Lobbying for Trade Policy: Theory and Evidence from India [*]

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Abstract

I examine factors that affect the choice of lobbying strategy by manufacturing firms to target different trade policy outcomes in India. Two types of strategies are considered namely lobbying collectively via associations and lobbying individually by approaching the government directly. What lobbying strategies do firms use? How do lobbying strategies link to specific trade protection outcomes? Stylized facts on firm lobbying for trade policy in India suggest a combination of collective and individual lobbying is preferred. Thereby to answer the questions above, I introduce the possibility of a dual lobbying strategy i.e. a combination of collective and individual lobbying in a Bertrand duopoly with heterogenous firms and differentiated goods. I use this to motivate my empirical results that are based on a primary survey conducted across 146 manufacturing firms in India. First, the findings confirm the preference of a dual lobbying strategy. Second, the likelihood of lobbying collectively is higher in sectors characterised by low concentration such that the competition effect is clearly dominating any free-riding effects. Additionally, firms are most likely to use a collective lobbying strategy when targeting sector-wide trade policy in the nature of public goods such as Most Favoured Nation (MFN) tariffs while they are likely to lobby individually when lobbying for more product-specific outcomes such as Special Consignments (SC) at the border; the dual strategy is again preferred over each single strategy.

Keywords: Lobbying, India, Trade Policy

JEL Classification: F13, F14

1 Introduction

Studies on lobbying typically look at questions that concern the decision on whether or not to engage in lobbying. What is less explored is how firms organize their lobbying, an important aspect being the selection of a lobbying strategy. This motivates my research question on what lobbying strategies are used by firms and how do these differ by trade policy outcomes.

The aim of this chapter is to investigate the use of lobbying strategies when firms interact with the government to influence the policymaking process for international trade specifically in the context of India. Two kinds of lobbying strategies are examined namely lobbying collectively via associations and lobbying individually by approaching the government directly. Additionally, in light of stylized findings on lobbying in India, I introduce the possibility of a dual strategy when firms use a combination of the two strategies.

There exist gaps in the literature on lobbying for trade policy in developing countries. Limited data in this context for India has been a severe limitation. Lobbying for trade policy in India is quite well-established but seems to operate in a rather opaque environment[1]. There is need to spell out clear laws but not much ground has been covered so far. In this paper, I attempt to uncover the structure of lobbying strategies for domestic influence on trade policy in India.

There are two surveys that tried to capture general industrial lobbying in India. First, Yadav (2008) examines various stages of the lobbying process. Her analysis suggests that lobby groups target their resources at the procedural stage of a policy rather than the amendment stage in India and use political contributions over specific technical information as lobbying instruments. However, she interviews members of business associations only. Second, the World Bank Enterprise Survey (WBES) in 2005 asks questions on membership to associations which does not directly imply actual lobbying. However, information on lobbying specifically for trade policy seems missing from the literature.

Another important question both in academia and policy that has been often suggested as an imperative in the lobbying literature is to understand which types of interest group pressure is most effective. This has been rather tricky due to unobserved factors that can influence lobbying may also affect the effectiveness of any kind of lobbying efforts. Figueiredo and Richter (2013) suggest careful implementation of survey methods for credible headway in this direction.

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[1]**Saha; Amrita (2013)**

I design and implement a primary survey to collect original information on lobbying across 146 manufacturing firms in India interviewed from the period of July 2013 to November 2014. On the whole, I find that Indian manufacturing firms prefer the use of a dual lobbying strategy such that they use a combination of collective and indiviual lobbying to influence trade policy. Additionally, collective lobbying in Indian manufacturing seems more effective in terms of influence on trade policy outcomes than individual lobbying. This comes as a contrast to the pre-liberalisation era in India when individual lobbying was the preferred route.

In light of the stylized facts, the theoretical model in my paper derives from the framework of Bombardini and Trebbi (2012, 2009, BT henceforth). Firms seek to influence the government using available resources forwarded either collectively via trade associations or by individual firms themselves. This choice of collective vs individual lobbying constitutes the lobbying strategy of the firm. Introducing the possibility of adopting a dual strategy, I study the optimal trade policy outcome with heterogenous firms in this setup.

The empirical analysis in BT gives evidence using data on the fraction of individual firm lobbying expenditures across various sectors in the United States. The individual lobbying expenditures are explained by sector concentration and product substitutability that in turn affects the mode of lobbying. Their estimates show that lower concentration in the product market might deliver more cooperation in lobbying for protection. However, the empirical literature on lobbying has shown ambiguity in results that connect firm concentration to political influence.

The empirical evidence in this paper suggests the likelihood of lobbying collectively is found higher in sectors characterised by low concetration such that the competition effect is clearly dominating any free-riding effects. Further, firms are more likely to adopt a collective lobbying when targeting sector-wide trade policy in the nature of public goods while they are likely to lobby individually when lobbying for more product-specific outcomes, the dual startegy is preferred over each single strategy.

The remaining paper is organized as follows. Section 2 outlines the motivation and specific details on the survey. Section 3 discusses how lobbying has evolved to present times in India and outlines stylized facts on the choice of manufacturing firms to lobby the government for trade policy. Section 4 will present the theoretical model and build the hypothesis for analysing the survey data. This is followed by section 5 that presents the empirical analysis. Finally, Section 6 concludes the chapter discussing policy implications and further research.

2 Survey

This section summarizes the multistage stratified random sampling that was adopted to collect the data. The scheme comprised five stages in total to help in systematic design of the survey. The first stage begins with a stratified sampling frame to obtain a certain level of precision at various levels, these being the economic sector, between trade association members and non-members and by firm size. The sampling procedure is randomized between stage three and stage four. The final target sample for the survey comprised 250 firms based on the underlying share of each economic sector to economic activity that eventually rendered 146 eligible responses.

2.1 Survey Design and Outline

The Confederation of Indian Industries (CII) was the starting point for my survey being instrumental in conducting the interviews. CII was able to provide a list of firms from their member directories that could be targeted for the interviews. The questionnaire for the survey was designed carefully incorporating views from preliminary interviews and a pilot survey. The survey asked the firms their responses on lobbying in a typical year across 2010-2014 in particular. In addition, firms were asked how lobbying evolved for them since liberalisation in 1991. I initiated the survey with a pilot for 20 firms in the manufacturing sector derived from the CII directories. Preliminary findings were recorded and changes made to the sample questionnaire incorporating additional elements. Sensitive questions can discourage respondents from answering openly such that any questions on informal payments were dropped.

