992). We therefore argue:

> HYPOTHESIS 2. *Antidumping lobbying by a focal firm's trade association will be negatively associated with an individual firm's antidumping lobbying*.

1.4.3 Firm Stakes and Lobbying by Trade Associations

The extent of any reduction in firms' individual lobbying thanks to trade associations may differ across each firm's stakes. The literature contends that the interests of firms with larger industry stakes are not necessarily the same as those of other members with smaller stakes due to industry composition (Barnet, 2013; Bombardini & Trebbi, 2012; Schuler et al., 2002). If the common antidumping interests within an industry are not aligned with those of firms with larger stakes, then these larger stake holders may not pursue their interests through trade associations. Instead, such firms may undertake their own lobbying. In contrast, firms will have few problems

in terms of depending on associational lobbying within an industry where the benefits of lobbying coincide with the protection needs of firms with larger stakes.

Heterogeneity in terms of the individual lobbying by firms with larger stakes may originate from both the degree of firms' stakes in antidumping protection and the level of the advantage of associational lobbying for antidumping. As long as the lobbying facilitates antidumping protection, however, the stakes of firms in the collective benefits may be protected, even if the firms' trade association undertakes the lobbying (Ehrenhaft, 1958; Hillman et al., 1999). Thus, when firms with larger stakes belong to trade associations that engage in lobbying for antidumping, these firms with larger stakes may reduce their individual lobbying for antidumping and increase the dependence on the associational lobbying. Therefore, such a firm would reduce their individual lobbying for antidumping further and would increase its dependence on associational lobbying.

> HYPOTHESIS 3. *The larger the lobbying effort by a focal firm's trade association, the more the focal firm's stake will be negatively associated with the focal firm's antidumping lobbying.*

1.5 When Private Incentives Are Introduced in an Antidumping Protection

If private incentives are introduced to collective benefits, the private shares of collective benefits would be reserved only for the members of a group who contribute in terms of securing the collective benefits (Dawes, 1980). Accordingly, the members of a group to whom the collective benefits are conferred would attempt to appropriate the private shares of the benefits individually (Musgrave, 1959; Ostrom, 1990; Samuelson, 1954; Sandler, 1992).

We previously argued that the Byrd Amendment brought about the private incentives of direct fund distribution and alleviated collective action problems in conventional antidumping

protection. The Byrd Amendment introduced new private incentives for direct fund distribution which encouraged firms to undertake individual lobbying for antidumping protection if they pursued such funding. These monetary distributions provided to individual firms are commensurate with the size of firms' injuries (Reynolds, 2006; Sandler, 1992). Firms may directly secure the expected private benefits from antidumping protection and the private benefits redeemed are distributed unequally in accordance with firms' individual claims (Demestz, 1967; Olson, 1965). Furthermore, private incentives may transform the private benefits of antidumping protection into rivalrous and excludable benefits. Given the lack of objective measures concerning firm dumping injuries, firms may not expect full private benefits from antidumping protection unless they contribute to protection (Alchian & Demsetz, 1973; Moore, 1995).

Building on these past research streams, we explain how private incentives would pan out, depending on the managerial influence regarding firms' lobbying, lobbying by firms' trade associations, and the influence of both.

1.5.1 Firm Stake in Antidumping Protection

Previously we argued that the larger a firm's stake in antidumping protection, the more likely the firm will engage in lobbying for protection in an environment where a collective action problem exists. This may not be the case when new private incentives are introduced because private incentives motivate firms to undertake individual lobbying for their own protection. However, the level of motivation from private incentives may be higher for firms with smaller versus firms with larger stakes.

Firms with smaller stakes often free ride on antidumping protection because their expected private share of the collective protection benefits may be smaller than the costs of

antidumping lobbying (Schuler, 1996). However, free riding on other firms' lobbying may not grant private benefits when new private incentives are introduced. Private antidumping protection benefits may be better granted by a firm's individual lobbying efforts due to these private incentives (Olson, 1965; Sandler, 1992). Free riders under collective action now may increase their commitment toward antidumping protection in order to secure private benefits in an environment where private incentives make these benefits rivalrous and excludable (Alchian & Demsetz, 1973; Moore, 1995). Firms that were less interested in participating in lobbying due to smaller stakes may suddenly become interested in lobbying following the emergence of private incentives (Schmitz & Seale, 2004).

Firms with larger stakes would also have stronger lobbying motivations than before the emergence of private incentives. Nevertheless, these motivations would not be strong enough to increase lobbying significantly, particularly vis-à-vis their competitors with smaller stakes. Firms with larger stakes had enough incentives to engage in individual lobbying even when private incentives were not institutionalized, and so the emergence of new private incentives may not have as significant an impact versus their counterparts with smaller stakes (Lenway & Rehbein, 1991; Marsh, 1998). The motivating effect of new private incentives would *not* be significantly large for firms with *larger* stakes compared to *smaller* stakes. We argue:

> HYPOTHESIS 4. *A focal firm that is less incentivized to lobby due to small stakes will lobby more for antidumping following the emergence of new private incentives such as the introduction of the Byrd Amendment.*

1.5.2 Collective Action via Trade Association.

The emergence of new private incentives may diminish the representational advantages of trade associations on antidumping lobbying. First, private incentives are not entitled

collectively to the whole group, but individually for each group member (Lash, 1998; Olson, 1965). Second, trade associations may not be qualified as injured parties in antidumping, and trade associations accordingly do not aim to produce private benefits awarded to individual firms (Doner & Schneider, 2000; Knoke, 1988).

This contraction of representational advantages due to the emergence of new private incentives has a greater influence on firms that previously depended more on antidumping lobbying by their trade associations than on less dependent firms (King & Walker, 1992; Liebman & Reynolds, 2006). Less dependent firms may not suddenly increase their own lobbying following the emergence of new private incentives since they were not interested in seeking protection benefits via trade associations at the first place. Only firms that depended on associational lobbying would likely increase individual lobbying at the emergence of new private incentives.

The reliance on trade associations without self-lobbying may allow a firm's potential private benefits to be captured by others (Olson, 1965; Ostrom, 1990). Firms must therefore undertake their own antidumping lobbying in order to avoid a reduction in private benefits (Alchian & Demsetz, 1973; Wilson, 1973). Firms with considerable private incentives may accordingly reduce their dependence on associational lobbying and increase self-lobbying. In contrast, firms that are less dependent on trade associations may have less need or interest in reacting to new private incentives. Firms that are dependent on associational lobbying, however, may increase individual lobbying with the emergence of private benefits versus firms that depend less on associational lobbying.

HYPOTHESIS 5. *A focal firm that is less incentivized to self-lobby due to associational lobbying will lobby more for antidumping following the emergence of new private incentives such as the introduction of the Byrd Amendment.*

1.5.3 Firm Stakes and Association Lobbying

The attenuating effect of private incentives on associational lobbying may be remarkable, particularly if lobbying was conducted by trade associations primarily on behalf of firms with larger stakes. Lobbying by trade associations may be cost-efficient in securing private benefits for firms with larger stakes (Ehrenhaft, 1958; Hillman et al., 1999; Knoke, 1988). Thus, firms with larger stakes relying more on the associational lobbying might undertake less individual lobbying.

The table is turned when new private incentives are introduced. Firms with larger stakes that depended more on associational lobbying would suddenly find that private benefits cannot be adequately captured by associational lobbying. Since private incentives make benefits rivalrous and excludable, an unchanged dependence on trade association without individual lobbying may reduce a firm's private share of antidumping protection that is captured by other firms undertaking individual lobbying (Belderbos, 1997; Knoke, 1988). Moreover, this reduction of dependence on associational lobbying may be more detrimental to firms with larger stakes because their size of potential private benefits is greater (Buchanan, 1985; Tivig & Walz, 2000).

New private incentives would then lead such firms to engage more individual lobbying versus firms with similar larger stakes that are less dependent on associational lobbying.
In contrast, new private incentives may provide less motivation to increase voluntary individual lobbying for firms with larger stakes that rely less on associational lobbying. Antidumping protection provides benefits to all firms regardless their level of contribution to collective

benefits when there are few extant private incentives. However, firms that depend less on associational lobbying might have been lobbying at the maximum level of individual lobbying even with the little private incentive (Barnet, 2013; Bombardini & Trebbi, 2012). The motivating effect of new private incentives would therefore not be significant for firms with larger stakes that rely less on associational lobbying. Therefore, private incentives may change the co-influence of the size of firm stakes and association lobbying such that private incentives would motivate larger stake holders that are more dependent on associational lobbying to increase their own lobbying.

> HYPOTHESIS 6. *A focal firm with the larger stake that is more dependent on associational lobbying will lobby more for antidumping following the emergence of new private incentives such as the introduction of the Byrd Amendment.*

1.6 Methods

1.6.1 Sample and Data Sources

We test our hypotheses by drawing on an initial sample of U.S. firms that engage in corporate lobbying. We obtain data on corporate lobbying by all domestic firms regarding the issue of trade and tariffs from local manufacturing industries (SIC codes 2000 to 3999) since 2002. The data on the annual amount of lobbying per firm come from the U.S. Senate.[3] We also check the Center for Responsive Politics[4] as a complement to this data. The data from the Senate are based on reports filed with the Senate Office of Public Records (OPR) in accordance with the Lobbying Disclosure Act of 1995.

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[3] The data is available from the website of the Lobbying Disclosure Act Database of the U.S. Senate: http://soprweb.senate.gov/index.cfm?event=selectfields.

[4] The data is available at the website of the Center for Responsive Politics: http://www.opensecrets.org.

We obtain the remaining data on firms and industries from COMPUSTAT. We identify 2,371 observations of firms that engage in corporate lobbying regarding the issue of trade and tariffs from 2001 to 2014, and we then compare lobbying between the years 2001 to 2007 when private incentives were available from the Byrd Amendment as well as the years 2008 to 2014 when few private incentives were available due to the Byrd Amendment's repeal.

1.6.2 Measures

Dependent Variable. For the dependent variable we measure corporate lobbying as the ratio of the annual total firm spending on lobbying for trade and tariff issues divided by the total annual industry spending on lobbying for the same issues. We endeavor to capture the relative weight of firms' lobbying from the entire industry, given that both antidumping protection and the collective action problem take place within the same industry. We calculate the total spending on lobbying per industry based on SIC codes. We analyze the influence of firms' stakes and associational lobbying during a given year (*t*) on annual corporate lobbying spending during the subsequent year (*t+1*) using the corporate lobbying amount from the subsequent year as the dependent variable.

Independent Variables. For the independent variable of *the lobbying firm's stake in antidumping protection* we compute the market share of each firm available in COMPUSTAT based on the four-digit SIC codes during the given period between 2001 and 2014. We measure the independent variable of *associational antidumping lobbying* by a firm's trade association as the ratio of the total annual spending by a trade association on lobbying for trade and tariff issues to the total annual spending for the whole industry to which the association belongs. We

calculate the total spending on lobbying per industry according to the contributions by industry, and the interest group as classified by the Center for Responsive Politics.

Moderating Variable. With respect to the moderating variable for *the influence of private incentives* we adopt a dummy variable indicating whether the period covered is during the Byrd Amendment's active period (1) or not (0); this variable indicates whether the year of the data belongs to the range from 2001 to 2007 versus from 2008 to 2014.

Control Variables.[5] We include several firm-level control variables in order to control for a firm's financial status and capability effects. First, we include *firm size* using the natural logarithm of the firm's book value of total assets (Martin, Gomez-Mejia, & Wiseman, 2013); *firm age* measured by subtracting the incorporating year from the current year (Lee et al., 2008); and *firm growth* as the firm's market to book value of its total assets (Chung & Pruitt, 1994).

Arguing that private incentives affect firms' corporate lobbying behavior, we control for antecedents that may also influence corporate lobbying. First, we control for *firm performance* using the return on assets (ROA) for the preceding year since prior CPA literature posits that a firm's previous profitability may generate greater leeway for current corporate lobbying due to additional available profits (Masters & Keim, 1990; Ozer & Lee, 2009). Second, we control for *industry concentration* (Schuler et al., 2002) using the Herfindahl index calculated for each SIC code in our sample since concentrated industries are more likely to discourage firms from free riding versus fragmented industries (Flammer, 2015; Grier et al., 1994). Firms operating within

[5] We did not include year dummies since any temporal variation which may exist in the dependent variable due to the dataset's panel structure is reflected into the moderating variable for the enactment of the Byrd Amendment.

concentrated industries are accordingly more incentivized to voluntarily engage in collective benefits (Schuler et al., 2002).

Third, we control for *R&D intensity* using the ratio of a firm's total research and development (R&D) expenditures to its total sales (Ozer & Lee, 2009). Firms with greater R&D expenditures may undertake additional political action in order to secure information on public policy related to the industry of such firms, thereby enforcing favorable policy-making (Alt, Carlsen, Heum, & Johansen, 1999). Fourth, we control for *foreign-source profits* using the ratio of a firm's foreign profit to its total profit. Firms with a substantial foreign profits are motivated to reflect their interests in legislative process where foreign trade policy is established as well as the administrative process in which these policies are implemented (Martin, 1995; Schuler, 1999).

We also attend to the potential influence on CPA as exerted by organizational slack and long-term corporate debt (Garvey & Hanka, 1999; Schuler et al., 2002). Among the three distinctive categories of absorbed, unabsorbed, and potential slack we find that unabsorbed slack functions as the financial buffering mechanism that affords the greatest amount of corporate political activity (Greve, 2003). We accordingly include a control for *unabsorbed slack* by using the current ratio as the ratio of current assets to current liabilities (Iyer & Miller, 2008). For long-term corporate debts we include a control for *leverage* as the ratio of long-term debt to the book value of total assets (Flammer, 2015). Finally, we include dummy controls for potential heterogeneity across industries following the classification based on the SIC codes, since industry classification affects a firm's political activities, including corporate lobbying (Grier et al., 1994; Reynolds, 2006).

1.6.3 Statistical Analysis

Model. We use ordinary least squares (OLS) models with fixed effects estimation procedures, given that we analyze the main and moderating effects, focusing on the probable change in individual firms within the given dataset panel structure. The Hausman test (Hausman, 1978) results also support the employment of fixed effects estimation procedures. We further adopt a robust estimation procedure for the whole period in order to obtain consistent standard errors; this alleviates probable heteroscedasticity and autocorrelation within the same cluster or the same firm (Bramati & Croux, 2007).

Adjustment for Self-Selection. Our dataset may be exposed to self-selection bias because we exclude firms that do not undertake corporate lobbying for hypotheses testing. We control for this selection bias by adopting Heckman's two-stage procedure (Heckman, 1979; Shaver, 1998). During the first stage we construct corporate lobbying as a binary variable set as 1 in the case of participation in corporate lobbying, and 0 for no lobbying activity; we leverage this dichotomy as the dependent variable of our binary probit regression. By using this probit regression on all of our model variables except for the original dependent variable we estimate a selection equation predicting the probability that a given firm will engage in corporate lobbying. Table 1.1 shows the results for the probit regression. We then estimate the inverse Mills ratio from this selection equation into the OLS models when estimating the degree of corporate lobbying activity (Wooldridge, 2002).

Table 1.1. Probit Model Results [a]

Variable	Probit Model
Industry dummies	Included
Firm size	0.412***
	(0.047)
Firm age	0.009*
	(0.004)
Firm growth	-0.026
	(0.034)
Firm performance	0.213
	(0.287)
Industry concentration	0.257*
	(0.151)
R&D intensity	-0.163
	(0.147)
Foreign-source profits	0.006
	(0.007)
Organizational slack	0.009
	(0.016)
Leverage	-0.717**
	(0.279)
Firm's stake	2.816**
	(1.224)
Associational lobbying	-0.772*
	(0.464)
Enforcement of the Byrd Amendment	0.029
	(0.066)
Degrees of freedom	27

[a] Standard errors clustered by lobbying firms in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

1.7 Results

1.7.1 Main Results

Table 1.2. Descriptive Statistics and Correlations [a]

Variable	Mean	S.D.	Min.	Max.	1	2	3	4	5	6
1. Firm lobbying	0.018	0.061	0	0.659	1.000					
2. Firm size	8.882	2.391	0.001	13.08	0.172	1.000				
3. Firm age	28.41	18.37	0	4.043	0.257	0.216	1.000			
4. Firm growth	1.476	2.391	0.039	161.7	-0.046	-0.115	-0.097	1.000		
5. Firm performance	0.123	0.140	-0.730	0.241	0.022	0.130	0.118	0.097	1.000	
6. Industry concentration	0.343	0.253	0.066	0.937	0.028	-0.026	-0.034	-0.016	-0.028	1.000
7. R&D intensity	0.506	24.09	0	0.746	-0.006	-0.038	-0.018	0.006	-0.157	-0.002

[a] Correlations with absolute values greater than 0.025 are significant (p<0.05).

Table 1.2. Continued [a]

Variable	Mean	S.D.	Min.	Max.	1	2	3	4	5	6
8. Foreign-source profits	0.268	3.421	0.000	0.818	-0.034	-0.008	0.012	-0.006	0.014	0.020
9. Organizational slack	2.311	7.802	0.000	92.89	-0.024	-0.107	-0.069	0.083	-0.082	-0.005
10. Leverage	0.200	0.169	0	1.673	0.037	-0.084	0.014	-0.189	-0.011	0.034
11. Firm's stake	0.028	0.109	0.000	0.881	0.118	0.415	0.062	-0.007	0.006	0.096
12. Associational lobbying	0.198	0.110	0	0.398	0.046	-0.128	0.000	-0.009	0.057	0.018
13. Enforcement of the Byrd Amendment [b]	0.489	0.499	0	1	-0.039	-0.098	-0.098	0.024	0.004	0.155

[a] Correlations with absolute values greater than 0.025 are significant ($p<0.05$).
[b] Enforcement of the Byrd Amendment proxies the emergence of new private benefits.

Table 1.2. Continued [a]

Variable	7	8	9	10	11	12	13
7. R&D intensity	1.000						
8. Foreign-source profits	-0.002	1.000					
9. Organizational slack	0.009	-0.003	1.000				
10. Leverage	-0.017	0.031	-0.049	1.000			
11. Firm's stake	-0.005	-0.009	-0.041	-0.072	1.000		
12. Associational lobbying	-0.001	-0.002	0.009	0.165	-0.079	1.000	
13. Enforcement of the Byrd Amendment [b]	0.018	-0.005	0.012	-0.033	-0.019	0.073	1.000

[a] Correlations with absolute values greater than 0.025 are significant ($p<0.05$).
[b] Enforcement of the Byrd Amendment proxies the emergence of new private benefits.