Lists from associations have been traditionally used for lobbying surveys as in Yadav (2008). However, there is a potential drawback in interviewing only association members. I aimed to target a more representative sample of firms that would include both members and non-members of trade associations. This is important as the objective of my study was to examine different modes of lobbying, these being collective and individual lobbying. While, association members can lobby individually in addition to their collective membership, it is important to include non-members who decide to lobby the government only individually. In this light, while the members directories of CII is a good starting point, I aimed to capture other firm lobbying behaviour usually left out in existing studies. Following this, a systematic sampling procedure was chosen.

With the assistance of carefully monitored and trained local survey teams in New Delhi, details regarding the survey were sent out via personalised emails to potential respondents. The target respondents were trade specialist officers at the firms such that they were fully aware of lobbying strategies of their

organization. Not all firms in my sample had specialist officers dealing with trade activities. In those cases, the high-level managers were targeted. Appointments were then sought for face to face interviews. Interviews in Delhi and NCR were conducted in person, for the remaining geographical locations, we used skype and telephone conversations mainly to avoid transportation costs.

The first contact emails were in late May 2014 followed by telephone conversations to brief the respondents about the nature of the survey. Reminders were sent two weeks later for those who had not yet responded to the requests. There were follow-ups when appointments were made and interviews carried out. Guarantees of anonymity were provided to the firms and thorough advance information supplied in all cases.

2.2   Stratified Sampling Frame

The first step of my survey was to create a representative sampling frame. To create this frame, the closest and most relevant reference to my case is the World Bank Enterprise Survey (WBES) conducted in India in 2005. Additionally, the objective of stratification was to get an acceptable level of precision for estimates between association members and nonmembers (precision is also targeted by economic sectors and firm-size). The objective was to minimize differences within each strata and maximize between strata differences. To account for these considerations, a stratified sampling was chosen beginning with the percentage of firms in each sector from the WBES as the reference for the sampling frame. The selection of these sectors in the WBES represented the largest manufacturing sectors in India in terms of employment and output shares. This distribution of firms provides a reliable estimate for the proportion of firms by sectors.

Following this reference, I constructed a base list of firms distributed across the 20 manufacturing sub-sectors. For this I followed the stratified sampling using two strata, these being the lists from the associations and various phone directories. I began with the list of firms derived from the member directories of associations that had 508 firms in total. The lists were based on the firm distribution from the WBES. Second, the phone directories in the major cities were used to build another list. This was done by initially drawing firms from various phone directories of which 913 firms were kept based on the criteria of working contact details. This was followed by dropping any overlapping firms as there was the possibility that the firms from the phone directories could be members of associations. Overlapping firms were dropped from the second list (389 firms were dropped) that finally consisted 524 firms. Therefore, each strata was made mutually exclusive. The purpose of using these two lists was to reduce the bias in favour of only those firms that are registered with the associations. Finally, the broad target population comprised the

association members and non-members. Using this stratified sampling frame as the base, the objective was to enable random selection of a sample of firms to be included in the survey from the manufacturing sector.

The two lists together consisted a total of 1032 firms. The manufacturing sector is complicated by firms that are active in more than one sector for more than one product. For this analysis, all the designated sectors of activity and products were used when compiling the final list of firms. Therefore, multi-sector firms can appear more than once. This was done because firms were asked about their lobbying decisions by their sectors and unique id was assigned in each case. It is important to note here that we aimed for a disproportionate stratified random sampling technique as there was no a priori for the distribution of firms across the two strata. Firms who are members of associations can lobby individually but it is important to represent firms that choose to lobby alone and do not join the associations.

2.3   Randomization

Following this broad sampling procedure, in the third stage, each list of firms were arranged in descending order of the firm size in terms of the number of workers. The sampling was then randomized between stage three and stage four when firms were selected at random from the re-arranged lists. The same sampling fraction is not applied to each stratum such that I use a disproportionate sampling procedure. I set the final sample size (distributed across the two different strata) taking into account two important aspects of costs and precision. The precision is targeted at the level of the economic sector and contribution to economic activity.

One firm was drawn at fixed intervals (of size) from the entire distribution to create a target list for the survey interviews. This enabled random selection for each strata and covered the entire range of the firms in terms of size than mostly from any one end of the distribution to deal with the potential problem of large firms being over-represented in the sample. The resulting list first consisted of 350 firms drawn randomly from the distribution of firms based on available budget (plus the number of appointments received) and variability of firm size. Using optimum allocation, the number of elements selected from each stratum are made directly related to the standard deviation of the firm size in the stratum. The greater the variability in the stratum, the higher the sample size of the stratum should be. Moreover, taking into account data collection costs, the higher the data collection costs of a stratum, the lower the targeted sample size. Note that data collection costs were lower for firms in member directories than in the phone directories.

Costs (c) for the two lists were 20 USD and 5 USD per firm respectively. Reference to CII for the firms in the first strata account for these differences. The distribution of the sample sizes for the two strata

takes into account these varying data collection costs. Standard deviations of size (s) were 6.4 and 5.2 for member directories and phone directories each. Of the randomly selected firms, local survey teams were instructed to target a total of 320 potential respondents. 30 firms were dropped based on the Enterprise Survey percentage of firms in each sector. This enabled coherence with the reference for the sampling frame in stage one of the sample selection procedure. Following this, the local survey teams sent out personalized emails with the details regarding the survey to the 320 potential respondents. Appointments were sought such that of the selected potential respondents, 250 were finalised for the interviews.

The overall process was therefore based on the following set criteria. First, being the budget and response to the e-mails and the follow-ups. Not all firms responded to the e-mails and telephone calls. Reasons being unavailability of the high-level officers for interview. The response rate remained fairly even across all the follow-ups such that for every five firms that responded there was on average a non-responsive firm. This reduced the number of responses at each stage. Second, the distribution of the initial 350 firms between the two stratums were based on optimum allocation for disproportionate sampling. Third, the distribution of the final 250 firms across the economic sectors is based on contribution to economic activity. It is important to note here how the final sample deviates from the distribution of the overall sample in WBES.

2.4   Final Sample and Limitations

Finally, the target sample size was 250 firms across the manufacturing sectors based on the contribution to economic activity and costs. However, there was no response and incomplete responses to questions in a few cases such that some interviews did not give usable information. In total, the survey rendered 146 eligible responses, representing a final response rate of 58 per cent (146/250). I find some firms were unwilling to divulge part or full information on lobbying strategies and refused to participate in the survey. The reasons given for this were lack of willingness to reveal information to a foreign university student, refusal to comment on few questions and lack of knowledge. The sectors that recorded the lowest responses were Electrical Appliances, Auto Components and Sugar. Owing to these reasons while some responses were not obtained others could not be used. While, 23 responses were not obtained, 81 responses were dropped. Based on my response rates, I test the null hypothesis that there is no statistically significant difference in the response rates across economic sectors (responses and economic sectors are independent). Using the Pearson chi-square test, I find a p-value of 0.880 for the range of expected and actual response rates such that suggests that the non-response rates are independent of the sector identity.

Geographical distribution of the final sample was in four main cities of India and its periphery, Delhi and National Capital Region (NCR), Mumbai (Maharashtra), Kolkata (West Bengal) and Chennai (Tamil Nadu). The surveyed firms were broadly located in the large cities to the periphery of small towns across the states. 58 per centof the total firms interviewed had a presence in New Delhi. This is expected as it is likely for firms to have corporate offices in Delhi owing to commercial significance (as is also the case in the World Bank survey and in Yadav, 2008). The distribution of the sample across the cities is shown in Figure 1.

Figure 1 here

Figure 2 presents a summary of the numbers in the sample at each stage along with the criteria followed to target precision at certain levels. I also recognize that there are potential issues with the final sample that could lead to bias into the results. I attempted to deal with the potential bias at each stage as explained below. First, the sample could be biased in terms of economic sector or size due to non-response. The distribution of responses deviates from the initial sample design owing to low response rates in some sectors. In terms of the economic sector, I do not find any significant difference in non-response. The responses and economic sectors are independent for the range of expected and actual response rates that suggests the non-response rates are independent of the sector identity. Also, the list of respondents and non-respondents were compared by the number of workers such that the non-response rates were independent of firm size with no statistically significant differences between respondents and non-respondents. I find respondents had an average of 74 number of workers compared to 82 for non-respondents. Second, concern regarding the reliability of information revealed by the firms. I examine the interaction of these firms with the government in terms of trade policymaking. This gives an idea of the extent of which the firm responses are informed by familiarity with the policymaking process in India. In terms of industry and government interaction, I find evidence of high lobbying intensity (discussed in the next section) such that the sample of firms engage regularly in the policy-making process. This is important to assess if firms responses are based on actual lobbying interactions. Since, I find high evidence of lobbying, I can assert that the lobbying data is based on actual experience of the firms.

Figure 2 here

Finally, I consider any possible bias in terms of the distribution of the realized sample across the two initial strata/two lists. This is important as one aim of the study was to reduce the bias in favour of interviewing only members of associations as in previous literature. I have used a disproportionate stratified sampling as outlined earlier. It provides the advantage in the ability to study the responses of both subgroups of member directories and phone directories accounting for the fact that firms drawn from phone directories were harder to reach for appointments. A proportionate sample in this case would give us a smaller sample

than the 250 firms on the whole. Also, it is important to re-iterate that members of associations can lobby individually, I refer to phone directories to include representation for firms that lobby only individually without any membership to an association. In this case, the views of the total firms interviewed will be representative of the lobbying strategies and a disproportionate sampling will provide more accurate responses. On the whole, in spite of the potential limitations of the data, the information from the survey helps reveal important lobbying phenomenon for trade policy across Indian manufacturing firms that has been non-existent.

3   Lobbying for Trade Policy in India

The post-independence economy of India was subject to heavy government regulation weighted towards the dominance of the public sector (Kochanek, 1996). Indian policy-makers followed import-substitution industrialization as the chosen model of development with extensive regulatory controls (Sinha, 2007). High levels of trade protection were in place to protect infant industries considered vital to the country's economic growth. Milner and Mukherjee (2011) suggest that trade policies in India before 1991 were often held hostage to the interests of the few big business houses that were able to influence the content of trade policies. This was the era of central planning when the state retained the autonomy of agenda. I therefore argue that it is likely that individual lobbying during the time was more effective than any kind of collective efforts as these businesses were lobbying for their specific concerns. Industries only occasionally reacted to policy decisions and resorted to lobbying the government directly for specific benefits. This is also evidenced by findings in the literature and in interviews with the policymakers that all point to a narrow group of large business houses that constituted the most influential groups sharing a close relationship with the state. Yadav (2008) terms it as an opaque and unrepresentative system where access was in only a few hands with money or strong political connections. It can be said that this policy regime that was in place during this period was not conducive to collective action and there were no associations lobbying for policy influence. Policy was in fact seen as skewed to favour those who contributed to the political party in power (Piramal, 2000).

The IMF support to India in the face of an external payment crisis of 1991 came conditional on an adjustment program of structural reforms. For trade policy this included a reduction in the level and dispersion of tariffs, removal of quantitative restrictions on imported inputs and capital goods for export production (Chopra et al. 1995). As a result import and export restrictions were eased and tariffs were drastically reduced such that the data on average MFN tariffs suggests a decline from approximately 85 percent in 1990 to 44 percent by 1996 across the National Industrial Classification (NIC) 4-digit manu-

facturing industries. This was in accordance with the guidelines outlined in the report of the Tax Reform Commission constituted in 1991. Also, the standard deviation of tariffs dropped by half during the same period but remained quite high between 32-36 per cent. A linear relationship is observed in Figure 3 between the pre-reform tariff levels and the tariff changes in the period immediately after liberalization from 1991-1996 which is known to be an exogenous shock.

Figure 3 here

Milner and Mukherjee (2011) outline the interaction between the government and industry immediately after the 1991 reforms. Confronted with the need to raise funds to finance the ruling party's campaign for the 1994 state elections, the incumbent government turned to large industrial houses for financial support (Kochanek 1995). The business groups in turn formed an organization called the "Bombay Club" consisting of a group of prominent Indian industries to voice their concerns against trade reforms that sought their reversal and demanded more protection for their industries from the surge in import competition (Kochanek 1995, Hardgrave and Kochanek 2007). This seems to have marked the beginning of a transformation in collective influence of business from individual business to business as association.

The elimination of licensing and introduction of competition accompanied by an emerging pattern of coalition governments could have potentially reduced the payoffs to individual lobbying. At this stage there started evolving a duality in business and industry dealings with the government that consisted of organised industry associations in addition to direct individual lobbying. Also, Indian business began to look at market opportunities abroad. Another factor has been the growing interest of Indian business groups in overseas investment (Baru 2009). India continued on the path of further trade liberalization in the post reforms era. However, after 1997 tariff movements were not as uniform. Indian sectors were characterized by uneven levels of liberalization owing partly to domestic interests fearful of market-oriented reforms (Topalova 2007). This suggests trade protection measures may have been used selectively to protect less efficient industries during 1999-2001 evidenced in the pronounced cross-sectional endogeneity in trade protection in this period. In fact, I find a non-linear relationship between the immediate post-reform tariff levels in 1997 and the tariff changes across the manufacturing sector from 1999 to 2001 in Figure 4. A similar picture is also observed for the tariff changes in 2001-2007 in Figure 5.