Table 1.2 presents the correlations among our variables except for the industry dummy. We analyze the variance inflation factors (VIFs) for the variables in order to check whether or not there are multicollinearity issues. All VIFs, including the highest VIF value 1.52, are below the recommended threshold of 10 (Neter, Kutner, Wasserman, & Nachtcheim, 1996). This finding suggests that multicollinearity may not be a major concern in our model.

Table 1.3. Results of Ordinary Least Squares Models with Heckman's Two-Stage Procedure [a]

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Controls							
Industry dummies	Included	Included	Included	Included	Included	Included	Included
Firm size	0.055***	0.058***	0.057***	0.054***	0.059***	0.052***	0.052***
	(0.017)	(0.018)	(0.018)	(0.018)	(0.018)	(0.016)	(0.016)
Firm age	0.001	0.000	0.000	0.0005	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm growth	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Firm performance	-0.028**	-0.031**	-0.029**	-0.028**	-0.031**	-0.027**	-0.027**
	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	(0.011)	(0.011)
Industry concentration	0.054***	0.055***	0.054***	0.052***	0.055***	0.047***	0.047***
	(0.017)	(0.018)	(0.017)	(0.018)	(0.018)	(0.015)	(0.015)
R&D intensity	-0.012***	-0.013***	-0.012***	-0.012***	-0.013***	-0.011***	-0.011***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)
Foreign-source profits	0.001**	0.001**	0.001**	0.001**	0.001**	0.001**	0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Organizational slack	0.003***	0.003***	0.003***	0.003***	0.004***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Leverage	-0.122***	-0.128***	-0.125***	-0.120***	-0.130***	-0.114***	-0.111***
	(0.037)	(0.041)	(0.039)	(0.040)	(0.041)	(0.036)	(0.036)
Direct effects							
Firm's stake [H1]		0.004	0.036	0.230	-0.003	0.372	0.503*
		(0.064)	(0.099)	(0.179)	(0.066)	(0.243)	(0.278)
Associational lobbying [H2]		-0.091**	-0.087***	-0.089**	-0.046	-0.009	0.006
		(0.039)	(0.033)	(0.039)	(0.045)	(0.036)	(0.037)
Enforcement of the Byrd Amendment		0.004	0.004	0.007**	0.014**	0.024***	0.025***
		(0.003)	(0.003)	(0.003)	(0.007)	(0.007)	(0.007)
Two-way interaction terms							
Firm's stake × Associational lobbying [H3]			-0.269			-0.773	-2.678*
			(0.836)			(0.953)	(1.384)
Firm's stake × Enforcement of the Byrd Amendment [H4]				-0.178**		-0.223**	-0.288***
				(0.079)		(0.092)	(0.103)
Associational lobbying × Enforcement of the Byrd Amendment [H5]					-0.062*	-0.098***	-0.113***
					(0.035)	(0.031)	(0.032)
Three-way interaction term							
Firm's stake × Associational lobbying × Enforcement of the Byrd Amendment [H6]							1.709***
							(0.619)
Inverse Mills ratio	0.196***	0.207***	0.203***	0.194***	0.210***	0.183***	0.181***
	(0.059)	(0.066)	(0.064)	(0.064)	(0.066)	(0.057)	(0.057)
Constant	-0.633***	-0.632***	-0.620***	-0.593***	-0.642***	-0.564***	-0.562***
	(0.193)	(0.204)	(0.198)	(0.201)	(0.203)	(0.181)	(0.181)
Observations	*3,484*	*3,484*	*3,484*	*3,484*	*3,484*	*3,484*	*3,484*
Groups	*349*	*349*	*349*	*349*	*349*	*349*	*349*
F-statistics	*1.85**	*1.57**	*1.58**	*3.54****	*1.74***	*3.04****	*4.26****
R-squared	*0.027*	*0.034*	*0.034*	*0.065*	*0.041*	*0.085*	*0.098*

[a] Robust standard errors clustered by lobbying firms appear in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

Table 1.3 presents the outcome of our hypotheses testing. H1 predicts that a firm with a larger stake in antidumping protection engages in more corporate antidumping lobbying. Although the coefficient for a firm's stake variable does not present statistical support in Model 2, Model 7 shows support for the positive effect of a firm's stake with significance ($p<0.07$). H2 posits that associational lobbying for antidumping by a focal firm's trade association discourages individual lobbying. While the coefficient for the associational lobbying variable is not significant in Model 7, Model 2 supports the negative influence of associational lobbying with statistical significance ($p<0.05$).

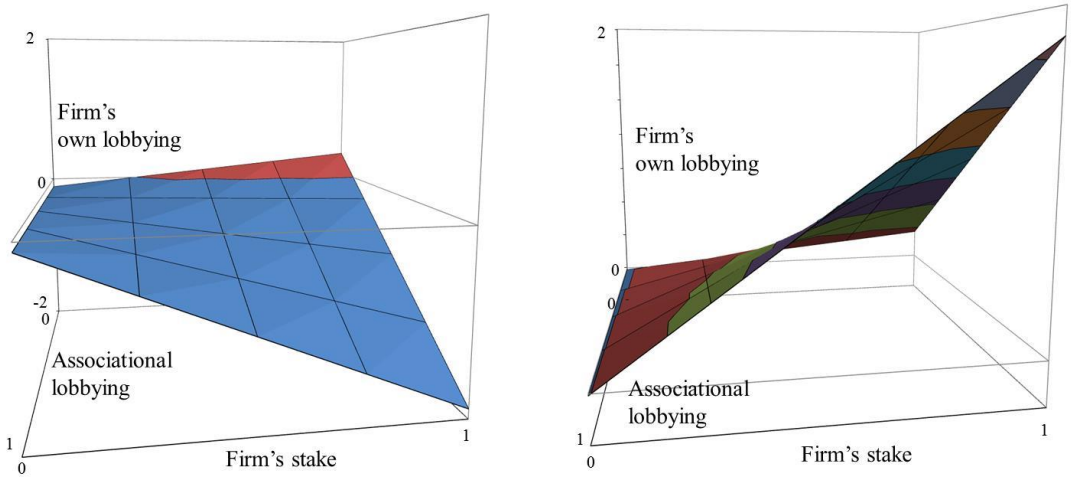
H3 predicts that the interaction of a focal firm's stake and associational lobbying for antidumping by a focal firm's trade association discourages individual lobbying. The coefficient for the interaction term between the variables of the firm's stake and associational lobbying in Model 3 is not statistically significant; that of Model 7 presents a negative coefficient with statistical significance ($p<0.1$).

H4 contends that when private incentives are enforced, a firm with the smaller stake may undertake additional corporate antidumping lobbying. The coefficients for the interaction term between the variables of a firm's stake and private incentives in Model 4 ($p<0.05$) and Model 7 ($p<0.01$) show a negative coefficient with statistical significance. H5 argues that private incentives negatively moderate H2. The coefficients for the interaction term between the associational lobbying and private incentive variables are significant but not positive in Models 5 and 7, thereby failing to support H5.

H6 contends that private incentives negatively moderate the relationship posited in H4. The coefficient for this three-way interaction term among the variables of firm stake,

associational lobbying, and private incentives in Model 7 is positive and statistically significant (p<0.01). Furthermore, the coefficient for this three-way interaction term (b=1.709) is larger than that of a focal firm's stake only (H1, b=0.503), possibly alluding to the stronger motivating effect of private incentives for larger-stake firms that typically rely on associational lobbying.

Figure 1.2 illustrates how the interaction between a focal firm's stake and lobbying by its focal firm's trade association changes with versus without private incentives, all other variables being controlled using average values. Figure 1.2a depicts H3. We find that without private incentives firms with larger stakes undertake additional individual lobbying if there is no associational lobbying, but as associational lobbying increases firms reduce their individual lobbying. In contrast, Figure 1.2b demonstrates the significant change that private incentives generate. As H6 contends, firms with larger stakes are incentivized to undertake additional individual lobbying even when associational lobbying increases in an environment where private incentives exist.



a. Without the Byrd Amendment b. With the Byrd Amendment

Figure 1.2. Interaction between Firm's Stake and Associational Lobbying on Firm's Lobbying

Table 1.4. Robustness check: Ordinary least squares model with the amount of lobbying [a]

Variable	OLS with amount DV
Controls	
Industry dummies	Included
Firm size	1.340***
	(0.306)
Firm age	0.026***
	(0.009)
Firm growth	-0.106***
	(0.028)
Firm performance	-0.792***
	(0.231)
Industry concentration	1.108***
	(0.313)
R&D intensity	-0.301***
	(0.068)
Foreign-source profits	0.008***
	(0.002)
Organizational slack	0.081***
	(0.019)
Leverage	-3.041***
	(0.688)
Direct effects	
Firm's stake [H1]	7.697
	(4.839)
Associational lobbying [H2]	-1.100**
	(0.460)
Enforcement of the Byrd Amendment	0.281***
	(0.100)
Two-way interaction terms	
Firm's stake × Associational lobbying [H3]	-25.78
	(21.76)
Firm's stake × Enforcement of the Byrd Amendment [H4]	-8.376***
	(1.941)
Associational lobbying × Enforcement of the Byrd Amendment [H5]	-0.715**
	(0.344)
Three-way interaction term	
Firm's stake × Associational lobbying × Enforcement of the Byrd Amendment [H6]	43.62***
	(11.55)
Inverse Mills ratio	4.968***
	(1.117)
Constant	-15.96***
	(3.554)
Observations	*3,484*
Groups	*349*
F-statistics	*17.03***
R-squared	*0.170*

[a] Standard errors clustered by lobbying firms in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

1.7.2 Robustness Checks

Our empirical analysis reveals overall support for all of our hypotheses, but we conduct additional analyses in order to ensure robustness. First, we employ the same OLS models as used for the main results with different dependent variables for robustness checks. We measure corporate lobbying as the annual total firm spending on lobbying for trade and tariff issues. The model from Table 1.4 presents the result of this analysis and provides statistical significance for H2 ($p<0.05$), H4 ($p<0.01$), and H6 ($p<0.01$). These results hold particularly strong for associational lobbying as one main effect partially supported in our main OLS models.

Second, we also adopt an endogeneity-corrected model (Bascle, 2008). One of the independent variables, associational lobbying, may behave endogeneity problem since firms may decide how much to lobby via industry association and how much on their own simultaneously. Even though we lag the variables for potential causality concerns, to rule out endogeneity problems, we use the number of firms in an industry as the instrument variable to investigate this potential endogeneity problem. Past research finds that representational advantages of trade associations may differ across trade associations due to the number of firms in the industry (Bauer et al., 1972; Grossman & Helpman, 2001). The larger the number of firms in the industry is, the less the coordinated behavior among firms is likely to reach (Dawes, 1980; Hardin, 1982; Olson, 1965). For this reason, a large number of firms in the industry may result in large members per trade association and thus a unified voice to lobby for specific issues may be harder to reach for trade associations where there are many firms (Ostrom, 1990; Sandler, 1992).

Table 1.5. Robustness check: Two-stage least squares model for endogeneity

Variable	2SLS
Controls	
Industry dummies	Included
Firm size	0.076***
	(0.146)
Firm age	0.000
	(0.001)
Firm growth	-0.005***
	(0.010)
Firm performance	-0.043**
	(0.096)
Industry concentration	0.076***
	(0.155)
R&D intensity	-0.017***
	(0.036)
Foreign-source profits	0.001***
	(0.001)
Organizational slack	0.005***
	(0.009)
Leverage	-0.171***
	(0.344)
Direct effects	
Firm's stake [H1]	0.213*
	(0.124)
Associational lobbying [H2]	-0.128*
	(0.473)
Enforcement of the Byrd Amendment	0.015
	(0.023)
Two-way interaction terms	
Firm's stake × Associational lobbying [H3]	-0.293*
	(1.804)
Firm's stake × Enforcement of the Byrd Amendment [H4]	-0.214***
	(0.060)
Associational lobbying × Enforcement of the Byrd Amendment [H5]	-0.038
	(0.095)
Three-way interaction term	
Firm's stake × Associational lobbying × Enforcement of the Byrd Amendment [H6]	1.149*
	(0.612)
Inverse Mills ratio	0.282***
	(0.592)
Constant	-0.847***
	(1.667)
Observations	*3,484*
Degree of freedom	*349*
Wald χ-squared	*1,614*
Pseudo R-squared	*0.066***

[a] Standard errors clustered by lobbying firms in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

Leveraging this number of lobbying associations over the total number of firms as the instrument, we employ two-stage least squared (2SLS) instrumental variable regressions. We use the same dependent, independent, moderating, and control variables from our OLS models in treating the association lobbying variable and the interaction terms involved with associational lobbying as instrumented variables.

In the first-stage 2SLS regression we regress the instrumented variables (associational lobbying and its interaction terms) on the instrument (number of lobbying associations over the total number of trade associations) and independent and control variables from the OLS models, generating the predicted values for these instrumented variables. [6] In the second stage we then regress the dependent variable from our OLS models on the predicted values found during the first stage with the other independent and control variables from the OLS models. Table 1.5 presents the results from this analysis and shows support for H1 ($p<0.1$), H3 ($p<0.01$), and H6 ($p<0.1$) in alignment with our main OLS models.

1.8 Discussion

1.8.1 Contributions and Practical Implications

We contribute to the existing research in at least two ways. First, in terms of collective action research we endeavor to explore the influence of private incentives as the antecedent that may eliminate collective action problems in antidumping protection. On the antecedents of

[6] We conduct three statistical tests in order to confirm that our selected instrument is good (Bascle, 2008). First, the result ($p=0.006$) from the Davison-MacKinnon test rejects the null hypothesis of exogeneity and confirms that the associational lobbying variable is endogenous (Davidson & MacKinnon, 1993). Second, the Sargan-Hansen statistic from the Sargan test is 0.000; this fails to reject the null hypothesis of exogeneity while confirming that the instrument is uncorrelated with the error term and correctly excluded from the estimated equation (Wooldridge, 2002). Third, the *F*-statistic for the instrument relevance test is 20.54 ($F>10$ and $p>F=0.000$), supporting that the selected instrument is not weak (Staiger & Stock, 1997).

voluntary contributions to collective benefits the collective action literature has accumulated splendid scholarly insights into the antecedents of collective action, including but not limited to intragroup autonomy, group size and composition, and private incentives (Dawes, 1980; Hardin, 1982; Sandler, 1992). However, such achievements are mainly related to the collective benefits that are non-excludable but partially rivalrous such as water or fishery (Eggertsson, 1990; Ostrom, 1990). However, less attention has been paid to collective benefits that are non-rivalrous and non-excludable.

We posit that private incentives may alleviate collective action problems in non-rivalrous and non-excludable antidumping protection by making the private share of the protection rivalrous and excludable. Our study finds that private incentives provided by antidumping regulations exert an overarching influence not only on individual firms' behaviors, but also on other antecedents such as firm stake and lobbying by trade associations. Private incentives may strengthen the antecedent motivating firm voluntary lobbying while weakening the antecedent demotivating voluntary lobbying. In this respect our study extends the existing purview of the collective action literature into the arena of collective benefits that are non-rivalrous and non-excludable, contending that private incentives may alleviate the collective action problems found in antidumping protection. We show that how firm opportunism in collective benefits may be mitigated by the emergence of private incentives.

Second, on the CPA research we endeavor to shed new light on private incentives as *determinants* of CPA. The finding that private incentives are expected from firms' CPA is not new in the literature. The CPA research has explored the relationship of both firm CPA and firm-specific benefits (Aplin & Hegarty, 1980; de Figueiredo & Tiller, 2001; Hillman & Hitt, 1999;

Schuler et al., 2002; Tullock, 1967). However, the focus of such research has been on these incentives as *consequences* of CPA (Hillman et al., 1999; Hillman et al., 2004), or the influence of CPA on private incentives toward which firms are working. The CPA research on trade protection is no exception, and relatively little attention has been paid to the determinant facets of private incentives (Lee & Baik, 2010; Liebman & Reynolds, 2006; Reynolds, 2006).

By paying attention to private incentives in the antidumping context we posit that private incentives engender changes in CPAs such that firms enhance their voluntary lobbying for trade protection. We do not disagree that private incentives are the aim of firm CPAs. Instead, we endeavor to probe more deeply into the function of private incentives as determinants versus consequences of firm CPA. In this regard, we find that private incentives may encourage firms to undertake voluntary contributions toward antidumping protection so that firms become more responsive to private incentives in undertaking voluntary political action for the common interest.

This study also presents notable practical implications. Based on our findings, firms may see the value of corporate political strategy when they are eager to protect collective benefits as well as to alleviate collective action problems therein. As for effective solutions to collective action problems, the collective action literature mainly focuses on the intragroup autonomy among group members such as monitoring and penalizing free riders (Dawes, 1980; Hardin, 1982; Ostrom, 1990). However, firms may also face different incentive structure when new private incentives are introduced by governments. Specifically, if a change of antidumping regulations confers new private benefits, firms may react accordingly by heavily participating in lobbying efforts that were ailing from collective action problems.

In the same vein, as we find in the antidumping protection under the Byrd Amendment, private incentives redefine the rights and responsibilities involved with the collective benefits such that the incentives may alleviate the collective action problems therein. Thus, firms would be more interested in putting efforts in corporate political strategies to secure newly introduced private benefits.

1.8.2 Limitations and Directions for Future Research

In this study, we do not examine the performance implications of the emergence of private incentives or subsequent changes in lobbying behavior. Future researchers may find it interesting to examine whether or not firm performance changes as firms see private incentives emerge. It is possible that direct support for failing firms might even deteriorate firm performance, thus defeating the purpose of antidumping regulations. If this is the case then it is not that lobbying firms fail, but that failing firms lobby - particularly when private incentives are large. Collective action problems may therefore be less problematic than distorted incentives, which encourage failing firms to increase their lobbying. Furthermore, our finding regarding the positive moderating effect of private incentives on lobbying by trade associations contradicts our argument of negative moderation (Hypothesis 5). Perhaps our hypothesis is not supported because, for certain industries, private shares of antidumping protection are too small for firms in some industries to pursue even with the private incentives in place.