Figure 4 and 5 here

Further, there is an emphasis to understand the extent to which these changes in tariffs reflected the lobbying power of the industry. Sinha (2007) outlines the policy scenario during this time. The power and status of the nodal Ministry of Commerce and Industry (MOCI) was enhanced and new institutions of compliance were created with radically reformed policy processes and policy–expert networks. This strengthened the creation of new policy practices. The number of officials devoted exclusively to trade

policy in the MOCI increased significantly. Following this, the Council on Trade and Industry was also created for partnership between the government and business in this period (Baru 2009). My own experience of working at the MOCI confirms the role that the WTO and its trade policy review seems to have played in the transformation that fostered policy–expert networks.

The trade policy review created increased opportunities of trade and industry consultations within the domestic trade policy setup. This created revived interest in the response of domestic political institutions to global constraints. Domestic institutions may change in effect of their interactions with international rules and changing global incentives which in turn affects the domestic supply of responses and the reregulation of global forces (Sinha 1997). In light of this, the domestic trade policy setup witnessed several changes to adhere to rules in Geneva which received support from industry at home and their representation abroad.

The increased engagement for India in international negotiations stimulated overlaps across its fragmented ministries and sectors that further demanded greater interactions and meetings for mediation of differences. This was the time when bodies such as the Confederation of Indian Industry (CII) and the Federation of Indian Chambers of Commerce and Industries (FICCI) became very active. They started representing industry views on compromise formulas that would combine the interests of domestic business with the imperatives of economic liberalization (Baru 2009). Government response to business concerns grew as industry was actively involved in WTO negotiations. In turn government participated in business association meetings. CII and FICCI organized such regular meetings with government officials to discuss policy and other matters. Even though individual lobbying as informal personal access continued, it seems likely that it had lost steam with trade and industry associations gaining an evident stronghold in interaction with the government. These bodies emerged as industry-led and industry-managed organizations consisting of several members drawn from both public and private firms in India. The CII became actively involved in projecting Indian interests abroad and in pursuing diplomacy both at home and abroad (Baru 2009). Other sector-level associations rose during this period such as the Confederation of Indian Textile Industry(CITI), Council for Leather Exports among others.

In present times, there exists an effective but quite informal mechanism on government-industry consultations for trade policy-making in India. I find that the sample of firms surveyed stress the rise in their lobbying efforts from the 1990s as the government became more responsive to industry. Also, while MFN, import licenses and Non-tariff measures were primary issues of approaching the government in late 90s, approaching the government with regard to special consignments (at the border) and preferential tariffs became quite important in the beginning of 2000s.

11

Before exploring the mechanism of this interaction, I attempt to assess how often firms decide to interact with the government for lobbying for trade policy in India. In my survey, firms were asked about their general overall decision to lobby the government. Lobbying Decision was measured as: "Does your firm undertake activities for lobbying the government for trade policy?" Responses are binary coded as 0 = no and 1 = yes based on firm lobbying in a typical year during the period 2010-2014. I find that on average 85 per cent of the manufacturing firms in my sample decided to actively lobby the government in a typical year in that period. This means that most Indian firms interact with the government on trade issues.

However, it seems that the exact role of the government consultations with industry in the trade policy making process lacks a proper definition in India. There exist trade and industry associations that often facilitate these interactions. At the same time, Indian firms can choose to approach the government by themselves. The associations are allowed to operate officially and openly as legal entities but lack a confirmed status to be heard (Sen, J. 2004). While, there are no regulations governing lobbying in India, it is not deemed as an illegal activity either. There also seems to be an absence of set criteria or standards for access or acceptance of suggestions in these consultations as in most developing countries. Neither are there any formal laws like in the US and Europe where it is mandatory to disclose the amounts invested in lobbying, neither is there a disclosure body that allows sharing of such information.

In this light, an understanding of various lobbying strategies followed by Indian firms can motivate a clear mechanism for both associations and firms to interact with the government. The overall decision on lobbying is different from pursuing different strategies to lobby. So, I also ask questions to measure the firm decision on the different strategies again based on a typical year during the period 2010-2014. Being a member of an association does not necessarily mean actual lobbying as it covers only the fixed membership cost of the lobbying. Therefore, I will also look at the marginal cost component such that I ask firms about their actual lobbying activities using their decision to lobby via the membership. Following the question on the general lobbying decision, primarily two kinds of choices were quoted by the sample of 146 firms: collective lobbying via trade associations and individual lobbying using direct contact with officials.

The firms in my sample were then asked specific questions on lobbying. I find on average 83 per cent of Indian manufacturing firms lobby using membership to associations as a possible strategy to lobby the government particularly for trade policy. In terms of individual Lobbying, an average of approximately 71 per cent firms lobby individually. Based on this information, I identify the number of firms undertaking each strategy exclusively. I construct a measure 'Lobbying Strategy' (L) such that I identify firms that choose the exclusive use of each strategy and a combination of the two single strategies which is termed as a dual strategy. Using this method, Figure 6 shows 34 firms use the single stratgey of lobbying only

collectively (L=2), while only 16 firms use the other single strategy being lobbying only individually (L=3). 87 firms use a dual strategy and use a combination of lobbying both collectively and individually (L=4). The preferred choice of Indian firms is therefore a dual strategy to lobby for trade policy.

Figure 6 here

To examine the differences in lobbying strategy by outcomes, I ask the firm questions on their intensity of lobbying for specific trade policy outcomes. Termed as 'Lobbying Activity', firms were asked about various trade policy outcomes, but in this version of the paper I will compare the case of MFN and Special Consignments (SC). This question asked separately for collective and individual lobbying reveal firm preferences suc that 58 firms use a dual strategy when lobbying for the public good MFN while 47 firms use the single strategy of individual lobbying when targeting special consignments. This motivates an empirical analysis of lobbying strategies by different trade policy outcomes.