The contributions in our study may also open avenues for future research. Researchers may want to further probe the probable differences in terms of the effect of antecedents on firms operating within different industries with the similar level of stakes. For example, firms with small stakes in the industry of homogeneous products may be more incentivized to lobby for

antidumping versus firms within a heterogeneous product industry when private incentives are large. If these firms are similar to one another then the benefits generated by industry-level protection from foreign competition may affect the firms uniformly. However, firms may be willing to lobby for private incentives when these incentives are available.

In contrast, when firms produce heterogeneous products then sweeping protection at the industry level would be difficult to attain, and even firms with large stakes would not have significant incentive to lobby. Within a large private incentive environment firms with small stakes might be less inclined to lobby individually since dumping injuries would not be uniform and such firms may be less likely to become injured. If sufficient data on lobbying before the emergence of the Byrd Amendment are available, then a more in-depth evaluation may be obtained on the effect of private incentives toward firm behavior.

1.9 Conclusion

Olson (1965: 51) argues that private incentives "must be *selective* so that those who do not contribute to the attainment of the group's interest can be treated differently from those who do (emphasis in the original)." Our study accordingly examines how the emergence of new private incentives alleviates collective action problems by leveraging the natural experimental setting of the Byrd Amendment antidumping regulation. We argue that private incentives change the private share of antidumping protection from non-rivalrous and non-excludable benefits to rivalrous and excludable benefits. By investigating a sample of firms engaging in lobbying for trade protection we find that the emergence of new private incentives moderates the influence of antecedents, including firm stakes and lobbying by trade association, so that private incentives may promote firms' voluntary commitment toward antidumping protection. Our finding may be

an answer to the question arising from Olson's theorization of private incentives regarding *how* contributors to the attainment of collective interest should be *treated differently* from non-contributors.

CHAPTER 2

REINFORCING COMPETITIVE ADVANTAGES BY CORPORATE LOBBYING: THE CASE OF AUTOMAKERS AND CLIMATE CHANGE

2.1 Synopsis

Firms develop new products that are novel and unique as a means of gaining competitive advantages. However, such new products may involve risk due to the need to invest greater resources without any guarantee of success. Little attention has been devoted toward firm endeavors to shape external institutions in order to reduce risk after launching these new products. We explore the impact of the launch of eco-friendly vehicles by U.S. automotive companies toward corporate lobbying for eco-friendliness. We test this impact in the context of substitute products and integrity-based management practice of automakers and find that the motivating effect from the launch toward the lobbying would be diminished by running costs of substitute product and the integrity-based management of the lobbying firms. The implications of our findings within environmental management context are also discussed.

2.2. Introduction

Dear President Trump,

As some of the largest companies based or operating in the United States, we strongly urge you to keep the United States in the Paris Agreement on climate change. (omitted below)

The above statement prefaces the joint open letter addressed to President Trump in 2017, written by the CEOs of 25 top companies in the U.S., including Apple, Morgan Stanley, Tiffany

& Co., and Unilever.[7] Why did they argue for climate change, which could oblige U.S. firms, including theirs, to reduce greenhouse gas (GHG) emissions? There might be several reasons, but one prominent motive would be that their country is falling behind the global trends of environmental protection. Such a lag would be detriment not only to society, but also to their companies as for-profit organizations.

Firms seek profit maximization. Since profit comes from markets, firms are eager to outperform competitors in these markets (Porter, 1980). One of the ways to seek outperformance may be to create new products that significantly differ from past ones (Freeman, 1982; Mansfield, 1968). New and innovative products may result in commercial success to firms creating these products and, ultimately, may enable them to gain competitive advantages (Barney, 1986a, 1991; Wernefelt, 1984). At the same time, however, the novelty and uniqueness of new products may involve the risk that a market does not accept these new products; therefore, such products may fail to generate sufficient consumer demand (Bayus, Jain, & Rao, 1997; Schilling, 2002). In short, new products do not necessarily guarantee success.

Exploring how new products achieve success, the conventional strategy literature often focuses on *markets* (Bayus et al., 1997; Choi & Thum, 1998; Gupta & Wilemon, 1990; Nelson, 1991), but the literature pays little attention to the external constraints of firms, such as regulations that may mitigate the risk of new products. In response, the nonmarket strategy research examines how firms shape their external constraints toward a position preferred by firms (Baron, 1996; Bonardi, Holburn, & Bergh, 2006; Dorobantu, Kaul, & Zelner, 2017; Rudy

[7] Salesforce CEO Marc Benioff, a participant in this joint open letter, tweeted the image of the letter. https://twitter.com/benioff/status/870089219460349952

& Johnson, 2016). Nevertheless, the relations and influences between market and nonmarket strategies have been relatively unexplored (Hillman et al., 2004; Shaffer, Quasney, & Grimm, 2000). Specifically, little attention in the field has been devoted to the question of how firms behave when their home country lags behind global trends with respect to a specific regulatory condition (e.g., GHG reduction). Meanwhile, firms create new products in countries that correspond to these global trends (Aguinis & Glavas, 2012; Holburn & Burgh, 2014).

We address the research gap in the prior literature of market and nonmarket strategies by exploring firms' efforts to influence the external environment that may affect the success of their new products. We leverage a research setting of climate change issues in the U.S., including GHG emissions. Different from other developed countries, the U.S. government has adopted a passive role in reducing GHG emissions (Harrison, 2007). Eco-friendly vehicles such as electric vehicles (EVs) accordingly might not attract either production by carmakers or customer purchases within the U.S. car market, even though EVs are new and innovative vehicles (Marcus & Geffen, 2005; Leifer, O'Connor, & Rice, 2001). In examining this research context, we address the following:

First, we argue that if a firm creates and launches a new product into a market, then the firm would undertake corporate lobbying for effective regulations that favor the new product to mitigate the risk associated with the product's newness. Second, we contend that the mitigation of threat from a substitute (e.g., the rise in gas costs for conventional vehicles) would exert influence on a firm's lobbying for regulations favoring the new products. Third, if a firm engages in a higher degree of integrity-based management practices (e.g., voluntary GHG reduction in manufacturing facilities), the higher degree of integrity-based management practices could affect

a firm launching new products in a way that would further reduce their lobbying for favorable regulations.

We test our arguments using a sample of lobbying firms and find overall statistical support for our arguments. In so doing, we endeavor to make contributions including, but not limited to, integrating the market strategy of creating new products and the nonmarket strategy of lobbying for such new products. Figure 2.1 depicts our theoretical framework.

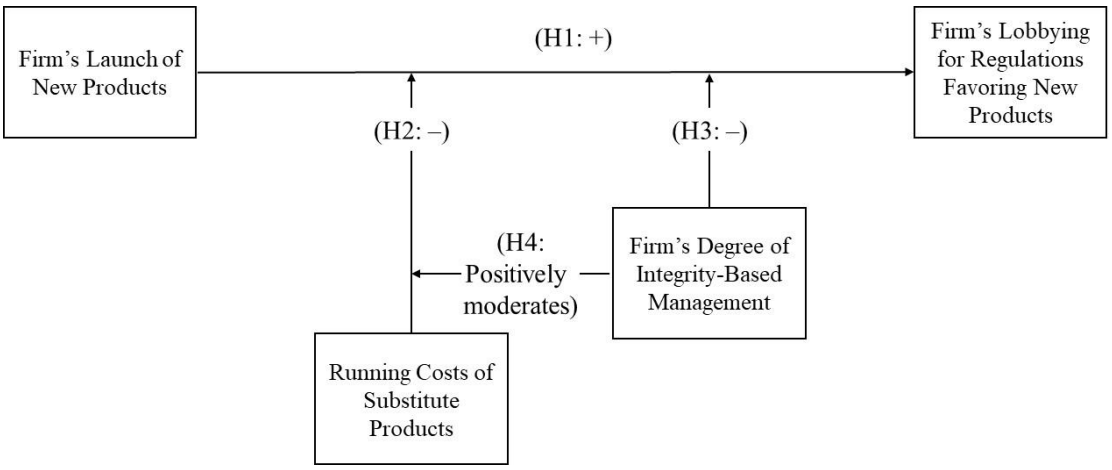


Figure 2.1. Theoretical Framework

2.3 New Products, Lobbying, and Integrity-Based Management

2.3.1 Product Development: Market Strategy to Gain Competitive Advantage

Firms seek competitive advantage so as to persistently outperform their competitors. To gain competitive advantage, firms often create new products to meet the new needs of a market (Barney, 1991; Eisenhardt & Schoonhoven, 1996; Wernerfelt, 1984). The success of new products in a market would enable firms to replace existing competitors (without comparable ones to the new products) and to become a leader in the industry (Barney, 1986a; Utterback & Abernathy, 1975). A firm creating new products may accordingly gain competitive advantages,

and thus eventually outperform its competitors (Barney, 1986b; Peteraf, 1993).

However, new products would not necessarily result in successful outcomes because, however innovative the new products would be, these new products by themselves do not guarantee profitable success (Teece, 1986). For the profitable success of new products, the resources and capabilities related to these new products must be hard to imitate (Barney, 1991; Eisenhardt, & Martin, 2000; Peteraf, 1993). By developing hard-to-imitate technologies and leveraging those technologies into production, firms may produce unique products that lead to profitable success in the market (Barney, 1986a; Schumpeter, 1950; Teece, 2007).

Profitable success would not come forth, even if firms maintain hard-to-imitate technologies and unique products. In particular, launching new products is usually exposed to the risk of failure when firms precipitously launch a specific innovative product in a market. The early launch of new products may result in a mismatch between the product and customer demand, thereby reducing the product's likelihood of success (Kemp, Schot, & Hoogma, 1998; Schilling, 1998). In this case, firms may jeopardize the competitive advantage aimed at new products if they launch these new products, but find out that their markets do not accept or sufficiently consume the products (Barney, 1986b).

2.3.2 Corporate Lobbying: Political Strategy to Sustain Competitive Advantage

How do firms persuade markets to accept their new products? In the context of EVs, given the importance of the U.S. market for the world's automakers, the lag of the U.S. in terms of the global trends in GHG reduction would cast the risk of failure within the U.S. EV market. Accordingly, such a lag may lead U.S. society to adopt EVs. Among other strategic choices, political strategies may warrant researchers' attention if firms are found to affect their external

environment, specifically in terms of external regulations (Keim & Zeithalm, 1986). By undertaking political action, a firm would attempt to shape its environment so as to be most favorable to the firm's competitive efforts in its market competition (Dorobantu et al., 2017; Hillman et al., 2004; Peng, Wang, & Jiang, 2008; Schuler, 1996). For instance, firms with new products may persuade policymakers to enact and enforce new regulations that incentivize the purchase and use of new products (Delmas & Toffel, 2008; Hillman & Hitt, 1999).

To this end, firms view policymakers in the government as a competitive tool to create the most favorable "rules of the game" (Epstein, 1969; North, 1990). Policymakers may alter the competitive dynamics of a market by promulgating, amending, and abolishing regulations that change the cost structure of products or influence substitute and complementary products (Hillman & Hitt, 1999; Moe, 1980). In this regard, firms would engage in corporate political action toward policymakers in order to accomplish specific objectives, such as shaping regulations in line with these firms' interests (Baysinger, 1984; Clougherty, 2005; Schuler, 1996).

The efficacy of corporate political action may depend on the traits of the institutional environment that firms attempt to shape through such activity. Among other strategies, corporate lobbying would be an effective political action if firms attempt to convey to policymakers specific information on a non-salient issue (Hillman et al., 1999; Keim & Zeithaml, 1986). Policymakers face a vast number of issues and directives. If a firm is eager to capture policymakers' attention regarding an issue of interest to the firm, it should make this firm-specific information stand out from other firms' information (Barren, 1996; Hillman & Hitt, 1999).

If corporate lobbying is chosen to influence firms' institutional environment, the participation level of lobbying would be the firms' next question. In terms of the participation level, firms may have two options: individual lobbying by the firm itself, and collective lobbying by a group of firms (e.g., lobbying by trade associations) (Dorobantu et al., 2017; Hillman & Hitt, 1999). Firms may want to undertake a political action collaboratively with others who can enjoy the resultant collective benefits together, given that the outcome of corporate political action is often in the form of collective benefits (Drope & Hansen, 2009; Marsh, 1998; Schuler, 1996).

Nevertheless, some conditions may drive firms to prefer individual political action. First, the collective mobilization of potential actors may be difficult to achieve when the goal of the political action (i.e., the acceptance of a specific new product by a market) is not salient among the potential actors (Hayes, 1981). Second, even if the goal of the political action is salient among the potential actors, firms may be concerned about the unintentional dissemination of firm-specific information on their unique and hard-to-imitate resources and capabilities while engaging in collective political action (de Figueiredo & Tiller, 2001; Yoffie, 1987).

To this end, firms engage in individual lobbying to deliver firm-specific information to policymakers. This firm-specific information includes, but is not limited to, firms' preference for a specific policy and the related costs and benefits of the probable outcome (Aplin & Hegarty, 1980; Keim & Zeithaml, 1986). Corporate lobbying would accordingly be an effective way to guide policymakers' attention to a specific policy position that provides the lobbying firm with competitive advantages.

2.3.3 Corporate Lobbying and Integrity-Based Management

Contemporary firms are faced with escalating pressure to be responsible within society.

Such pressure leads firms to adopt ethical management practices, such as environmental protection (Ambec & Lanoie, 2008; Henriques & Sadorsky, 1999). To this end, firms often employ integrity-based management in order to show they are "in good standing."

Integrity-based management refers to a corporate management practice that emphasizes managerial responsibility beyond legal obligations (Paine, 1994). Integrity-based management engages in the instrumental value of "doing good," as well as the ceremonial value of "doing no harm" (Berry & Rondinelli, 1998; Ramstad, 1989). Recent research has explored this value creation aspect of integrity-based management. One research stream posits that integrity-based management leads firms to moral leadership (Buysse & Verbeke, 2003; Hart, 1995).

Firms with moral leadership often create and suggest a shared vision of the future of themselves as well as their society (Rugman & Verbeke, 1998; Selznik, 1957). Once a shared vision is confirmed by society including the stakeholders of firms, firms could earn a good standing in their communities including their industry (Campbell & Yeung, 1991). The good standing in society would bear strategic significance for firms, given that the support from society enhances firms' capability to secure sustainable development (Bitektine, 2011; Chen & Miller, 2015; Fombrun, Gardberg, & Barnett, 2000). For instance, stakeholders prefer to support firms that are "deemed proper and appropriate" by "embody[ing] prevailing social norms and values" (Arthaud-Day, Certo, Dalton, & Dalton, 2006: 1120). That is, societal support for a firm would create competencies for the firm, eventually resulting in sustainable development (Bitektine, 2011; Porter & Kramer, 2006).

If a firm expects improved performance through integrity-based management, it would anticipate less need to undertake corporate lobbying. Negative connotations are frequently

associated with corporate lobbying, insomuch as lobbying often creates public opposition: lobbying may be perceived as enhancing private interests at the expense of public welfare (Bhagwati, 1980; Wilson, 1973). Such perceptions exist because lobbying does not involve creating new wealth, but rather redistributing the current wealth among parties (Tullock 1967; Posner, 1975). For instance, some lobbying activities of automakers have been related to pursuing relaxed safety standards, which may diminish public welfare (Polk & Schmutzler, 2005; Sutter & Poitras, 2002). For this reason, public opposition against corporate political lobbying may bring about a negative effect on lobbying firms' profits (Gais & Walker, 1991).

Cognizant of this negative connotation associated with lobbying, a firm with more intensive integrity-based management would be less motivated to undertake lobbying for regulations that favor new products. Stakeholders who support a firm based on its organizational integrity would also support a new product launched by the firm. If a firm's integrity-based management could be the source of stakeholder support, this integrity-based management could substitute the firm's need to shape favorable regulations toward its new products.

2.4 Corporate Lobbying for New Products and Disincentives of the Lobbying

2.4.1 Case: Electric Vehicles, Climate Change, and U.S. Automakers

Electric Vehicles and Climate Change. Electric vehicles (EV) would be a new and unique product introduced in the U.S. car market. Electric vehicles (EVs) are fully or partially powered by electricity (Marcus & Geffen, 2005). EVs usually include three types—hybrid electric vehicles (HEV), plug-in hybrid electric vehicles (PHEV), and battery electric vehicles

(BEV).[8] The price of EVs is usually higher than that of comparable-sized conventional vehicles powered by internal combustion engines (ICE) due to high production costs (Gallagher & Muehleggar, 2011). High manufacturing costs and engineering-intensive production systems are indispensable to EV production (Hobday, 1998; Pilkington & Dyerson, 2006). For this reason, EV producers attempt to protect their technology from competing automakers (Ehsani et al., 2010; Jenn et al., 2013). As a result, the development of EV technology entails high entry barriers.

The history of EV traces back to the late 19th century, but EVs have gained increased attention since the issue of climate change emerged as a global agenda topic in the 1990s, particularly with the Kyoto Protocol in 1997 (Ansari et al., 2013; Ehsani et al., 2010). The Kyoto Protocol was the first international convention that defined a detailed implementation plan for GHG reduction, country-by-country (Schipper, 2006). The reduction of GHG is critical in abating the potential risks of climate change ("The deepest cuts," 2014, Marcus & Fremeth, 2009; Rothenberg, Maxwell, & Marcus, 1992). Firms involved in GHG emissions were accordingly required to conform to pressure in order to reduce GHG emissions.

The automotive industry is one of the principal industries involved with large GHG emissions. Vehicles are responsible for a substantial amount of GHG emissions (van Benthem & Reynaert, 2015; Levy & Rothenberg, 2002). Automakers have accordingly been under societal

[8] The U.S. Department of Energy (https://www.energy.gov/science-innovation/vehicles) defines each type of electric vehicle as follows: Hybrid electric vehicles (HEVs) are the vehicles adopting electric power stored in a battery as well as sourced from conventional or alternative fuels. Plug-in hybrid electric vehicles (PHEV) maintain the same power sources as those of HEVs (i.e., electric battery and conventional fuels) but permits alternative charging methods including the plug-in into an outside power source, the internal combustion engine (ICE), or regenerative braking. Battery electric vehicles (BEVs) employ as its main power generator a battery-powered motor that is charged by the plug-in into an electric grid and does not depend on conventional fuels.

pressure to produce vehicles that generate less air pollution than conventional ICE vehicles (Harrison, 2007; Leifer et al., 2001, Levy & Rothenberg, 2002).

EVs provided a perfect fit for this social requirement. Consumers in the world began to pay closer attention to the eco-friendliness of products and services that they purchased; consequently, the sales volume of EVs increased (Gallagher & Muehleggar, 2011; Leifer et al., 2001). As a result, EVs have gained recognition as eco-friendly cars. One market forecast predicts that we will see more than one billion EVs on the road worldwide by 2050 (Morgan Stanley, 2017).

Climate Changes in the U.S. and U.S. Automakers. This optimistic outlook of the EV market was not necessarily pertinent to the U.S. EV market. Instead, automakers producing and selling EVs in the U.S. face the risk of failure ("Why the future is hybrid," 2004) mainly because both automakers and consumers in the U.S. are not under such societal pressure to reduce GHG emissions as their counterparts in other countries of the world (Marcus & Geffen, 2005). Specifically, in contrast to other international automakers selling eco-friendly vehicles, automakers selling within the U.S. car market do not have governmental or societal support for creating and selling EVs with little or no GHG emissions (Levy & Kolk, 2002).

The U.S. has fallen behind in terms of global trends in GHG reduction. First, the U.S. did not ratify the Kyoto Protocol, while most of the other developed countries in the world, such as the European Union and Japan, did (Harrison, 2007).[9] Second, the U.S. did not have federal-level rules equivalent to the Kyoto Protocol until the late 2000s (Craig, 2010; Harrison, 2007). Third, the U.S. federal government did not provide incentives to increase EV sales (e.g., tax credits),

[9] The U.S. government finally ratified the Paris Agreement, a successor to the Kyoto Protocol, in 2014.

which are usually more expensive than similar-sized ICE vehicles (Gallagher & Muehlegger, 2011). Therefore, the U.S. did not face comparable pressure, or did not give incentives to produce or consume eco-friendly vehicles, as their counterpart countries in the world do. In other words, U.S. industries have not been required to bear the burden of GHG reduction that has been required for comparable industries in other developed countries (Harrison, 2007; Levy & Rothenberg, 2002).

2.4.2 New Products and Lobbying for Favorable Regulations

Individual corporate lobbying for regulations favorable to new products may provide competitive advantages to a lobbying firm that already produces new products vis-à-vis other firms that do not produce similar or comparable products. Once such regulations are promulgated, they would incentivize the acceptance of these products in the market, as well as the industry. Given these favorable external constraints, the lobbying firms selling the new products would go ahead, subsequently leaving their competitors (without the new products) behind in the competition.

Competitors that have not produced the new products may require a longer lead time to avoid potential intellectual property issues and to produce their own comparable products (Choi & Thum, 1998; Schilling, 2002). In the case of EVs, EV manufacturers are highly sensitive to protecting the intellectual property with regard to their EVs. Since the industry standards of manufacturing EVs are yet to emerge, heterogeneity exists in the key technologies, such as those relating to engines and batteries, thereby resulting in diverse models of HEVs, PHEVs, and BEVs within the same industrial category of EVs (Ehsani et al., 2010; Pilkington & Dyerson, 2006).

In this situation, EV manufacturers would pursue industry leadership in EVs (Jenn et al., 2013; Marcus & Geffen, 2005), and would accordingly undertake their own individual lobbying for regulations that are specifically favorable to their respective EV models. If such regulations were enforced, an automaker launching an EV earlier than its competitors would leave such competitors behind in producing comparable EV models. Thus, by engaging in individual lobbying for favorable regulations, firms may individualize the benefits of competitive advantage associated with the new products (Lenway & Rehbein, 1991; Marsh, 1998).

For this reason, launching a new product may no longer be regarded as risky. The effective enforcement of regulations favorable to a new product may render it as a necessary (and not optional) product for competitors under the influence of the same regulations (Georgiou, 2004; Harrison, 2007). With the most favorable "rules of the game" for these new products, firms creating such new products may gain competitive advantages over their competitors if the competitors are "playing the same game" and do not resist the new regulations (Oliver 1991; Bansal & Roth, 2000; Hoffman, 1999). In this way, firms can mitigate the risk of failure associated with the new products or services, thereby enhancing the likelihood of acceptance by consumers, and ultimately sustaining competitive advantages over their competitors who do not create the new products (Barney, 1986; Choi & Thum, 1998; Dobrev & Gotsopoulos, 2010; Schilling, 2002).

In the case of EVs, an EV manufacturer would accordingly be willing to undertake lobbying for effective eco-friendly regulations *after* launching its own EVs. Once environmental regulations are more effectively enforced in the U.S., any automaker with EVs ready for U.S. consumers may capture the demand for EVs, while other competitors without EVs would require

time to develop their own models. Effective regulations on GHG reduction may provide firm-specific competitive advantages to the lobbying automaker that already produces EVs with fewer or no GHG emissions vis-à-vis other automakers that do not produce EVs. Therefore, automakers producing EVs would maximize their individualized benefits from their lobbying for eco-friendly regulations.

> HYPOTHESIS 1. *A focal firm's launch of new products will have a positive relationship with the focal firm's increased lobbying for effective regulations that support the focal firm's new products.*

2.4.3 Substitute of New Products and Lobbying for New Products

Lobbying for regulations favorable to new products is derived from the motivation to increase the sales of new products. Once a new product enters a market, it faces several competitive forces that affect the market performance of the new product. Among these forces, substitute products may be a threat to the new product.

Substitute products perform identical or similar functions (Porter, 1980). With respect to a new product, existing products would be a threat when switching costs are high or the features of existing products (e.g., low running costs) are more attractive to customers than those of the new product (Chen & Miller, 2015; Polidoro & Toh, 2011). However, such a threat would be mitigated if the switching costs drop or if the features of existing products become less attractive. If the threat from substitute products is mitigated, the competitive advantages of newly launched products would become relatively stronger.

Enhancing the competitive advantages of new products may exert influence on the firms of new products that undertake lobbying for regulations favorable to the new products. The goal of lobbying is to shape external institutions in a way that favors new products and, accordingly,

enhances the competitive advantages of the new products in the market (Bonardi et al., 2006; Dorobantu et al., 2017). Yet, the rise of the running costs of substitute products would bring forth the relative enhancement of the new products' competitive advantages. Consequently, firms undertaking lobbying for favorable regulations would reduce their lobbying when the running costs of substitute products increase.

In the case of EVs, conventional ICE vehicles would serve as the substitute products of EVs. Although ICE vehicles are not as eco-friendly as EVs, the price of ICE cars is generally lower than that of similar-sized EVs (Gallagher & Muehlegger, 2011). Instead, the running costs of ICE vehicles (mainly, gas costs) are more expensive than those of comparable EVs (Ehsani et al., 2010). Thus, EV manufacturers often emphasize these lower running costs compared to conventional ICE vehicles as the main attractiveness of EVs in their marketing activities ("Why the future is hybrid," 2004; Marcus & Geffen, 2005). For this reason, the rise of gas costs would increase the running costs of ICE vehicles, which may mitigate the threat from ICE vehicles toward EVs.

Abatement of the threat from ICE vehicles would serve as a relative enhancement of the competitive advantages of EVs in the automobile market. Specifically, the EV manufacturers undertaking lobbying for favorable regulations would enjoy the effect from rising gas costs, compared to EV manufacturers engaging in less lobbying. Since lobbying for favorable regulations is aimed at enhancing the competitive advantages of EVs, rising gas costs would reduce the attractiveness of ICE vehicles, and would conversely increase the attractiveness of EVs. Thus, EV manufacturers engaging in more extensive lobbying for favorable regulations would reduce their lobbying vis-à-vis the EV manufacturers undertaking less lobbying.

HYPOTHESIS 2. *The increased running costs of substitute products for a focal firm's new products will weaken the positive relationship between a focal firm's launch of new products and its increased lobbying for effective regulations that support the focal firm's new products.*

2.4.4 Integrity-Based Management and Lobbying for New Products

Firms often engage in non-economic integrity-based management practices to emphasize their good standing, based on their genuine interest toward society (e.g., eco-friendliness). Firms are accountable to a society that demands the explanation and justification of firms' decisions and behavior within their social system (Jensen, 2006; Tetlock, 1983). As an instrument to demonstrate firms' good standing in their community, integrity-based management is under heavier scrutiny in terms of its responsibility to show firms' commitment to society as good citizens (Aragon-Correa & Sharma, 2003; Donaldson & Preston, 1995; Menguc, Auh, & Ozanne, 2010). For this reason, integrity-based management reinforces firms' contributions to society and ultimately captures their leadership role in their industry (Buysse & Verbeke, 2003; Jones, 1995; McWilliams & Siegel, 2001).

In the case of EVs, some automakers engage in a type of integrity-based management called green management, which refers to environmentally oriented firm management that is focused on preventing or reducing pollution, waste, and emissions (Hart, 1995; Menguc et al., 2010). Increasing concern regarding environmental protection requires that successful firms not only avoid doing harm, but also do beneficial acts through environmental management (Berry & Rondinelli, 1998). By addressing this societal request, firms proactively engage in green management, such as voluntarily reducing pollution (Ambec & Lanoie, 2008; Rothenberg et al., 1992).

How would firms' green management affect their lobbying for effective eco-friendliness? A firm's lobbying for effective eco-friendliness would reshape its institutional environment toward eco-friendliness. Through such institutional changes, the firm may secure favorable regulations toward eco-friendly products in the market (Kerr et al., 2014; Morck et al., 2001). However, firms that are devoted to green management secure a good standing in society and may have different motivations toward lobbying for eco-friendly products. That is, firms' green management is derived from social concerns based on genuine interest in a better society, whereas lobbying for eco-friendly products are oriented to firms' increased economic performance.

In the case of EVs, automakers' voluntary reduction of GHG emissions would be recognized as their organizational integrity, which fosters better relationships with consumers who are interested in eco-friendliness (Schuitema & Groot, 2015). Due to their good standing in terms of environmental issues, such automakers may occupy an outstanding position on environmental issues and may show superlative environmental leadership in their industry (Buysse & Verbeke, 2003). Thus, if EV manufacturers with a higher degree of green management are involved in lobbying for eco-friendly regulations, such EV manufacturers would reduce their spending on lobbying for eco-friendly regulations derived from an economic motif, compared to EV manufacturers that undertake lobbying for eco-friendliness, but engage in a lower degree of green management.

> HYPOTHESIS 3. *A focal firm's increased engagement in integrity-based management will weaken the positive relationship between a focal firm's launch of new products and its increased lobbying for effective regulations that support the focal firm's new products.*

In the same vein, a firm devoted to integrity-based management may maintain a reinforced perspective regarding the effect of increased running costs for substitute products when it undertakes lobbying for regulations favorable to its new products. Based on integrity-based management practices, the firm can secure a good standing by committing itself to the societal welfare. These firms' good standing would further undermine their need to lobby for favorable regulations, which are already attenuated by increased running costs (Buysse & Verbeke, 2003; Keim & Zeithaml, 1986).

In the case of EVs, automakers may simultaneously engage in green management and lobbying for eco-friendly regulations. If EV manufacturers faced rising gas costs, they would reduce their lobbying for EVs, that is, for eco-friendly regulations that favor EVs. However, EV manufacturers engage in green management in order to exert influence on their lobbying for favorable regulations toward EVs. Accordingly, the EV manufacturers that reduce their lobbying for favorable regulations due to rising gas costs would be motivated to further reduce their lobbying when these EV manufacturers engage in a higher degree of green management, vis-à-vis other EV manufacturers that also reduce their lobbying due to increased gas costs, but engage in a lower degree of green management. Therefore, we argue:

> HYPOTHESIS 4. *A focal firm's increased involvement in integrity-based management will strengthen the negative influence of the increased running costs of substitute products on the positive relationship between a focal firm's launch of new products and its increased lobbying for effective regulations that support the focal firm's new products.*

2.5 Methods

2.5.1 Sample and Data Sources

We test our hypotheses by drawing an initial sample of automotive companies that perform corporate lobbying in the U.S. We obtain data of corporate lobbying by all domestic

firms for the issue of clean air and water since 1999. The data of annual amount of lobbying per firm come from the U.S. Senate.[10] The data from the Senate is based on reports filed with the Senate Office of Public Records (OPR) in conformity with the Lobbying Disclosure Act of 1995. We obtain the remaining data on firms and industries from Ward's AutoWorld, HybridCars,[11] GreenerCars,[12] COMPUSTAT and Capital IQ.[13] We identify 280 observations of 20 automotive companies in the U.S. car market that engage in corporate lobbying for the issue of clean air and water from 1999 to 2014.

2.5.2 Measures

Dependent Variable. For the dependent variable, we leverage corporate lobbying for eco-friendliness as a proxy for *corporate lobbying for regulations supporting new products* by using the ratio of the annual total firm spending on lobbying for clean air and water issues divided by the total annual spending on lobbying for the same issues in the automotive industry. Given that we focus on the lobbying by an automaker for the clean air issue, we endeavor to capture the relative weight of the automaker's lobbying in the total lobbying for clean air in the automotive industry. To analyze the influence of an automaker's launch of EVs during a given year (t) on the annual corporate lobbying during the subsequent year ($t+1$), we use the ratio of corporate lobbying of the subsequent year as the mediating variable.

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[10] The data is available from the website of the Lobbying Disclosure Act Database of the U.S. Senate. http://soprweb.senate.gov/index.cfm?event=selectfields

[11] HybridCars maintains the database of sales records of the hybrid cars in the U.S. car market. http://www.hybridcars.com

[12] GreenerCars presents the database of sales records of the vehicles that meets Low Emitting and Fuel Efficient Vehicles requirements.
http://www.greenercars.org

[13] From Capital IQ we use only market capitalization in measuring firm growth by calculating market to book value of total assets.

Independent Variable. For the independent variable of *launch of new products*, we measure an automaker's launch of EV as a proxy by using a binary variable of a value of 1 if an automaker has a positive number of EV sold during a given year, and 0 otherwise.

Moderating Variables. For the moderating variable of *running costs of substitute products*, we use the natural logarithm of the gasoline costs of the U.S. that are available from the database of the U.S. Energy Information Administration (EIA).[14] Also, we measure an automaker's voluntary reduction of GHG emission from its vehicle production facilities as a proxy for the independent variable of *degree of integrity-based management* by employing the Risk-Screening Environmental Indicator (RSEI) scores, issued by the U.S. Environmental Protection Agency (EPA), which capture an automaker's voluntary abatement of GHG emission from its manufacturing facilities within the U.S.[15]

***Control Variables*.** We include several firm-level control variables to control for effects of a firm's financial status and capability. First, we include *firm size* using the natural logarithm of the firm's book value of total assets (Kish-Gephart & Campbell, 2015), *firm age* measured by the natural logarithm of the difference between the incorporating year and the current year (Hillman et al., 2004), and *firm growth* using tobin's q, firm's market value to book value of the total assets (Chung & Pruitt, 1994), and *firm performance* using the return on assets (ROA) (Iyer & Miller, 2008).

We also control for antecedents that may also influence corporate lobbying. First, we control for *associational lobbying by an automaker's trade association* as the ratio of the total

[14] https://www.eia.gov/petroleum/gasdiesel

[15] https://www.epa.gov/rsei

annual spending by a trade association on clean air and water issues to the total spending on the same issues (de Figueiredo & Tiller, 2001). Second, we control for *R&D intensity* using the ratio of firm's total R&D expenditures to the firm's total sales (Ozer & Lee, 2009). Firms with more R&D expenditure may undertake more political action to secure information on public policy related to the industry of such firms and accordingly to enforce favorable policy-making (Alt et al., 1999). Third, we control for *corporate lobbying for other issues* leveraging the ratio of firm's total lobbying expenditures other than that of the clean air issue to the total lobbying expenditures of the automotive industry. Firms' lobbying is under the restriction of resources availability (Hillman et al., 2004; Schuler, 1996). Thus, firms' spending on the lobbying for other issues may affect the availability of resources for firm's lobbying for the clean air issue.

Fourth, we control for *first year of launch of new products* by using a binary variable of a value of 1 if it is the first year of launching new products by an automaker, and 0 otherwise. Firms may put the most efforts in the first year of a new product, and thus the lobbying for new products in the launching year would tend to be larger than usual. Fifth, we control for the degree of *environmental regulations stringency*. The high stringency of regulations may be regarded as an achievement of the lobbying for effective regulations (Buchanan, 1968; Schuler, 1996). Thus, environmental regulation stringency may influence firm lobbying for eco-friendliness exogenously. We measure the environmental regulation stringency by using Environmental Policy Stringency Index of the U.S., issued by Organisation for Economic Cooperation and Development (OECD).[16] Sixth, we control for *domestic firm*. The U.S. automakers would be more concerned with the lag of their home country in terms of eco-friendly regulations than

[16] https://stats.oecd.org/Index.aspx?DataSetCode=EPS

foreign automakers. We measure the variable of domestic firm by using a binary variable of a value of 1 if an automaker has its majority shareholders in the U.S., and 0 otherwise (Un, 2016).

We also attend to the potential influences on the lobbying by organizational slack, long-term corporate debts, and cash holdings (Garvey & Hanka, 1999; Schuler et al., 2002). Among the three distinctive categories of absorbed, unabsorbed, and potential slacks of organizational slack, unabsorbed slack functions as the financial buffering mechanism to afford corporate political activities (Greve, 2003). In this regard, we include a control for *unabsorbed slack* using the current ratio, the ratio of current assets to current liabilities (Iyer & Miller, 2008). For long-term corporate debts, we include a control for *leverage* as the ratio of long-term debt to the book value of total assets (Flammer, 2015). For *cash holdings*, we include a control for the cash-to-asset ratio in consideration of the influence from cash holdings toward lobbying as well as firm growth opportunity (Hill, Kelly, Lockhart, & Ness, 2013; Opler, Pinkowitz, Stulz, & Williamson, 1999). Finally, we also include dummy controls of the fiscal year.