Effectiveness in lobbying has been an unexplored question for firms in India. I ask firms about their perceived effectiveness as a sector in the context of each single strategy. According to thie effectiveness in association lobbying, the most effective sectors were found to be the following: Electronics, Electrical Appliances, Plastics, Cosmetics and Agro Processing; and the least effective were: Structural metals and Paints. In the case of individual lobbying, the most effective were found to be: Machine Tools and Rubber; the least effective were: Garments, Food Processing and Plastics among others. On the whole, firms seem to perceive themselves more effective in lobbying via associations. The average value of association lobbying effectiveness is 2.9 compared to effectiveness of individual lobbying of 2.6.

In light of the observed findings in my data, I setup a framework to conduct an empirical anaylsis of the data in the following section.

4 The Model

This section presents the theoretical model to guide the empirical analaysis. The underlying motivation derives from the specific features observed in the context of India above. It draws from the BT model with a specific emphasis on the possibility of adopting a dual strategy with hereogenous firms. The purpose here is to discuss the particular case of firms using a dual strategy in the BT environment. Full details of the model are set out in the working paper version.

Firms seek trade policy influence by lobbying the government using available resources. There is an associated cost to lobby collectively via trade associations or by individual firms themselves. Taking the

case of heterogenous firms, I present the case for two firms that produce differentiated varieties. Firm heterogeneity is in terms of the costs of the foreign competitors[2]. The firms decide on their lobbying strategy and interact with the government in a sequential game comprising a series of three stages. In the first stage, firms decide whether to form an association to lobby together for the sector-wide trade policy outcome, T. Given that the sector-wide outcome has been negotiated, in the second stage the firms decide on lobbying individually for a product-specific policy outcome, ti. The government can then choose to support or reject a set of offers that will maximize its welfare in the third and final stage.

BT make the assumption that in terms of the lobbying outcome, the sector-wide trade policy is a substitute for the product-specific trade policy outcome. So firms choose to either lobby collectively for T or lobby individually for ti. This implies corner solutions only in the model, such that firms will lobby for only one of the two outcomes. In the actual trade policy setup, it seems strange to argue that a sector-wide trade policy outcome will substitute for a product-specific outcome. Also, the implicit assumption that firms lobby only collectively for T and lobby only individually for ti does not hold for actual policy when firms often lobby individually for a sector-wide outcome and vice-versa. Here, I consider the possibility that firms can lobby for both the trade policy outcomes at the same time.

Assume the government attaches different weights to the two kinds of strategies relative to the aggregate welfare V derived from an underlying quasi-linear utility function [3] and specified as a function of the trade policy outcomes. The association lobbying expenses L and the total individual firm lobbying expenses l are valued differently by the government, given by τ and θ respectively in the welfare function below.

$$G = V(t1, t2, T) + \frac{1}{\tau}L + \frac{1}{\theta}l \tag{1}$$

The extent of free-riding determines the trade-off between collective and individual lobbying. Firms may choose to contribute less to the lobbying expenditures of the trade association as they expect the return to be spread over all goods in the sector. While in some sectors firms prefer all tariffs to be raised simultaneously. The product-specific trade policy outcome in stage two is assumed as a function of the sector-wide outcome such that $t_1(T(L))$.

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[2]BT(2009) allude to the case of hetrerogenous firms.

[3]Quasi linear utility:

$$U = \alpha(Q_1 + Q_2) - \frac{\beta}{2}(Q_1^2 + Q_2^2) - \beta\eta^{1/2}Q_1Q_2 + q_0$$

where Q_1 and Q_2 are two varieties of differentiated goods, q_0 is the numeraire good, α and β are positive, and η is elasticity of substitution between 0 and 1.

Both domestic and foreign firms produce each variety, Qi of the differentiated goods such that domestic and foreign goods are perfect substitutes and every domestic firm is facing foreign imports of identical goods as a direct competitor. The foreign firm can be charged a specific tariff that can be the sector-wide policy outcome plus the product-specific outcome. The model assumes Bertrand competition among producers of differentiated goods. In the presence of positive tariffs, BT show that Bertrand competition among producers of identical goods in turn guarantees that the domestic firm chooses a limit price p_i below.

$$p_i = \frac{\phi}{\lambda} + T + t_i \tag{2}$$

There are asymmetric returns from lobbying, where marginal cost is ϕ and $\lambda > 1$. I take the case of 2 firms. Let firm 1 face a foreign competitor with a lower marginal cost and therefore has a lower price and produces a larger quantity of goods. As λ increases, the asymmetry between the two firms increases along with concentration. An increase in concentration has two effects, the "Free-Riding Effect" and the "Competition Effect". The free-riding effect being that a higher concentration (in terms of λ) creates higher incentive to lobby via associations as a larger firm can internalize a higher fraction of the total return to increasing the sector-wide outcome. This will imply that if the size dispersion of firms is larger (higher concentration), there is an incentive to lobby for the public good, as the large firm can obtain larger benefit from a higher policy outcome than the smaller firm. The competition effect on the other hand creates a stronger incentive to lobby for a product-specific outcome than for the public good when the size dispersion is larger (higher concentration). A stronger competition effect would thereby imply that for sectors with low output concentration, firms choose to lobby together, and for sectors with higher concentration firms lobby more individually.

One stylized finding suggests that in present times collective lobbying seems more effective than lobbying individually in India. For the model, this implies that either $\tau < \theta/2$ or $\tau = \theta/2$. If this were the case, then all firms would choose to lobby together such that the equilibrium is the sector-wide policy outcome that in the BT model would give the following optimal tariff.

$$T^* = \frac{\alpha - \phi}{2(1 + \tau)} \tag{3}$$

Let firm 1 is the larger firm. Solving this game by backward induction, in stage 2, the sector-wide outcome T is already negotiated. Firm 1 then considers to lobby individually in order to obtain an outcome on its own product. Using joint maximization of welfare, the problem for firm 1 is to maximize profits net of its lobbying expenditure l_1. This is subject to the constraint of keeping the government indifferent

between two offers, free trade where the government does not accept any individual outcomes $(0, 0, T)$ and accepting both offers $(t1, t2, T)$. The maximization for firm 1 and the government is as shown below.

$$max_{t1} \pi_1(t1, t2, T) + \theta[V(t1, t2, T) - V(0, 0, T)] + l2 \tag{4}$$

Solving for the nash equilibrium outcome gives the individual outcome as:

$$t_i^* = \frac{(\alpha - \phi)(1 - \eta^{1/2})}{2 + \tau - \eta^{1/2}(1 + \tau)} \tag{5}$$