2.5.3 Model

We employ generalized least squares (GLS) models because our dataset violates the assumption of autocorrelation given the test results for autocorrelation in our panel data (Cameron & Trivedi, 2009; Wooldridge, 2002).[17] We leverage the GLS models for the whole samples from 1999 to 2014.

[17] The Hausman test (Hausman, 1978) results also support the employment of the GLS models. For the GLS model, the Wooldridge test for autocorrelation presents zero *p*-values that reject the null hypothesis that no first-order autocorrelation (AR1) exist in panel data. Given that we employ STATA to test our GLS models, we handle this first-order autocorrelation (AR1) by using "corr(psar1) force" command.

2.6 Results

2.6.1 Main Results

Table 2.1 presents the correlations among the variables of our models for both phases. We analyze the variance inflation factors (VIFs) for variables in order to check the multicollinearity issues. The VIFs analysis presents the highest VIF values of 3.17 and the average of 1.74, confirming that VIFs are below the recommended threshold of 10 (Neter et al., 1996). Thus, multicollinearity may not be a major concern in our models.

Table 2.2 shows the outcomes of our hypotheses testing. H1 contends that a firm that has launched new products (e.g., EVs) is more inclined to undertake the firm's lobbying for effective regulation favoring the new products (e.g., regulations for eco-friendliness). The positive coefficients of new product launch variables are found in Models 3 and 5 of Table 2.2 with statistical significance and thus support H1. H2 argues that the increased running costs of substitute products (e.g., gas costs) negatively moderates H1. The coefficients of the interaction term of the launch variable and the running cost variable in Models 3 and 5 are negative and significant, which support H2.

H3 posit that a higher degree of a firm's integrity-based management (e.g., green management) also moderates H1 negatively. The coefficient of the interaction term of the launch variable and the integrity-based management variable in Model 5 is negative and significant. Thus, H3 is supported. H4 predicts that a higher degree of a firm's integrity-based management positively moderate H2. The coefficient of the three-way interaction term of the launch, the running costs of substitute products, and the integrity-based management variable in Model 5 is negative with significance, which support H4.

Table 2.1. Descriptive Statistics and Correlations [a]

Variable	Mean	S.D.	Min.	Max.	1	2	3	4	5	6	7
1. Lobbying for regulations favorable to new product	0.003	0.009	0	0.045	1.000						
2. Firm size	12.20	2.449	3.965	18.81	0.022	1.000					
3. Firm age	4.226	0.508	1.792	4.727	0.242	0.084	1.000				
4. Firm growth	0.516	0.907	0.000	12.89	-0.141	-0.276	-0.415	1.000			
5. Firm performance	0.087	0.065	-0.353	0.282	-0.055	0.042	0.402	-0.235	1.000		
6. Associational lobbying	0.201	0.042	0.116	0.277	0.028	0.041	0.068	-0.009	0.048	1.000	
7. R&D intensity	0.043	0.063	0	0.797	-0.006	-0.307	-0.251	0.409	-0.584	-0.013	1.000
8. Lobbying for other issues	0.054	0.083	0	0.336	0.716	0.005	0.276	-0.163	-0.069	0.029	-0.009
9. First year of launching	0.037	0.189	0	1	0.139	0.061	0.056	0.017	0.032	-0.010	-0.006
10. Environmental regulatory stringency	0.114	0.072	0.380	0.630	0.020	0.025	0.040	0.057	0.058	-0.030	-0.031
11. Domestic firm	0.259	0.438	0	1	0.131	0.103	0.179	-0.082	-0.033	0.047	0.014
12. Organizational slack	1.228	0.442	0.357	4.424	-0.002	-0.384	0.177	0.339	0.198	-0.065	0.127
13. Leverage	0.194	0.113	0	0.531	0.396	-0.059	0.169	-0.072	-0.313	0.014	0.003
14. Cash holdings	0.144	0.090	0.025	0.534	-0.101	-0.194	-0.128	0.373	-0.011	-0.007	0.141
15. Launch of new products	0.201	0.402	0	1	-0.152	-0.080	-0.029	-0.043	-0.039	-0.009	0.092
16. Running costs of substitute products	-0.000	1	-0.939	1.191	0.233	-0.057	-0.008	-0.047	0.035	0.003	0.026
17. Degree of integrity-based management [b]	1.158	0.105	1.065	1.423	0.115	0.018	0.036	-0.097	0.087	0.205	-0.117

[a] Correlations with absolute values greater than 0.115 are significant ($p<0.05$).
[b] Standardized value.

Table 2.1. Continued [a]

Variable	8	9	10	11	12	13	14	15	16	17
8. Lobbying for other issues	1.000									
9. First year of launching	0.080	1.000								
10. Environmental regulatory stringency	0.009	-0.092	1.000							
11. Domestic firm	0.359	0.332	-0.008	1.000						
12. Organizational slack	0.007	-0.039	0.084	-0.041	1.000					
13. Leverage	0.407	0.030	-0.027	0.135	-0.138	1.000				
14. Cash holdings	-0.237	-0.016	0.065	-0.097	0.501	-0.338	1.000			
15. Launch of new products	-0.268	-0.098	-0.005	0.297	-0.051	-0.069	0.034	1.000		
16. Running costs of substitute products	0.077	-0.021	-0.018	0.174	0.062	-0.149	0.139	0.132	1.000	
17. Degree of integrity-based management [b]	0.058	-0.089	-0.201	0.252	-0.045	0.010	-0.214	-0.031	0.105	1.000

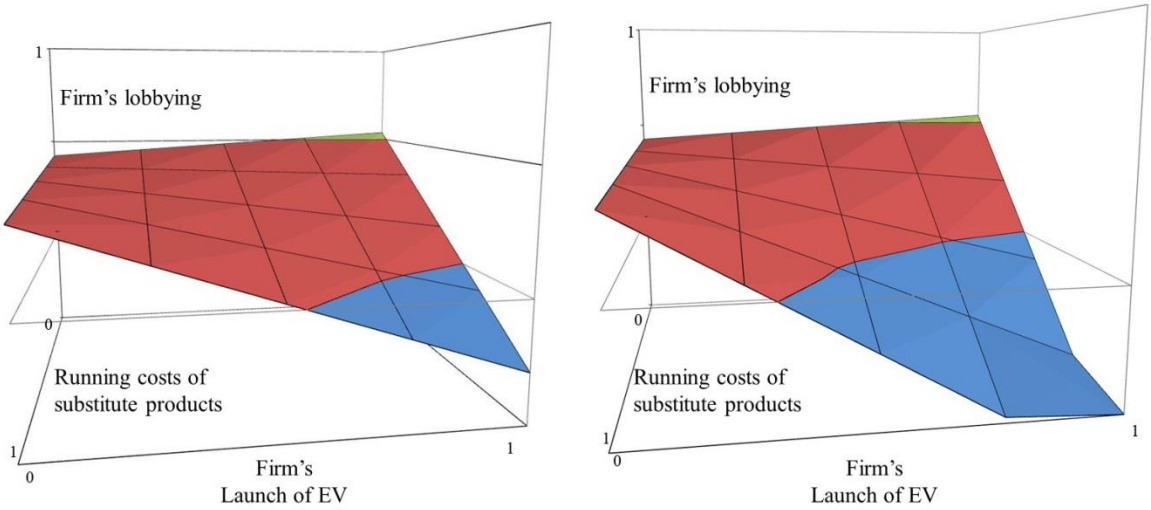
[a] Correlations with absolute values greater than 0.025 are significant ($p<0.05$).
[b] Standardized value.

Table 2.2. Results of Generalized Least Squares Models [a]

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Controls					
Year dummies	Included	Included	Included	Included	Included
Firm size	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Firm age	0.000	-0.001	0.000	0.000	-0.002
	(0.003)	(0.004)	(0.004)	(0.005)	(0.005)
Firm growth	0.001	0.001	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Firm performance	0.010	0.010	0.007	0.012	0.010
	(0.023)	(0.023)	(0.023)	(0.023)	(0.022)
Associational lobbying	0.018	0.025	0.601***	0.590***	0.568***
	(0.072)	(0.072)	(0.209)	(0.209)	(0.206)
R&D intensity	-0.000	0.003	-0.001	0.003	-0.004
	(0.018)	(0.021)	(0.019)	(0.019)	(0.019)
Lobbying for other issues	0.130***	0.131***	0.113**	0.122***	0.121***
	(0.046)	(0.046)	(0.046)	(0.046)	(0.0456)
Environmental regulatory stringency	-0.004	-0.004	-0.004	-0.004	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Domestic firm	-0.037	-0.032	-1.111***	-1.093***	-1.040***
	(0.125)	(0.128)	(0.397)	(0.400)	(0.393)
Organizational slack	0.001	0.001	0.001	0.001	0.002
	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)
Leverage	0.001	0.001	0.002	0.002	0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Cash holidngs	0.015	0.016	0.013	0.011	0.010
	(0.012)	(0.013)	(0.012)	(0.014)	(0.014)
Direct effects					
Launch of new products [H1]		0.001	0.035*	0.002	0.039*
		(0.003)	(0.021)	(0.004)	(0.021)
Running costs of substitute products			-0.588***	-0.590***	-0.558***
			(0.203)	(0.204)	(0.200)
Degree of integrity-based management			-0.001	-0.001	0.026***
			(0.001)	(0.001)	(0.009)
Two-way interaction terms					
Launch × Running costs of Substitute products [H2]			-0.019*		-0.021*
			(0.018)		(0.017)
Launch × Integrity-based management [H3]				-0.001	-0.036*
				(0.003)	(0.019)
Running costs of substitute × Integrity-based management					-0.024***
					(0.008)
Three-way interaction term					
Launch × Running costs of Substitute products × Integrity-based management [H4]					-0.041*
					(0.016)
Constant	0.0321	0.0302	1.584***	1.571***	1.495***
	(0.118)	(0.119)	(0.555)	(0.558)	(0.547)
Observations	*280*	*280*	*280*	*280*	*280*
Groups	*20*	*20*	*20*	*20*	*20*
Wald χ-squared	*51.26****	*50.39****	*56.71****	*53.48****	*70.24****

[a] Standard errors appear in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

Figure 2.2 exhibits how the interaction among a firm's launch of new products, the running costs of substitute products, and a firm's degree of the firm's integrity-based management, with all other variables controlled. As depicted in Figure 2.2a, with a low degree of firms' integrity-based management, a firm's launch of new products increases the firm's lobbying when there is no effect from the running costs of substitute products. This is in line with H2. However, as the running costs increases, the firm's lobbying would be reduced even if the firm launches new products. Figure 2.2b shows the situation of a high degree of firm's integrity-based management. The overall trend of the movement of a firm's lobbying upon its launch of new products and the running costs of substitute products are similar, but the downward slope of the surface plot is deeper than that in the situation of a low degree of the integrity-based management. Thus, Figure 2.2b illustrates the three-way interaction term contended in H4.



a. Low Degree of Integrity-based management

b. High Degree of Integrity-based management

Figure 2.2. Interaction between Launch of New Products and Running Costs of Substitute Products on Firm's Lobbying

2.6.2 Robustness Checks

Our empirical analysis reveals overall support for all of our hypotheses, but we conduct additional analysis to ensure the robustness of the main results. Our robustness check mainly focuses on the variables of firms' launch of new product and lobbying for regulations favorable to the new products (H1). That is, our argument on H1 is built on a theoretical assumption that firms would undertake lobbying for regulations favoring new products *after* their launch of the new products. However, it may also be argued that firms could lobby for the regulations *even before* their launch, contemplating their launch in the future. In other words, some variable may influence the launch of new product and the lobbying for favorable regulations simultaneously, and thus those two are likely to be endogenous.

To cope with this issue, in the first phase of our model, we leverage difference-in-differences (DiD) estimation for Hypothesis 1. DiD estimation is effective when a specific event is identified and a comparative analysis of the difference in outcomes prior to and after the event between groups under the event and those not affected (Bertrand, Duflo, & Mullainathan, 2004; Zhao & Chen, 2009). Therefore, DiD estimation helps to avoid endogeneity issues in the model (Meyer, 1995). Since DiD estimation requires both event (prior to or after) and treatment (those affected versus not), we use the launch of new product as the event, and for treatment variable, we newly employ a binary variable of a value of 1 if an automaker has experience of EV production, and 0 otherwise. We estimate the coefficients of the following equation:

$$\text{Lobbying}_{it+1} = \alpha + \beta\text{Treated}_i + \gamma\text{Launch}_i + \delta\text{Controls}_{it} + u$$

where, for firm *i* and year *t*, α represents intercepts, δ denotes a vector of coefficients for control variables, and *u* indicates disturbance term.

Table 2.3. Robustness check: Difference-in-Differences Estimation Results

	Treated (EV maker)	Control (Non EV maker ever)	**Difference (Treated – Control)**
Lobbying prior to the Launch of EV	0.014	0.000	0.014***
Lobbying after the Launch of EV	0.018	0.000	0.018***
Difference-in-Differences	0.004	0.000	0.004*

*** p<0.01, ** p<0.05, * p<0.1

Table 2.4. Robustness check: GLS Model Results with Difference-in-Differences Estimation [a]

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Controls	Included	Included	Included	Included	Included
Treated	0.001	0.049***	0.007	0.023**	0.026***
	(0.008)	(0.006)	(0.008)	(0.009)	(0.009)
Direct effects					
Launch of new products [H1]		0.005**	0.026	0.006	0.023
		(0.002)	(0.021)	(0.005)	(0.021)
Running costs of substitute products			-0.508**	-0.496**	-0.468**
			(0.210)	(0.217)	(0.215)
Degree of integrity-based management			-0.001	-0.001	0.030***
			(0.001)	(0.001)	(0.009)
Two-way interaction terms					
Launch × Running costs of substitute products [H2]			0.006		-0.029
			(0.004)		(0.019)
Launch × Integrity-based management [H3]				-0.001	-0.026
				(0.003)	(0.019)
Running costs of substitute × Integrity-based management					-0.028***
					(0.009)
Three-way interaction term					
Launch × Running costs of Substitute products × Integrity-based management [H4]					-0.041*
					(0.017)
Constant	0.0321	0.0302	1.584***	1.571***	1.495***
	(0.118)	(0.119)	(0.555)	(0.558)	(0.547)
Observations	*280*	*280*	*280*	*280*	*280*
Groups	*20*	*20*	*20*	*20*	*20*
Wald χ-squared	*51.26****	*50.39****	*56.71****	*53.48****	*70.24****

[a] Standard errors appear in parentheses.
*** p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

Table 2.3 presents the results of DiD estimation. The coefficient of lobbying increases around the launch of new products for EV producers, but does not change for carmakers that never produce EVs. The comparative analysis of coefficients in difference-in-differences represents the 0.004 increase in the coefficient of lobbying with significance (p<0.1).

Table 2.4 shows the results of our GLS model of the first phase with *Treated* variable included. The variables of our principal interest are *Launch* (H1) which controls for the fixed differences between prior to and after the launch of new products and *Treated*, the variable controlling for the fixed differences between treated automakers and control automakers. The coefficients of both variables are positive with significance in Model 2, which supports H1 in conformity with our main GLS models.

2.7 Discussion

2.7.1 Contributions and Practical Implications

In our study, we probe the impact of a firm's new product launch, the running costs of substitute products, and the firm's integrity-based management toward its lobbying for regulations favoring new products and the success of these products. We test this impact and find that a firm's launch of new products positively affects its lobbying, but the increased running costs of substitute products and enhanced integrity-based management exert influence on lobbying in a way that abates a firm's motivation to lobby. With this theorizing and finding, our study endeavors to contribute to the existing research streams in at least three aspects.

First, we attempt to shed new light on firms' nonmarket strategy to reinforce their market competitiveness. In other words, we extend the strategic choice of firms to individual political action with respect to their market strategy involving new products. Since new products do not

guarantee profitable success, firms would want to implement their strategic choices to foster market acceptance toward the new products. Departing from the conventional literature focusing on risk *ex ante* (Bayus et al., 1997; Choi & Thum, 1998; Gupta & Wilemon, 1990; Schilling, 2002), we explore risk *ex post,* which is found after new products are created. Furthermore, instead of deepening firms' strategic choices based on their internal resources and capabilities (Barny, 1991; Eisenhardt, & Martin, 2000; Peteraf, 1993; Teece, 2007), we probe how firms may reduce risk by influencing external constraints, which may motivate markets to accept the new products. In this regard, we identify the strategic value of firms' nonmarket strategy, which is tied to firms' market strategy of new products, and ultimately pursues the firms' competitive advantages.

Second, we attempt to explore the value creation provided by the nonmarket strategy of individual corporate lobbying. Prior research finds that nonmarket strategies contribute to firm performance in the form of market and shareholder returns (Buysse & Verbeke, 2003; Porter & Kramer, 2006; Hillman et al., 1999; Marsh, 1998). Nevertheless, researchers also find it difficult to identify the direct effects of either strategy on firm performance (Aguinis & Glavas, 2012; Hillman et al., 2004). We identify the strategic value of issue-specific lobbying in gaining and sustaining competitive advantages over competitors by adopting the context of lobbying for specific regulations that favor the lobbying firms' new products and the market performance of these products. Hypothesizing and finding support for the direct influence of individual lobbying on market performance, we may accordingly extend the frontier of corporate lobbying research concerning specific firm value creation.

Third, we attempt to extend firms' strategic choices of green management (an example of

integrity-based management practices) in order to gain a good standing in eco-friendliness, which is our research context. Prior research on nonmarket strategies probes the strategic implications of green management; however, the implication is mainly associated with firm performance in terms of economic returns (Buysse & Verbeke, 2003; Porter & Kramer, 2006; Hillman et al., 1999; Marsh, 1998). Furthermore, this implication pays little attention to the relations with and influence on (or from) other nonmarket strategies, such as corporate lobbying. We hypothesize and find a negative influence of green management toward lobbying for eco-friendliness, and we accordingly explore the substitutive role of each nonmarket strategy, which has rarely been analyzed in prior research.

2.7.2 Limitations and Directions for Future Research

We also open avenues for future research, based on the extant limitations of our study. First, there are high correlations between the variables of automakers' lobbying for regulations favoring new products (lobbying for eco-friendliness) and lobbying for other issues. These high correlations may furnish interesting implications for further exploration, even though our additional analysis replacing lobbying for eco-friendliness with that for other issues does not show any congruent results with our hypotheses.

In our research context, automakers' lobbying for other issues may include lobbying *against* eco-friendliness, given that most vehicles that automakers produce are ICE vehicles (Beder, 1997). Thus, automakers' launch of new eco-friendly vehicles and their lobbying for such vehicles may burden the automakers themselves, as long as their main business is still related to conventional ICE vehicles. Our study does not fully analyze this internal cannibalization of automakers, nor does it examine the underlying motivation of ambidextrous

lobbying. Nevertheless, it warrants scholarly attention for additional exploration.

Second, with respect to our research context, researchers may wish to incorporate recent movements within the U.S. government regarding climate change into future research. President Trump's first day in office oversaw the deletion of climate change information on the White House's website (Davenport, 2017). Finally, Trump officially announced that the U.S. would pull out of the Paris Agreement, thereby releasing the U.S. industry from the burden of GHG reduction (Shear, 2017). Given these actions to dismiss pro-environmental policies, the effective enforcement of eco-friendly regulations may soon be reversed during the Trump administration. This expected change regarding climate change policies may present yet another research setting. Researchers may analyze how automakers' lobbying for eco-friendliness and sales of EVs would change in regard to the expected reversal of climate change policies by the Trump administration, which may yield different implications from our study.

2.8 Conclusion

Firms create new products as a means of outperforming competitors. However, new products themselves may be at risk. We find that firms launching new products attempt to lobby for favorable regulations, even though such an economic motivation of lobbying may be undermined by an external factor related to substitutes and an internal factor related to integrity-based management. In so doing, we leverage the research setting where EVs are regarded as new eco-friendly products, and where EV manufacturers are undertaking lobbying for effective eco-friendly regulations. In conclusion, we present a research implication of "the dynamic interaction between institutions and organizations, and ... [firms'] strategic choices as the outcome of such an interaction" (Peng et al., 2008: 922).

CHAPTER 3

(DIS)INCENTIVES OF CORPORATE LOBBYING FOR PRIVATE BENEFITS: THE CASE OF THE BYRD AMENDMENT IN ANTIDUMPING PROTECTION

3.1 Synopsis

Private incentives in collective benefits usually motivate individual contributions to the private share of the benefits. However, in spite of the private incentives introduced by an antidumping regulation called the Byrd Amendment, some firms remained inactive in their individual lobbying for their private benefits, while other firms undertake the lobbying. Focusing on this research setting where the Byrd Amendment was effective between 2001 and 2007, we probe the impact of (dis)incentives of firms' lobbying for private benefits that are derived from the factors of firms' market competition. By testing the impact of those (dis)incentives in a sample of lobbying firms, we find that firms' foreign-source profit demotivates the lobbying while competition in their industry and their organizational age motivate the lobbying, and the firms' excessive claim of private benefits would affect such (dis)incentives in a way to encourage the lobbying for private benefits. The implications of our findings on firms' market and political competitions in antidumping context are also discussed.

3.2 Introduction

Why do some firms lobby and other firms *not*, even if private incentives to lobby are provided? As a corporate political strategy, lobbying aims to influence and shape external institutions (Hillman & Hitt, 1999; Dorobantu et al., 2017). By influencing external institutions, firms attempt to capture the benefits that are derived from these institutions (Hill & Hoskisson,

1987; Lux, Crook, & Woehr, 2011). However, the institutional benefits secured by political strategies are collective benefits (Lenway & Rehbein, 1991; Schuler, 1996). When a collective benefit is conferred to a specific group, all members of the group may use and enjoy the benefit without being excluded (Musgrave, 1959; Ostrom, 1990). The nature of this collectivity creates free riders, which may explain firms' inactivity in their corporate political actions (Hillman, Zardkoohi, & Bierman, 1999; Keim, 1981).

Firms' inactivity due to the free-rider problem would be mitigated when private incentives are introduced to collective benefits (Olsen, 1965; Sandler, 1992). Contrary to collective benefits, private incentives are excludable: private incentives make benefits unavailable to parties other than the party that is appropriating the benefits (Musgrave, 1959; Ostrom, 1990). Accordingly, the incentives that bring forth private benefits encourage voluntary private contributions (Alchian & Demsetz, 1973; Sandler, 1992).

However, many firms would remain inactive with respect to lobbying, even when private incentives are provided (Baron, 1996; Baumgartner, Berry, Hojnacki, Leech, & Kimball, 2009). First, from the perspective of the free-rider problem, it may be puzzling as to why some firms still hesitate to undertake lobbying, even with private benefits. If private incentives fail to motivate many firms to undertake individual political action and, accordingly, do not mitigate the collective action problem therein, firms' inactivity in terms of political action is not in line with the prediction and finding of the collective action literature. Second, from the perspective of corporate political strategy, inactivity in political strategy has been a relatively unexplored area, while the approach, participation level, and choice of political strategy have received substantial scholarly attention (Hillman & Hitt, 1999). In particular, little scholarly attention has been

devoted to the demotivating effect of the costs of corporate political action (Hillman et al., 1999; Keim & Zeithaml, 1995; Marsh, 1998).

To fill this gap, we endeavor to probe the nature of corporate lobbying as a competition for benefits in the political domain. Corporate political action is essentially an action of competition for resources. By shaping external institutions, political action pursues the (re)allocation of existing wealth that is favorable to political actors (Lenway, Morek, & Yeung, 1996; Mitra, 1999; Tullock, 1967). To appropriate larger shares from the allocation, firms would engage in a competition against their competitors in the same group, such as an industry (Becker, 1983; Hillman & Riley, 1989; Hoffman, 1999). Lobbying for antidumping would also be considered as political competition (Keim & Zeithaml, 1986; Kerr, Lincoln, & Mishra, 2013; Morck, Sepanski, & Yeung, 2001), but the competition for private benefits from antidumping would become a competition among individual firms in the same industry to which the antidumping is awarded. This intra-industry competition in the political domain would be influenced by factors of the same competition within the industry, but in a different domain, that is, market competition (Becker, 1983; Bonardi et al., 2005; Nitzan, 1994).

In terms of the scholarly contribution of prior research with regard to the ties of corporate political strategy and market strategy (Bach & Allen, 2010; Keim & Baysinger, 1988; Moe, 1980; Schuler, 1996, 1999), this study focuses on this individual firm-level political competition, which may be affected by the factors of market competition. To explore the influence of such factors toward individual corporate lobbying for antidumping, we use a unique research setting of the

so-called Byrd Amendment, an antidumping legislation.[18] While conventional antidumping legislation provides trade protection to a specific industry and the companies therein, the Byrd Amendment subsidized individual firms by distributing antidumping duties collected from foreign exporters (Lee & Baik, 2010; Liebman & Reynolds, 2006). The individual distribution of the subsidy emerged as private incentives (Alchian & Demsetz, 1973; Reynolds, 2006). The Byrd Amendment accordingly provides a meaningful background in which we may examine firms' decision to *lobby-or-not* under private incentives.

Our primary argument is that firms' lobby-or-not decision hinges on the firms' eagerness for larger disbursement of their expected private benefits from antidumping than other firms' disbursement. In other words, firms hoping to maximize private benefits in their political competition by lobbying would lobby. However, we also contend that firms' positive propensity to lobby for private benefits would change upon the (dis)incentives of the factors from market competition. We test this impact of the factors from market competition in a sample of firms during the period when the Byrd Amendment was effective. We find that the (dis)incentives may (de)motivate firms to undertake lobbying, even with the private benefits appropriated. By exploring these (de)motivating factors in the framework of political competition, we contribute to the literature, which has paid relatively little attention to the inactivity of firms' corporate

[18] The official title of this regulation is the Continued Dumping and Subsidy Offset Act (CDSOA). The Byrd Amendment was named after Senator Robert Byrd, who proposed the bill, but was initially introduced by Senator Mike DeWine in 1999 during the first year of the 106th Congress. The first CDSOA raised questions concerning its legal validity, and therefore could not gain support (Schmitz & Seale, 2004). Senator Byrd introduced the updated CDSOA during conference committee negotiations at the end of the 106th Congress and inserted it into an unrelated piece of legislation ("The Agricultural Appropriations Act"). Congress then had to vote on its entirety, without any review by relevant committees with expertise (Rus, 2007).

political action within the political competition perspective. Figure 3.1 exhibits our theoretical framework.

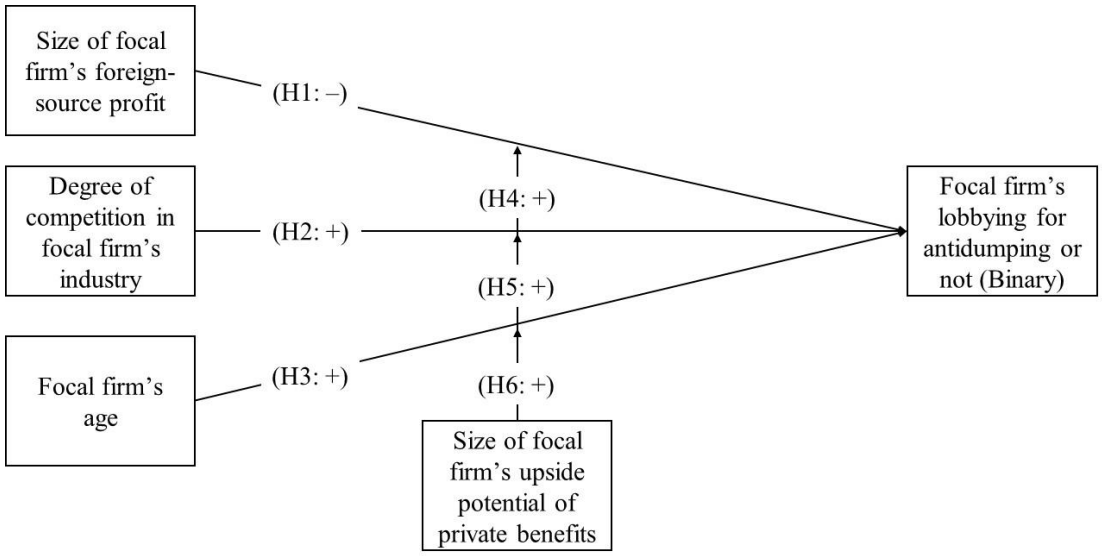


Figure 3.1. Theoretical Framework

3.3 Incentives of Undertaking Corporate Political Action

3.3.1 Corporate Political Action, Collective Benefits, and Private Incentives

Corporate political action refers to firms' strategic movement to influence their external environment, specifically, external regulations (Keim & Zeithalm, 1986; North, 1990; Peng, Wang, & Jiang, 2008). This strategic action aims to (re)distribute the existing wealth by shaping external environments in a favorable manner to firms undertaking political action (Hillman & Riley, 1989; Krueger, 1974). By leveraging corporate political action, firms attempt to sustain their competitive advantage with a favorable (re)distribution of wealth (Dorobantu et al., 2017; Hillman, Keim, & Schuler, 2004).

The resultant outcome of corporate political action is often collective benefits (Schuler, 1996). If a firm's political action accomplishes its strategic goal to change external institutions,

the change would influence other firms in the same institutional field (Oliver 1991; Hoffman, 1999). In other words, the benefit from a firm's political action would not be exclusive to the firm, but would be enjoyed by other firms that are under the influence of the same institutions (Musgrave, 1959; Ostrom, 1990). Even firms that do not engage in any lobbying expenditures may enjoy the collective benefits if any firm in the same institutional field contributes to and achieves these collective benefits (Buchanan, 1968; Hardin, 1982).

This characteristic of collectivity in the benefits from corporate political action provides two strategic choices to firms seeking collective benefits. First, firms would want to free ride on other firms' efforts to appropriate the collective benefits (Keim, 1981; Olson, 1965). This attempt to free ride may originate from firms' motivation to save costs in securing collective benefits. Second, firms may want to coordinate their political action with other firms that share common interests in appropriating collective benefits. This coordination or collaboration in political action enhances the effectiveness of political action through the unification of voices toward policymakers (Drope & Hansen, 2007; Grossman & Helpman, 2001). These two strategic choices are to maximize the expected total wealth to a firm, and to minimize the costs to the firm in the appropriation of collective benefits (Milgrom & Roberts, 1990).

Private incentives would change the rules of the game pertaining to collective benefits. Private incentives are defined as benefits provided to natural or legal person(s) exclusively (Alchian & Demsetz, 1973; Demsetz, 1967). Upon the provision of private incentives, the cost-bearing claimants enjoy the benefits and exclude other parties that do not bear the cost of securing the benefits (Musgrave, 1959; Ostrom, 1990). Because of the private incentives, firms are motivated to stop free riding and to spend their individual resources in order to appropriate

the collective benefits (Olson, 1965; Sandler, 1992). Furthermore, the heterogeneity in the magnitude of private benefits across firms would reduce the need for coordination with other firms (Barnet, 2013; Bombardini & Trebbi, 2012). In short, private incentives individualize benefits into a single firm's strategic decision-making.

3.3.2 Private Incentives and Private Costs

The real world finds that, even if new private incentives are introduced, some firms often remain hesitant, while other firms increase their spending for private benefits. The literature exhibits the finding that new private incentives do not necessarily motivate organizations to seek them (Adreoni, 1988; Magolis, 1980; Muller & Opp, 1986). It may be because corporate political action for private benefits often involves competition (Lenway et al., 1996; Tullock, 1967).

Firms' pursuit of political benefits is a political competition that seeks policymakers' attention to political benefits (Damania, 1999; Tullock, 1981). The limited time and resources in the policy process may result in the delay or dismissal of firms' political action (Keim & Zeithaml, 1986; Murphy, Shleifer, & Vishny, 1993). Thus, effect delivery of a firm's information to policymakers is critical for the firm's information to compete with other firms' information. To this end, corporate lobbying would be effective in this political competition with respect to antidumping. Through corporate lobbying, firms deliver information of their policy preferences to policymakers (Baron, 1996; Keim & Zeithaml, 1986).

Political competition in corporate lobbying is often twofold. The first concerns inter-industry competition. Since the expected benefits from corporate lobbying are collective, lobbying for these benefits involve competition among industries, in other words, inter-industry

competition (Becker, 1983; Bonardi, Hillman, & Keim, 2005).[19] The second concerns intra-industry competition. Private incentives in antidumping protection would introduce another level of competition—intra-industry competition for private shares from the collective benefits. Private incentives operate *individually* rather than collectively for firms who appropriate their private shares of the benefits (Samuelson, 1954; Sandler, 1992).

With respect to corporate lobbying for private benefits, if firms succeed in appropriating their private benefits, these firms would be *individually* responsible for any costs incurred. Such individualized costs may be attributed to the responsible individual firms that capture the private shares of the benefits (Krueger, 1974; Hillman & Riley, 1989). In short, private incentives individualize not only the benefits, but also the costs.

Thus, firms would exhibit heterogeneous patterns in their lobbying for private benefits with respect to the firms' resources and capabilities in coping with the probable costs that are individually incurred in seeking private benefits (Hillman & Hitt, 1999). For this reason, more scholarly attention may be devoted to what firms consider in balancing private benefits and private costs, and in making the decision to lobby or not for private benefits.

3.4 Political Incentives versus Market (Dis)Incentives

3.4.1 How Do Firms Balance the Costs and Benefits of Lobbying for Private Benefits?

In the decision-making of lobbying or not for private benefits, the bottom line of the decision-making would involve whether lobbying for private benefits contributes to the lobbying

[19] This "inter-group" competition in lobbying for antidumping does not mean that firms do not undertake individual lobbying. Firms often undertake their own individual lobbying, but the benefits from the lobbying are conferred to all firms in the same group of the lobbying firm (Buchanan, 1968; Williamson, 1985). For this reason, it is not inter-individual competition when it comes to the collective benefits from antidumping.

firm's outperformance of its competitors. Corporate political strategy creates value by improving firm performance (Baron, 1997; Russo & Fouts, 1997). To this end, firms' political action affects their core competencies and their position in the market (Bach & Allen, 2010; Keim & Baysinger, 1988).

In particular, the political decision-making of firms would be influenced by the factors of market competition because the goal of corporate political action shares common ground with that of corporate action in a market that also pursues the enhancement of firm capabilities (Moe, 1980; Schuler, 1996). Thus, firms' pursuit of private benefits through political action would be under the influence of firms' strategic initiatives in their market competition.

At first, firms' assessment of the likelihood to appropriate private benefits would belong to the domain of political strategy. The probability of individual corporate political action increases if: (1) the likelihood of capturing private benefits is not minimal or zero; or (2) the expected value of private benefits does not exceed the expected value of costs, although such a likelihood is meaningfully high (Aranson, 1981; Hillman et al., 2004).

In balancing the expected benefits and costs, firms would want to analyze the factors of market competition that are related to the pursuit of private benefits in political domain (Johnston, 2002; Schuler, 1996). The factors of market competition may incentivize or disincentivize firms' political action, even if clear incentives for political action exist. In other words, the factors related to firms' market strategy would amplify or abate the expected value of the private benefits from political action (Keim & Zeithaml, 1995). For example, some firms would be hesitant to undertake political action when they expect strategic disadvantages in their market competition due to engagement in political action, which outweighs the benefits secured by the

political action (Mitnick, 1993; Schuler, 1999). To explore the (dis)incentivizing effect of market competition factors toward corporate political action, we focus on a specific research context—corporate lobbying for antidumping protection.

3.4.2 Case: Antidumping protection, lobbying, and the Byrd Amendment

Antidumping refers to governmental countermeasures against dumping – selling a product in different markets with a price that is below production cost (Lenway, Rehbein, & Starks, 1990). Governments in the world enact antidumping legislation, levying extra duties on imports in order to protect domestic producers from unfair foreign competition (Lash, 1998). If a domestic industry is awarded antidumping protection, the firms in the industry would not incur further economic damage from the dumping behavior by foreign exporters (Ehrenhaft, 1958).