Another finding in this paper suggests Indian manufacturing firms prefer to adopt a dual strategy i.e. a combination of collective and indivdividual lobbying strategies. Considering the possibility that firm 1 can lobby collectively in addition to lobbying individually, taking profits of firm 1 as a function of the individual outcome and collective outcome, the maximization problem for firm 1 can be written as:

$$max_{L_1} \pi_1(t_1(T(L), t_2(T(L), T(L)) - l_1(T(L) - L_1 \tag{6}$$

Solving for the optimal outcome gives t^* as the sum of T^* and t_i^* below.

$$t^* = \frac{-\alpha + \frac{\phi}{\lambda}}{2(1 + \tau)} + \frac{(\alpha - \frac{\phi}{\lambda})(1 - \eta^{1/2})}{2 + \theta - \eta^{1/2}(1 + \theta)} \tag{7}$$

For asymmetric firms, with firm 1 being larger, the incentive to lobby individually will increase in λ and the incentive to lobby via associations will decrease with rise in λ. The first part of the equation above is positive for lower λ, the second part is positive for higher λ and lower η . Therefore, as concentration increases (higher λ), firm 1 has a higher incentive to lobby for T (as it internalizes a higher fraction of the total return from increasing T) and also to deviate and lobby individually. This is the scenario when the large firm is likely to adopt a dual strategy.

This motivates the following directly testable hypothesis:

Proposition 1. A higher elasticity of substitution among goods is associated with higher collective lobbying, while sectors with more differentiated products lobby more individually.

Proposition 2. A lower output concentration is associated with higher collective and dual lobbying, while sectors with higher output concentration lobby more individually. Competition effect is stronger than free-riding effects.

Proposition 3. Firms lobby for a sector-wide outcome using collective lobbying, individual lobbying is used to target product-specific outcomes. A dual strategy is preferred to each single strategy.

5 Empirical Analysis

This section will outline the data and empirical analysis.

5.1 Data

(1). Lobbying Decisions and Lobbying Strategy

Collective Lobbying: A firm coded as 0 = no and 1 = yes if it lobbies collectively, 0 otherwise.

Individual Lobbying: A firm is coded as 1 if it engages in individual lobbying with the government and 0 otherw ise.

Dual Lobbying: A firm is coded as 1 if it undertakes lobbying using both collective and individual lobbying, and 0 otherwise.

Lobbying Decision: A firm is coded as 1 if it does any lobbying, 0 otherwise.

Lobbying Strategy: Using the information on lobbying, I identify firms that choose the exclusive use of each lobbying mode and the dual use of both modes. No Lobbying (=1), Lobbying only collectively (=2), Lobbying only individually (=3) and Lobbying both collectively and individually (=4).

(2). Lobbying Activity

Lobbying Activity for MFN: Average of lobbying activity for MFN using collective and individual lobbying measured as a variable taking values of 1-4, where 1 is not active and 4 is very active.

Lobbying Activity for SC: Average of lobbying activity for SC using collective and individual lobbying measured as a variable taking values of 1-4, where 1 is not active and 4 is very active.

(3). Lobbying Effectiveness

Another question measures the perceived influence of the firm in terms of effectiveness to lobby the government. Lobbying effectiveness is measured here using the perception of firms on their ability to influence trade policy based on firm-level responses to the following question: Lobbying Effectiveness: "On a scale

of 1 to 4, how successful would you rate a typical firm in your sector in lobbying the government for trade policy influence?" (1 = Not effective, 2 = Moderately Effective, 3 = Moderately Effective, 4 = Very Effective). It is important to note here that these are firm perceptions on effectiveness of their lobbying as a sector and is different from actual effectiveness.

(4). Sector and Firm Characteristics

Elasticity: The elasticities of substitution are from Broda and Weinstein (2006). They use the 6-digit HS import data (1992 classification system) from the COMTRADE database from 1994 - 2003 to estimate the elasticities between varieties of imported goods that are reported at the 3-digit HS. I obtain concordances between 3-digit HS codes and 4-digit ISIC/NIC codes to group the estimates of elasticities of substitution by ISIC. Finally, I take the mean elasticities (sigma) across the 20 sectors in this study.

Concentration: Output concentration is calculated as the share of output of the four largest firms in a sector using data from All India Survey of Industries (ASI).

Firm Size: Firms were asked about the number of workers, as: "What is the size (number of workers) of your firm?" In the empirical analysis, it is measured using the log of the number of workers.

Foreign: "What is the ownership structure of your firm in terms of Private Foreign Ownership?" (1 = None, 2 = Less than 10

Competition: It is measured by asking how many competitors the firm faces. "In the last year, how many competitors did your firm face for its top 3 products?" (1=No competitors, 2=1-3 Competitors, 3=4-10 Competitors, 4=More than 10 Competitors). This is constructed as a variable that can take the values from 1 to 4, where 1 shows no competitors, 4 shows more than ten competitors for the top products produced by the firm.

5.2   Lobbying Strategy

There exist structural differences between the use each lobbying strategy on its own and dual lobbying as motivated in the BT framework above. What lends further support to this argument is that these structural differences are more evident if one considers that the lobbying activity is given for specific trade policy outcomes. The domestic institutional environment creates differences for the firm decision to do dual lobbying for a public good vs. only collective lobbying or only individual lobbying (Beyers, 2004). The basic functional and structural differences between the strategy to lobbying collectively via the association and lobbying individually by going directly to the government or between one of these and using a combination of both lends direction to examine the differences across these choices. Given the sector and

firm-level determinants, I examine the likelihood of lobbying using the strategies as independent choices, given the intensity of lobbying activity for a public good and a product-specific outcome.

Given that data from the survey justifies the assumption that lobbyists are indifferent between any two or more of the choices, the logic for using the Multinomial Logit (MNL) model is that the *ith* firm facing N=3 lobbying strategies chooses a particular strategy if the utility of that choice is greater than the utility it derives from the remaining strategies. This utility is dependent on a set of firm and sector characteristics in my framework that I have outlined above. This implies that the random disturbance term associated with each strategy for the *ith* firm meets the independence of irrelevant alternatives (IIA) assumption. I report robust standard errors that have been corrected for clustering by sector. Accounting for small sample size, I also bootstrap the clustered standard errors. The multinomial logit helps examine the exclusive lobbying choices compared to the base category. Fitting the log-odds of lobbying strategy in each category *pij* vs. base *pik* as a linear function of the covariates with each explanatory variable having j-1 coefficients, one for each category of the dependent variable:

$$log\frac{p_{ij}}{p_{iK}} = \alpha_i + \beta_i.R + \eta_i.C \tag{8}$$

The lobbying strategy is examined in terms of the main covariates of interest from the model R being elasticity, concentration and firm size and additional control variables C being foreign ownership and competition. The comparison of each single strategy i.e. lobby only collectively (Collective) compared to the single strategy of individual lobbying and the firm decision to lobby only individually (Individual) compared to lobbying collectively (Collective) is of interest. The dual strategy compared to each single strategy gives further evidence to the firm decision of lobbying using both modes motivated by the lobbying model above. I examine this controlling for lobying activity for MFN and SC.