The antidumping literature posits that there exists a political market where domestic firms purchase antidumping protection, such as a commodity, from policymakers by undertaking corporate lobbying toward policymakers (Grossman & Helpman, 1994; Hayes, 1981; Hillman & Keim, 1995). In other words, corporate lobbying for antidumping is regarded as a way of securing antidumping protection. However, not all firms would undertake lobbying for antidumping because antidumping protection is collectively provided. All firms in the protected industry may enjoy antidumping protection because this protection is granted to a particular industry as a whole (Hillman et al., 1999). Therefore, all firms in the protected industry enjoy antidumping protection as a collective benefit (Irwin, 2005; Lenway et al., 1990).

The Byrd Amendment provided new private incentives for the traditional antidumping protection context. Prior to the Byrd Amendment, firms expected that antidumping protection would prevent dumping prospectively (Ehrenhaft, 1958; Irwin, 2005). However, since the Byrd

Amendment was enacted, the antidumping duties that are levied to and collected from foreign exporters were directly distributed to the injured domestic firms in accordance with the granted amount of their injuries claimed. In other words, the monetary distribution is exclusively available for firms that claimed injuries from dumping. Therefore, the Byrd Amendment brought about private incentives of monetary distribution, in addition to the traditional antidumping protection (Alchian & Demsetz, 1973; Lee & Baik, 2010).

3.4.3 Economic and Organizational (Dis)Incentives in the Context of Private Incentives

Private benefits would be a condition precedent of the lobby-or-not decision of firms. If a firm decides to undertake lobbying for antidumping, the firm would expect the disbursement of private benefits. At the same time, however, the lobbying firm may face factors in market competition that would influence its lobbying activity. On the one hand, if an economic factor exerts a negative influence on firms, these firms would regard such an influence as a cost that may disincentivize them from lobbying. On the other hand, the positive influence from an economic factor would incentivize their lobbying. In this regard, such factors would function as incentives or disincentives to undertake lobbying for antidumping.

In analyzing the effect of such (dis)incentives from the factors of market competition, we focus on the strategic and organizational factors that are closely related to the actual private benefits firms are seeking by undertaking lobbying. At first, firms' attempts to appropriate private benefits would trigger a retaliatory response from the foreign firms in the foreign market. In this situation, such retaliatory response may be a potential threat to firms pursuing the private benefits if the firms generate a substantial amount of profit from foreign markets. In contrast, the high degree of competition within the industry of firms would motivate firms' eagerness to seek

the private benefits. Finally, firms' engagement in political competition by undertaking lobbying would exert negative influence on the firms' future growth potentials, which may also serve as a disincentive for firms with a higher growth potential to seek private benefits continuously. We examine these three strategic and organizational factors of market competition and formulate our hypotheses.

Retaliatory Response in Foreign Markets. Antidumping benefits to U.S. domestic firms come at the expense of foreign exporters (Appelbaum & Katz, 1986; Becker, 1983; Hillman & Riley, 1989). Increased corporate lobbying for further private benefits from antidumping would serve as pressure toward the collection of antidumping duties from foreign exporters (Becker, 1983, Lash, 1998). This pressure on foreign exporters may lead them to engage in a retaliatory response in their home countries against U.S. firms that receive private benefits from antidumping protection in the U.S. if such U.S. firms operate in their home countries (Blonigen & Bown, 2003).

The rise of globalization may encourage U.S. firms to go abroad. As firms' businesses are increasingly internationalized, they may generate more profit from foreign businesses than their domestic operations (Kim, Hwang, & Burgers, 1993; Krugman, 1984). With respect to antidumping protection from such foreign firms, the international trade literature posits that antidumping protection for domestic firms exerts a negative influence on the performance of domestic firms with heavy foreign-source profit (Konings & Vandenbussche, 2006; Prusa, 2005). If firms' globalization results in more dependence on foreign sources than domestic ones, these firms would be more sensitive to the responsive actions of foreign firms in foreign countries. In other words, if an antidumping decision by the U.S. government ignites retaliatory actions of

foreign exporters in their home countries, the antidumping decision would be detrimental to U.S. firms generating a substantial amount of profit in those countries.

Hence, firms with larger foreign-source profit may be more concerned about the decision and award of antidumping, compared to firms that secure private benefits from antidumping protection, but earn a smaller amount of foreign-source profit. The private benefits of antidumping are specified and are awarded to specific recipient firms (Liebman & Reynolds, 2006; Reynolds, 2006). For this reason, a retaliatory response by foreign firms may also be stipulated to specific U.S. firms that are the beneficiaries of such antidumping protection in the U.S., whereas firms that generate a smaller amount of foreign-source profit would not be as vulnerable to the retaliatory response.

In short, firms with larger foreign-source profit would be wary of this individual detriment due to the retaliatory responses of foreign firms in foreign markets vis-à-vis the recipient firms with a smaller amount of foreign-source profit. If they consider seeking private benefits from antidumping, such firms would attempt to abate any future risk in their profit from foreign markets. Therefore, we argue:

> HYPOTHESIS 1. *The larger the amount of a focal firm's foreign-source profit is, the less likely the focal firm will be to undertake individual lobbying for antidumping.*

Intra-Industry Competition. Corporate political actions for antidumping protection often involves inter-group competition due to the collectivity in the resultant outcome of corporate political action (Becker, 1983; Bonardi et al., 2005; Nitzan, 1994). However, intra-competition would affect firms' seeking private benefits when private incentives are introduced to antidumping context. Private incentives would individualize the expected benefits from antidumping. In other words, the benefits become rivalrous, and individual firms are responsible

for the costs incurred in pursuing their individual shares of the benefits (Samuelson, 1954; Olson, 1992). Accordingly, firms within a group would pursue the maximization of their individual and private benefits from antidumping ahead of other firms in the industry (Frank, 1985; Nitzan, 1994).

In this situation, a high degree of competition may be found in highly fragmented industries, or low concentrated industries (Dess, 1987; Young, Smith, & Grimm, 1996). Low industry concentration depends on competitive factors such as low entry barriers and no or few advantages from economies of scale (Greenwald & Kahn, 2005). These competitive factors may induce access to new entrants; accordingly, intra-industry competition tends to be intense, the overall profitability of the industry would be hampered, and prominent industry leader(s) are hard to find (Ferrier, Smith, & Grimm, 1999; Porter, 1980). In particular, the market shares of firms in the fragmented industries usually fluctuate rather than become stable (Caves & Porter, 1978). That is, firms in a fragmented industry would face narrow profit margins compared to those in a concentrated industry.

For this reason, firms in a more highly fragmented industry would identify potential private benefits from antidumping as a source of revenue and undertake more lobbying to capture the private benefits, compared to firms that may have a similar amount of benefits but in less fragmented industry. Specifically, due to the intense competition and the relative unstable position in the market, firms that expect larger private benefits in highly fragmented industries may not take for granted an equal or similar amount of actual disbursement unless they undertake lobbying to maximize their shares of private benefits (Ferrier et al., 1999; Lenway & Rehbein, 1991; Sandler, 1992).

Thus, if firms have a volatile market share due to their fragmented structure of the industry, they would want to improve their smaller profit margins and increase their lobbying for private benefits in order to secure their benefits. In contrast, firms that may appropriate stable amount of disbursement due to their relatively concentrated structure of their industry may not want to engage in lobbying. We therefore argue:

> HYPOTHESIS 2. *The higher the degree of competition in a focal firm's industry, the more likely the focal firm will be to undertake individual lobbying for antidumping.*

Organizational Age. The organizational age of firms in their industry may have an influence on their political action in the competition toward private benefits (Gatz, 1997; Hillman et al., 2004). Firms' survival entails costly investments. Since the initial entry into an industry, firms often invest in the resources and capabilities to gain and sustain competitive advantages in their industry (Barney, 1986b, 1991). For example, the implementation of economies of scale, which would hamper prospective entrants, may require costly investments (Porter, 1980). The costliness of such investments would lead the investing firm to pursue learning and experience in maximizing the value creation from the investments and make the investments the specific competency in their industry (Nelson & Winter, 1982; Ranger-Moore, 1997). Thus, aged firms that succeed in the survival are likely to hold investments that are tied to the specific course of operations and transactions in their industry (Sharfman, Wolf, Chase, & Tansik, 1988; Sorenson & Sørensen, 2001).

The accumulation of investments by aged firms in an industry would encourage the aged firms to seek private benefits. The investments in a specific industry would constrain their possible use in other industries (Levinthal & Wu, 2010; Peterlaf, 1993; Rumelt, 1987). Instead, such investments are optimized to create value in the existing industry due to the specific

competency from learning and experience (Chatterjee & Wernerfelt, 1991; Kumar, Scheer, & Steenkamp, 1995). It is because the exit could mean the abandonment of the investments and the related learning and experience that are specific to that industry (Caves & Porter, 1977; McGee & Thomas, 1986). Even if the resources and capabilities earned from the investments may be leveraged in other industries, aged firms with such investments would have fewer strategic options (e.g., diversification) than other firms with more agility due to less investment in the industry (Antonelli, 1997; Porter, 1981). For this reason, more aged firms in an industry would attempt to secure private benefits when the private benefits are available to the firms in the industry, compared to less aged firms that may have further options to diversify their operation into other industries.

In the context of private incentives in antidumping, firms undertaking lobbying would politically compete against other firms in the same industry. Compared to less aged firms in the same industry, more aged firms would be more likely to capture the private benefits because they would have higher opportunity costs when they fail to appropriate the benefits (Hellman et al., 2000). In short, more aged firms would be more desperate to pursue private benefits from antidumping by undertaking lobbying compared to less aged firms in the same industry. Thus, we argue:

> HYPOTHESIS 3. *The more aged a focal firm is, the more likely the focal firm will be to undertake individual lobbying for antidumping.*

3.4.4 Influence of Firms' Intention to Capture Private Incentives in Antidumping

As mentioned above, the strategic and organizational factors of market competition would (dis)incentivize firms to undertake lobby even if private incentives exist. However, such

(dis)incentivizing effects may be changed when firms see the high likelihood of the appropriation of private benefits and, accordingly, show their intent to capture the benefits.

The antidumping literature contends that private incentives may motivate firms to claim the injury from dumping (Leibman & Reynolds, 2006; Reynolds, 2006). Once a firm identifies a case of probable dumping by foreign exporters, the firm would claim the injury from the dumping by petitioning antidumping against the dumping behavior (Konings & Vandenbussche, 2006; Lash, 1998). However, the sum of firms' claimed amount of injury could be larger than the antidumping duties collected from foreign exporters, the source of private benefits (Lash, 1998; Rus, 2007). That is, firms may claim larger amount than the actual injury they suffered. Referring this difference between claimed injury and actual injury to excessive claim of firms' private benefits, we argue that the higher excessive claim of private benefits would affect the claiming firms in a way to undertake lobbying to maximize the actual disbursement.

The claimed amount of injury would not necessarily be provided to the claiming firm as private benefits even if the antidumping decision is awarded. Instead, the actual amount of private benefits received may be smaller than the claimed amount (United States Government Accounting Office, 2005). Given the resource constraints in the governmental policymaking process of trade protection, firms claiming the injury from dumping in an industry would compete for the larger share of private benefits from the antidumping duties collected (Baylis, Martens, & Nogueira, 2009; Samuelson, 1954). In this competition, the strategic importance of corporate lobbying may be found in maximizing the actual disbursement of private benefits.

Corporate lobbying is effective in realizing the returns from the political action to the lobbying firms (Shaffer & Hillman, 2000; Stigler, 1971). The higher the likelihood to appropriate

the private benefits, the stronger the private incentives would motivate firms to undertake lobbying for the private benefits (Keim & Zeithaml, 1995). In other words, firms would undertake lobbying with the expectation to capture benefits in the future. Furthermore, the more a firm seeks the benefits from political competition than they deserve, the more likely the firm would be willing to undertake lobbying to maximize the excessive claim of their private benefits (Hillman et al., 1999; Marsh, 1998). Firms are likely to increase their lobbying when the lobbying would be a way to maximize the benefits from policymaking process (Lee & Baik, 2010; Lenway & Schuler, 1991; Liebman & Reynolds, 2006). When firms claim private benefits that are larger than their actual injury, those firms would attempt to increase their actual disbursement to the claimed amount of injury by undertaking lobbying.

For this reason, the motivating effect from firms' excessive claim of private benefits would exert influence on the (dis)incentives of lobbying. Once firms identify the high likelihood of increased actual disbursement from their lobbying for antidumping, such firms would behave differently from the firms with low likelihood of increased disbursement. That is, the larger excessive claim of firms' private benefits would diminish the demotivating effect from the disincentives of lobbying and would enhance the motivating effect from the incentives of lobbying, vis-à-vis the firms with the smaller excessive claim to increase the actual disbursement of private benefits. We therefore argue:

> HYPOTHESIS 4. *A focal firm's larger excessive claim of private benefits will be more likely motivate the individual lobbying for antidumping by a focal firm that has a larger foreign-source profit.*

> HYPOTHESIS 5. *A focal firm's larger excessive claim of private benefits will be more likely motivate the individual lobbying for antidumping by a focal firm that is located in an industry with a higher degree of competition.*

HYPOTHESIS 6. *A focal firm's larger excessive claim private benefits will be more likely motivate the individual lobbying for antidumping by a focal firm that is more aged.*

3.5 Methods

3.5.1 Sample and Data Sources

In order to test our hypotheses, we draw an initial sample of U.S. firms that engage in corporate lobbying. We obtain data on corporate lobbying by all domestic firms regarding the issue of trade and tariffs from local manufacturing industries (SIC codes 2000 to 3999) for the period of 2001 to 2007 when the Byrd Amendment remained effective. We identify the data on the annual amount of lobbying per firm from the U.S. Senate.[20] In order to complement this dataset, we also check the Center for Responsive Politics.[21] The data from the Senate is based on reports filed with the Senate Office of Public Records (OPR) in accordance with the Lobbying Disclosure Act of 1995. We also collect the amount of monetary distribution based on the Byrd Amendment from the U.S. Customs Service's CDSOA database. We obtain the remaining data on firms and industries from COMPUSTAT. We identify 8,518 observations of firms in the period of 2001 to 2006 that engage in corporate lobbying or not, regarding the issue of trade and tariffs in the same period.

3.5.2 Measures

Dependent Variable. We measure *corporate lobbying for antidumping* for dependent variables by using a binary variable of a value of one (1) if a firm undertakes lobbying for

[20] The data is available from the website of the Lobbying Disclosure Act Database of the U.S. Senate: http://soprweb.senate.gov/index.cfm?event=selectfields.

[21] The data is available at the website of the Center for Responsive Politics: http://www.opensecrets.org.

antidumping and zero (0) otherwise. We use this dependent variable from the subsequent year because the dependent variable analyzes the influence of explanatory variables during a given year (*t*) on the annual corporate lobbying activity during the subsequent year (*t+1*).

Independent Variables. For our first independent variable of *foreign-sourced profits*, we calculate the ratio of firms' foreign profit to total profit (Rehbein & Schuler, 1999). As per the second independent variable of *industry competition*, we leverage the four-firm concentration ratio (Demsetz, 1973; Dess, 1987) disclosed by the U.S. Census Bureau.[22] Because we measure the degree of competition that are in the inverse relationship with the degree of industry concentration, we inverse the four-firm concentration ratio by subtracting the ratio from the value of one (1). Finally, as the third independent variable of a firm's *organizational age*, we use the natural logarithm of the difference between the incorporating year and the current year (Hillman et al., 2004; Lee et al., 2008).

Moderating Variable. For our moderating variable of *excessive claim of private benefits received*, we calculate the ratio of a firm's claimed amount of injury from dumping over the size of a firm's decreased operating income. Given that the decreased amount of operating income may proxy the financial injury dumping incurred to a firm, the ratio would show how a firm argue the amount of its claim regarding the injury from dumping—the higher the ratio is, the larger a firm claims its injury compared to its actual injury from dumping.

***Control Variables*.** We control for several firm-level variables for a firm's financial status and firm capability effects. We control for *firm size* taking the natural logarithm of the firm's book value of total assets (Martin, Gomez-Mejia, & Wiseman, 2013). Since we are examining

[22] https://www.census.gov/econ/concentration.html

the influences toward firms' corporate lobbying, we control for antecedents that may also affect corporate lobbying. First, we control for *firm performance* by using the return on assets (ROA) because a firm's profitability provides greater resources for corporate lobbying activity (Masters & Keim, 1990). Second, we control for firm's *future growth* by adopting Tobin's q as the firm's market to book value of its total assets (Chung & Pruitt, 1994; Huselid et al., 1997).

Third, since firms spending greater research and development (R&D) expenditures may engage in additional political activities to effectuate favorable policy position to the firms, we control for *R&D intensity* using the ratio of a firm's expenditure on corporate R&D activities over its total sales (Alt et al., 1999; Ozer & Lee, 2009). Fourth, we also control for *associational lobbying by a firm's trade association* as the ratio of the total annual spending by a trade association on antidumping protection issue to the total spending on the same issue because collaborative political activity of a whole industry may affect individual political activity of a firm in the same industry (de Figueiredo & Tiller, 2001).

Fifth, we control for *organizational slack* using the current ratio (Iyer & Miller, 2008). Among the three distinct categories of absorbed, unabsorbed, and potential slacks, unabsorbed slack functions as the financial buffering mechanism affording the greatest amount of corporate political activity (Greve, 2003). Sixth, for long-term corporate debts we control for *leverage* as the ratio of long-term debt over the book value of total assets (Flammer, 2015). Finally, we include dummy controls for industries and fiscal years.

3.5.3 Model

To test our hypotheses, we employ bivariate probit model. The bivariate probit model maintains fit to the empirical setting where the dependent variable is binary and an endogeneity

issue is involved with an explanatory variable (Greene, 2003; Wooldridge, 2002). Our sample may not completely randomly distributed. Our moderating variable, excessive claim of private benefits, would be under the influence of firms' market share because both the claimed amount of injury and the actual injury firms are associated with firms' stake in the market, or firms' market share (Caves & Porter, 1977; Ostrom, 1990; Schuler et al., 2002). In addition, firms' estimation of injury from dumping would refer to the previous claimed amount (Mitra, 2002). Finally, the size of a firm's private share would have a positive association with the size of the collective benefits potentially available to the firm's industry (Ostrom, 1990; Sandler, 1992).