I present evidence on lobbying strategies for Indian manufacturing firms in Table 1. The dependent variable in each case is the response variable consisting of categories of lobbying strategies: Only Collective Lobbying=2, Only Individual Lobbying=3, Both Collective and Individual Lobbying=4. These are the three outcomes as unordered choices. The log odds of the lobbying outcomes are modeled as a linear combination of the predictor variables. In the top panel, model 1 presents the relative log odds from the multinomial logit regression for the lobbying strategy compared to the base outcome of individual lobbying. The bottom panel presents results for model 2 where the base category is collective lobbying. All columns report the logit coefficients controlling for foreign ownership and competition.

Columns (1)-(3) report the individual correlations and (4) presents the baseline estimation for each model. In terms of proposition 1, the signs are found reversed in columns (1)-(5) such that I find negative coefficients for collective lobbying and positive for individual lobbying, both are however found insignificant.

In column (2), I find support for proposition 2 of the model such that I observe a negative coefficient for concentration in model 1 and a positive coefficient in model 2. In both cases, the coefficients are found insignificant. However, dual strategy compared to each single strategy shows a negative coefficient for concentration. This implies strong competition effects wherein if the firm dispersion is higher (lower concetration), firms will lobby more using a collective lobbying strategy and a dual strategy. In column (5), I bootstrap the standard errors.

Table 2 introduces additional lobbying covariates on activity, these being MFN and Special conisgnments to test proposition 3. I find that the baseline results hold. In addition, there is support for proposition 3 such that in model 1, MFN activity is positively related to the probability of collective lobbying and dual lobbying. The coefficient for dual lobying is also significant, while special consignments are found to show a negative relationship in this case. Further, the coefficient for dual lobbying is significant. This suggests that firms are most likely to adopt a dual strategy to lobby for MFN in comparison to individual lobbying. In model 2, MFN is found to be negatively related to the likelihood of individual lobbying and special consignments show a positive relationship to individual and dual lobbying in comparison to lobbying collectively. The evidence thereby points to the overall firm preference of a dual strategy, with the single strategy of collective lobbying being likley for a public good and individual strategy for product-specific outcomes.

5.3 Robustness

The key problem is that in regressing lobbying strategy on determinants for firms that are doing lobbying, the equation for the entire population of the firms is not observed. Those firms that lobby will be more likely to select a strategy that being a single or the dual strategy than those not lobbying would have. Hence, there maybe a potential problem of sample selection bias. Since the results in Tables 1 and 2 reveal that the determinants on firm lobbying strategy are not random, sample selection bias may plague the primary findings.

The Heckman (1979) selection model is a type of simultaneous equations model that can help address this potential bias caused by the lobbying decision. The first equation, called the selection equation, will include all 146 firms in the sample since it is designed to get at the decision to lobby or not. The sample

in the second equation is restricted to include only firms that do lobby as we observe the lobbying strategy only for them.

The first step is to estimate the selection equation using a probit for lobbying decision:

$$LobbyDecision_i = \beta_0 + \beta R + \eta C + \phi_i \tag{9}$$

The estimates (shown in Table 5) are then used to calculate an inverse Mills ratio (IMR). The exclusion restriction used is lobbying effectiveness. The second step then is to add the IMR to the second equation as an additional independent variable. The equation for lobbying strategy is modified such that it is now given by:

$$log\frac{p_{ij}}{p_{iK}} = \alpha_i + \beta_i R + \eta_i C + \gamma IMR \tag{10}$$

Thereby, the correction for selection enters the multinomial logit model. The standard errors are bootstrapped and clustered by sector. I do the Heckman selection as a robustness check for the primary findings above. The results are outlined in Table 3 and 4 .

Table 3 and 4 presents the results for lobbying strategy, given MFN lobbying and SC lobbying respectively. The IMR is found negative and significant for dual strategy in both models 1 and 2 for each case, that suggests a selection problem. I find higher coefficients for concentration, one of the main variables of interest. In model 2 in Table 3, the coefficients for MFN is reversed in sign for dual lobbying compared to collective lobbying. In model 1 in Table 4, the sign of the coefficient on SC is also found reversed for dual strategy compared to indivdual lobbying. Therefore, the selection problem here seems to affect the likelihood of dual lobbying even if the overall results remain unchanged.

6 Conclusions

This chapter provides a new element for understanding lobbying behaviour for trade policy in India. It answers the primary question on which lobbying strategies to use. The attempt was to offer an understanding into the structure of lobbying for trade policy influence. It has important implications for democratic policymaking and offers evidence to recognize that specific types of groups are utilizing dual lobbying strategies and potentially achieving more influence. In the context of individual lobbying compared to lobbying via collective action, I found that Indian manufacturing firms seem reactionary such that they respond quickly in order to capitalize on a change in the political status of a policy. For this, the specific policy issue and organizational constraints can limit their choices. These results outline the broad patterns of lobbying strategies that suggest the most likely combinations of factors that predict use of various lobbying strategies. The use of the dual lobbying strategies could have significant implications for policymaking but the underlying mechanisms have remained underexplored in the Indian context.

On the whole, Indian manufacturing firms prefer a dual lobbying strategy. Second, the probability of lobbying via associations and lobbying using a dual strategy is higher in sectors with lower concentration such that the competition effect is clearly dominating any free-riding effects. Third, firms are likely to adopt a collective lobbying strategy when targeting sector-wide public goods such as Most Favoured Nation (MFN) tariffs while they are likely to lobby individually when targetting more product-specific trade policy outcomes; the dual startegy is preferred over each single strategy.

One main finding for policy that emerged both from interviews with policymakers and the manufacturing firms is the need for a structured consultative framework that would encompass associations and trade groups. A strengthened structure of domestic accountability can in turn feed into responsible multilateral representation. Also, interest group representation can further democratic participation and better policy while the potential threat of corruption can be curbed. Political institutions can in fact create a policymaking culture realise these possibilities. In this light, this study sheds light on lobbying strategies as a means of approaching policymakers in India to support transparency and accountability to the trade policy process.