In order to mitigate this endogeneity issue, we introduce three instruments. First, we use a firm's claim of the prior year, which depicts a low correlation with the dependent variable of a firm's lobby-or-not decision making ($r=0.00$) and a relatively higher correlation with the endogenous variable of a firm's excessive claim of private benefits ($r=0.16$). Second, we leverage firms' market share as a proxy of firms' stake in antidumping protection, which a low correlation with the dependent variable of a firm's lobby-or-not decision making ($r=0.00$) and a relatively higher correlation with the endogenous variable of a firm's excessive claim of private benefits ($r=0.21$). Third, we use the sum of the actual disbursement by all firms in an industry as a proxy of the size of the collective benefits available to a firm's industry, which depicts a weak correlation with the dependent variable of a firm's lobby-or-not decision making ($r=0.00$) and a relatively stronger correlation with the endogenous variable of actual disbursement ($r=0.19$). Since the three instruments are highly correlated with the endogenous variable with the low correlation with the dependent variable, the two instruments are the good instruments (Wooldridge, 2002).

3.6 Results

3.6.1 Main Results

Table 3.1 shows descriptive statistics that depict the variables and their pairwise correlations. The inter-correlations among the explanatory variables do not present a high correlation. The analysis of variance inflation factors (VIFs) for the variables show a maximum VIF of 3.98 and the average of 1.65 that are below the recommended threshold of 10 (Neter et al., 1996). Thus, multicollinearity may not be a major concern in our models.

Table 3.1. Descriptive Statistics and Correlations [a]

Variable	Mean	SD	Min.	Max.	1	2	3	4	5	6	7
1. Lobby-or-not decision	0.048	0.214	0	1	1.000						
2. Firm size	4.924	2.538	0.001	13.81	0.396	1.000					
3. Firm growth	0.237	1.893	0.001	121.05	-0.015	-0.089	1.000				
4. Firm performance	0.023	0.187	-0.654	0.241	0.134	0.398	-0.020	1.000			
5. R&D intensity	0.063	0.105	0.000	0.683	-0.029	-0.098	0.005	-0.174	1.000		
6. Collaborative lobbying	0.062	0.068	0	0.383	0.018	-0.084	0.019	-0.138	0.086	1.000	
7. Organizational slack	3.443	4.759	0.000	92.89	-0.076	-0.083	0.023	-0.133	0.105	0.087	1.000
8. Leverage	0.001	0.017	0	1.673	-0.004	-0.035	0.003	0.003	0.004	-0.005	-0.016
9. Foreign-source profits	0.015	0.176	0.000	0.764	-0.018	-0.079	0.065	-0.114	0.589	0.051	0.084
10. Industry competition	0.431	0.340	0.000	0.999	0.031	0.039	0.006	-0.099	0.032	0.229	0.082
11. Organizational age	26.57	17.73	0	4.043	0.202	0.318	-0.107	0.271	-0.076	-0.113	-0.088
12. Excessive claim of private benefits	0.003	0.045	-5.210	53.62	-0.002	0.007	-0.001	0.000	-0.001	-0.007	-0.001

[a] Correlations with absolute values greater than 0.051 are significant ($p<0.05$).

Table 3.1 Continued [a]

Variable	8	9	10	11	12
8. Leverage	1.000				
9. Foreign-source profits	-0.012	1.000			
10. Industry competition	-0.009	0.016	1.000		
11. Organizational age	-0.005	-0.052	-0.119	1.000	
12. Excessive claim of private benefits	-0.000	-0.001	0.006	0.013	1.000

[a] Correlations with absolute values greater than 0.051 are significant ($p<0.05$).

Table 3.2. Results of Bivariate Probit Models [a]

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Controls								
Industry dummies	Included	Included	Included	Included	Included	Included	Included	Included
Year dummies	Included	Included	Included	Included	Included	Included	Included	Included
Firm size	0.597***	0.711***	0.599***	0.583***	0.696***	0.696***	0.693***	0.693***
	(0.025)	(0.032)	(0.024)	(0.025)	(0.031)	(0.031)	(0.032)	(0.032)
Firm performance	0.252***	0.374	0.268***	0.288***	0.663***	0.652***	0.581**	0.607**
	(0.049)	(0.269)	(0.046)	(0.048)	(0.238)	(0.239)	(0.252)	(0.249)
Firm growth	-0.100	0.0333	-0.144	-0.343	-0.392	-0.392	-0.307	-0.329
	(0.340)	(0.541)	(0.339)	(0.343)	(0.496)	(0.496)	(0.530)	(0.529)
R&D intensity	-6.582	0.274	-8.224	-7.342	2.735	2.475	2.751	2.937
	(14.55)	(15.11)	(14.31)	(13.87)	(6.574)	(6.821)	(6.836)	(6.630)
Associational lobbying	0.114	1.049	0.225	0.295	1.527***	1.494**	1.217	1.261*
	(0.693)	(0.764)	(0.666)	(0.681)	(0.584)	(0.585)	(0.758)	(0.759)
Organizational slack	-0.032	-0.011	-0.017	-0.022	0.007	0.008	0.007	0.006
	(0.022)	(0.029)	(0.019)	(0.021)	(0.024)	(0.024)	(0.025)	(0.025)
Leverage	-188.8	-544.3**	-227.5	-285.3	-650.6**	-640.8**	-646.2**	-655.5**
	(199.1)	(273.2)	(202.7)	(210.7)	(281.9)	(280.7)	(288.2)	(289.6)
Direct effects								
Foreign-source profit [H1]		-0.017**			-0.016**	-0.017**	-0.017**	-0.015*
		(0.008)			(0.008)	(0.008)	(0.008)	(0.008)
Industry Competition [H2]			0.531***		0.398**	0.393**	0.358*	0.367**
			(0.149)		(0.179)	(0.179)	(0.185)	(0.185)
Organizational age [H3]				0.248***	0.225***	0.223***	0.228***	0.233***
				(0.039)	(0.051)	(0.050)	(0.051)	(0.052)
Excessive claim in private benefits					-20.68**	-0.400	0.002	-23.53***
					(8.531)	(0.508)	(1.149)	(8.161)
Interaction terms								
Foreign-source profit × Excessive claim in private benefits [H4]					0.345**			0.537***
					(0.143)			(0.167)
Industry Competition × Excessive claim in private benefits [H5]						0.684		1.144
						(1.087)		(1.222)
Organizational age × Upside potential in private benefits [H6]							-0.0179	-0.110
							(0.357)	(0.373)
Constant	-5.846***	-5.709***	-6.301***	-6.493***	-6.768***	-6.695***	-6.643***	-6.740***
	(0.234)	(0.561)	(0.246)	(0.273)	(0.575)	(0.572)	(0.570)	(0.577)
Observations	*4,098*	*4,098*	*4,098*	*4,098*	*4,098*	*4,098*	*4,098*	*4,098*
Log likelihood	*-1,404****	*-971.9****	*-1,398****	*-1,382****	*-968.6****	*-969.9****	*-957.6****	*-955.5****

[a] Robust standard errors appear in parentheses.
***p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

Table 3.2 presents the results of our hypotheses testing based on the bivariate probit regression. H1 contends that the amount of a firm's foreign-source profit has a negative association with the firm's lobbying for private benefits. All coefficients of a firm's foreign-source profit variables in the models are significant and negative, which supports H1. H2 posits that the degree of competition in a firm's industry has a positive association with the firm's lobbying for private benefits. All coefficients of a firm's industry competition variables in the models are significant and positive. Therefore, H2 is supported. H3 argues that that the organizational age of a firm has a positive association with the firm's lobbying for private benefits. Like those related to H2, all coefficients of a firm's organizational age variables in the models are significant and positive, which supports H3.

H4 predicts that the excessive claim of a firm's actual private benefits negatively moderates H1. The coefficients of the interaction term of the excessive claim of a firm's actual private benefits variable and the firm's foreign-sourced profit variable in Models 5 and 8 are significant and negative ($p<0.05$). Therefore, H4 is supported.

Figure 3.2 illustrates how this interaction changes a firm's strategic movement from lobbying to non-lobbying. First, the line of small excessive claim of private benefits is downward with a negative slope whereas that of large excessive claim of private benefits is upward with a positive slope. Second, the line of small excessive claim is above that of large potential when foreign-source profit is small, but the line of small potential goes blow that of large potential when foreign-source profit is large. This suggests that a firm's excessive claim of private benefits weakens the negative association between the firm's foreign-source profit and the firm's lobbying for private benefits from antidumping.

H5 posits that the excessive claim of a firm's actual private benefits positively moderates H2. The coefficients of the interaction term of the excessive claim of a firm's actual private benefits variable and the degree of competition in the firm's industry variable in Models 6 and 8 are insignificant, which does not support H5. H6 argues the excessive claim of a firm's actual private benefits positively moderates H3. No models of this interaction term present the significant coefficients. Therefore, H6 is not supported.

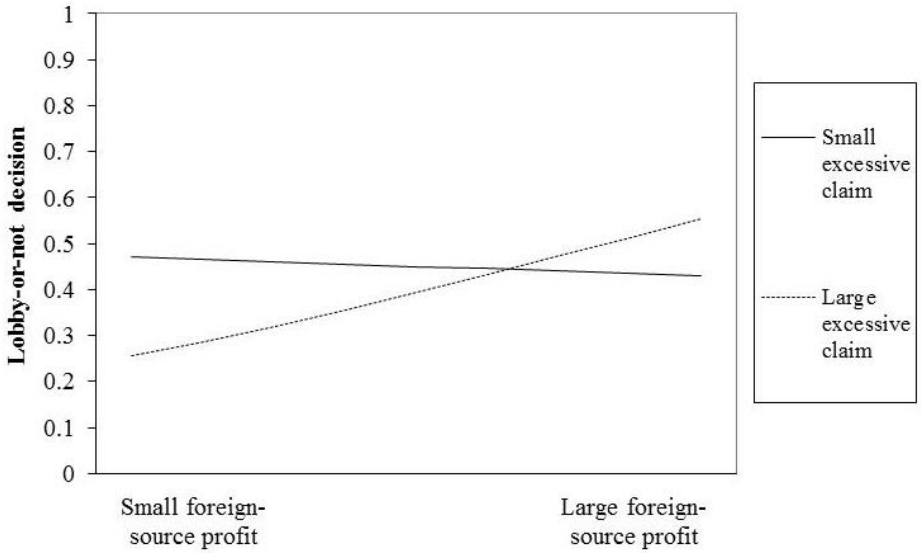


Figure 3.2. Interaction between Firm's Potential Private Benefits and Firm's Foreign-Source Profit

3.6.2 Robustness Checks

The results of our empirical analysis provide overall support for our hypotheses except H5 and H5. Adding to these results, we carry out some analyses in order to check the robustness of our main results. First, we leverage a probit model (without bivariate normal distribution) for the main results with the same dependent and explanatory variables. The Model A of Table 3.3 presents the result of this analysis and supports only for the main effect of organizational age (H3), the interaction between a firm's foreign-source profits variable and the excessive claim of

Table 3.3. Robustness Check: Probit Model and Bivariate Probit Model (for shortened period of dataset) [a]

Variable	Model A (Probit)	Model B (Bivariate probit: 2001 to 2005)
Controls		
Industry dummies	Included	Included
Year dummies	Included	Included
Firm size	1.323***	0.692***
	(0.0653)	(0.035)
Firm performance	1.038*	0.649***
	(0.577)	(0.247)
Firm growth	-0.577	-0.587
	(0.910)	(0.600)
R&D intensity	-62.42	1.502
	(404.8)	(7.468)
Associational lobbying	-0.989	1.261
	(3.480)	(0.815)
Organizational slack	-0.013	0.016
	(0.060)	(0.025)
Leverage	-665.1	-751.2**
	(567.4)	(320.0)
Direct effects		
Foreign-source profit [H1]	-0.022	-0.015*
	(0.023)	(0.008)
Industry Competition [H2]	0.480	0.396*
	(0.388)	(0.203)
Organizational age [H3]	0.510***	0.239***
	(0.097)	(0.058)
Excessive claim in private benefits	-60.81*	-134.3
	(33.61)	(113.5)
Interaction terms		
Foreign-source profit × Excessive claim in private benefits [H4]	0.994*	2.235*
	(0.560)	(1.897)
Industry Competition × Excessive claim in private benefits [H5]	4.383**	1.637
	(2.190)	(1.331)
Organizational age × Upside potential in private benefits [H6]	-0.208	-0.284
	(0.670)	(0.425)
Constant	-12.16***	-6.840***
	(1.908)	(0.601)
Observations	*3,966*	*3,354*
Log likelihood	*-1,404***	*-788.13***

[a] Standard errors appear in parentheses.
***p<0.01, ** p<0.05, * p<0.1 (two-tailed tests)

the firm's private benefit variable (H4), and that between the degree of competition in a firm's industry variable and the potential private variable (H5).

Second, we employ the bivariate probit model that is the same as our main model but different period of dataset, from 2001 to 2005 that lacks the year of 2006. The actual disbursement of private benefits of 2006 is associated with the corporate lobbying for antidumping in 2007 (in one year). The disbursement was permitted by 2007 when the Byrd Amendment was repealed. That is, year 2007 was the last chance of the lobbying for private benefits in the antidumping context. Thus, we may assume that firms would have attempted their best to appropriate their private benefits in 2007, the last year of the Byrd Amendment, even if the likelihood of appropriation was not high. The literature has not explored the validity of such assumption, but we want to take this assumption into our robustness check.

To this end, we purposely omit the data of year 2006 (and the lobbying data of 2007) from our dataset but maintain all the same dependent and explanatory variables in the same bivariate probit model. Model B also presents the result of this analysis and supports the same hypotheses (H1 to H4) as the main result of Table 3.2 supports.

3.7 Discussion

3.7.1 Contributions and Practical Implications

Our study may contribute to the existing research streams in at least two aspects. First, we endeavor to explore firms' heterogeneity in assessing the likelihood of the actual realization of private benefits by employing a specific research context of corporate lobbying for antidumping protection with the private incentives provided. The previous literature points out this heterogeneity across firms, but firm-level or industry-level factors affecting the likelihood of the

actual realization are relatively unexplored in both research streams of collective action and corporate political strategy (Hillman et al., 2004; Lenway et al., 1990; Johnston, 2002; Schuler, 1996). A research stream probes the relations (and mutual influences) between corporate political strategy and market strategy, but the research stream does not examine the relations of those two strategic domains in the context of collective benefits and the private incentives therein (Bach & Allen, 2010; Keim & Baysinger, 1988; Moe, 1980; Schuler, 1996, 1999).

Focusing on the aspect of competition in the corporate political strategy and market strategy, we shed the lights on the factors of market competition that may affect firms' political competition. We analyze the influence of the market competition factors on firms' political competition for private incentives and the motivating or demotivating effects of the factors of market competition. In so doing, we extend the prior research that finds the tie of political strategy to market strategy by examining how the ties are established and how the ties to market strategy affect firms' political strategy. From our findings of the impact from firms' foreign-source profits and future growth potential, we may argue that the heterogeneity in firms' political lobbying would be derived from their heterogeneity in their market-related factors.

Our second contribution would follow the first contribution mentioned above. We endeavor to examine private incentives introduced into collective benefits, particularly focusing on the motivating effect of the private incentives to increase individual contributions to capture and maximize the private share of the collective benefits. The literature of collective action problem theorizes that private incentives encourage the individual contributions and, accordingly, mitigate firms' opportunistic behaviors such as free-riding onto others' contribution (Hillman et al., 1999; Olson, 1965; Ostrom, 1999; Sandler, 1992). However, the literature also finds the

mixed results that the private incentives may or may not motivate firms to undertake individual contribution to the collective benefits (Adreoni, 1988; Magolis, 1980; Muller & Opp, 1986). When it comes to corporate lobbying, a corporate political action, many firms are found inactive in spending their individual resources to undertake lobbying (Kerr et al., 2013; Keim, 1981; Morck et al., 2001).

We theorize and find that the likelihood of maximizing the disbursement of private benefits would be a prominent condition of firms' decision to lobby or not. In other words, private incentives for themselves would not suffice to motivate individual contribution to collective benefits. Instead, we find that the private benefits are supposed to be maximized when it comes to the actual disbursement in order to encourage individual contribution and discourage opportunistic behaviors. This finding would extend the prior research on the effect of private incentives in collective benefits by probing the reason why firms remain inactive to seek private shares of collective benefits albeit the emergence of private incentives.

3.7.2 Limitations and Directions for Future Research

Notwithstanding the contributions mentioned above, our study also opens avenue toward further research on the followings. We are attracting the researchers' attention to the factors of market competition in influencing corporate lobbying for private benefits. However, our analysis also includes the implicit findings on firm-level antecedents such as the size and age of firms that are known to exert the influence on corporate political action (Brasher & Lowery, 2006; Hillman et al., 2014; Ker et al., 2013; Schuler, 1999). We limit our analysis on the factors of the market competition based on the common grounds of political competition, but an extension would be

likely if future research explores the influence of firms' capabilities and business or corporate strategies toward the firms' political actions.

Researchers may also find it interesting to examine the influence of market competition factors across industries. While we find different (dis)incentives due to each firm' different competitive advantages, researchers may want to probe the possible difference in the (dis)incentives for firms that belong to different industries but are under the similar degree of influence from the (dis)incentives. For instance, firms generating a large amount of foreign-source profits in the industry of homogeneous products may be relatively demotivated to lobby for private benefits from antidumping. It is because the probable retaliatory response from foreign firms in the foreign markets would directly affect the homogeneous products sold in the foreign markets.

In contrast, firms producing heterogeneous products would be less sensitive to the retaliatory response in their foreign market because of their diversified products would reduce the threat from the retaliation in their foreign markets. Although we do not address this heterogeneity across industries, future research on this industry heterogeneity would find more in-depth implication regarding the interaction between political and market strategies.

3.8 Conclusion

We examine the impact of private incentives to a firm in its decision to lobby or not for the private benefits from antidumping protection. We find that the influence of private incentives may depend on the factors of a firm's market competition such as the firm's foreign-source profit, competition in its industry, and its organizational age. Moreover, the excessive claim of a firm's private benefits would influence the factors of a firm's market competition in a way to motivate

the lobbying for private benefits. In conclusion, a firm's political strategy should be closely tied to the firm's market strategy, given that the goal a firm's political strategy is outperformance of the firm in the market.

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