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7 Tables and Figures

Table 1: Lobbying Strategy: Baseline Regressions
Dependent variable: Lobbying Strategy = Collective, Individual, Dual

MNL Model 1. Base-Individual Lobbying

Variables	Categories	Individual Correlations (1)	(2)	(3)	Baseline 1 (4)	Bootstrap (5)
Elasticity	Collective	-0.449			-0.344	-0.344
		(0.398)			(0.445)	(0.619)
	Dual	-0.312			-0.036	-0.036
		(0.200)			(0.229)	(0.425)
Concentration	Collective		-0.022		-0.015	-0.015
			(0.014)		(0.012)	(0.017)
	Dual		-0.062**		-0.061**	-0.061**
			(0.012)		(0.012)	(0.016)
Firm_Size	Collective			-0.051	-0.010	-0.010
				(0.235)	(0.332)	(0.384)
	Dual			0.186	0.160	0.160
				(0.253)	(0.291)	(0.347)
N		137	137	137	137	137

MNL Model 2. Base-Collective Lobbying

Variables	Categories	Individual Correlations (1)	(2)	(3)	Baseline 2 (4)	Bootstrap (5)
Elasticity	Individual	0.449			0.344	0.344
		(0.398)			(0.445)	(0.619)
	Dual	0.137			0.308	0.308
		(0.366)			(0.442)	(0.502)
Concentration	Individual		0.022		0.015	0.015
			(0.014)		(0.012)	(0.017)
	Dual		-0.041**		-0.046**	-0.046*
			(0.015)		(0.015)	(0.019)
Firm_Size	Individual			0.051	0.010	0.010
				(0.235)	(0.332)	(0.384)
	Dual			0.237	0.170	0.170
				(0.313)	(0.391)	(0.500)
N		137	137	137	137	137

* $p < 0.05$; ** $p < 0.01$

Note: Table 1 shows the coefficients (log odds) from the Multinomial Logit (MNL) regressions. The top panel shows the results for model 1 where the likelihood of collective and dual lobbying is compared to the base category of lobbying individually. The bottom panel reports the results for model 2 where the likelihood of individual and dual lobbying is compared to the base category of collective lobbying. Note that all categories are mutually exclusive. Columns (1) - (5) contains control variables on Foreign Ownership and Competition. Individual correlations controlling for foreign ownership and competition are observed in columns (1) - (3). In column (4), I test the baseline specification with the controls. Robust (clustered by industry) standard errors in parentheses in columns (1) - (4). Bootstrap standard errors (30 replications) in column (5) to check robustness.

Table 2: Lobbying Strategy given trade policy outcomes
Dependent variable: Lobbying Strategy = Collective, Individual, Dual

MNL Model 1. Base-Individual Lobbying

	Variables	(1)	(2)
Elasticity	Collective	-0.309	-0.290
		(0.454)	(0.347)
	Dual	0.061	-0.053
		(0.198)	(0.245)
Concentration	Collective	-0.016	-0.016
		(0.012)	(0.010)
	Dual	-0.059**	-0.061**
		(0.013)	(0.013)
Firm_Size	Collective	-0.155	-0.025
		(0.357)	(0.372)
	Dual	-0.112	-0.011
		(0.295)	(0.296)
MFN	Collective	0.581	
		(0.445)	
	Dual	0.970*	
		(0.397)	
Special	Collective		-0.356
			(0.253)
	Dual		0.227
			(0.188)

MNL Model 2. Base-Collective Lobbying

	Categories	(1)	(2)
Elasticity	Individual	0.290	0.309
		(0.347)	(0.454)
	Dual	0.236	0.370
		(0.362)	(0.470)
Concentration	Individual	0.016	0.016
		(0.010)	(0.012)
	Dual	-0.045**	-0.044**
		(0.014)	(0.014)
Firm_Size	Individual	0.025	0.155
		(0.372)	(0.357)
	Dual	0.014	0.043
		(0.291)	(0.287)
MFN	Individual		-0.581
			(0.445)
	Dual		0.389
			(0.296)
Special	Individual	0.356	
		(0.253)	
	Dual	0.584**	
		(0.224)	
N		137	137

* $p < 0.05$; ** $p < 0.01$

Note: Table 2 shows the coefficients (log odds) from the Multinomial Logit (MNL) regressions given the intensity of lobbying activity for trade policy outcomes MFN and Special Consigments (Special/SC) for model 1 in the top panel and model 2 in the bottom panel. In column 1, I present the likelihood of the lobbying strategies given the MFN activity and column (2) shows the results given the SC activity. Both columns (1) and (2) contains control variables on Foreign Ownership and Competition. Robust (clustered by industry) standard errors in parentheses.

Table 3: Lobbying Strategy given MFN, with Selection
Dependent variable: Lobbying Strategy = Collective, Individual, Dual

MNL Model 1. Base-Individual Lobbying

	Categories	(1)	(2)
Elasticity	Collective	-0.309	-0.265
		(0.454)	(0.364)
	Dual	0.061	-0.033
		(0.198)	(0.248)
Concentration	Collective	-0.016	-0.012
		(0.012)	(0.017)
	Dual	-0.059**	-0.076**
		(0.013)	(0.016)
Firm_Size	Collective	-0.155	-0.218
		(0.357)	(0.296)
	Dual	-0.112	0.190
		(0.295)	(0.333)
MFN	Collective	0.581	0.759
		(0.445)	(0.555)
	Dual	0.970*	0.275
		(0.397)	(0.499)
Inverse Mills	Collective		1.654
			(3.335)
	Dual		-8.826**
			(3.359)

MNL Model 2. Base-Collective Lobbying

	Categories	(1)	(2)
Elasticity	Individual	0.309	0.265
		(0.454)	(0.364)
	Dual	0.370	0.233
		(0.470)	(0.351)
Concentration	Individual	0.016	0.012
		(0.012)	(0.017)
	Dual	-0.044**	-0.064**
		(0.014)	(0.015)
Firm_Size	Individual	0.155	0.218
		(0.357)	(0.296)
	Dual	0.043	0.407
		(0.287)	(0.238)
MFN	Individual	-0.581	-0.759
		(0.445)	(0.555)
	Dual	0.389	-0.484
		(0.296)	(0.403)
Inverse Mills	Individual		-1.654
			(3.335)
	Dual		-10.480**
			(3.841)
N		137	137

$* \ p < 0.05$; $** \ p < 0.01$

Note: Table 3 shows the results from the heckman selection as a robustness check for the primary findings above. The coefficients (log odds) from the Multinomial Logit (MNL) regressions are reported for the lobbying strategies, given MFN activity. Both columns (1) - (2) contain control variables on Foreign Ownership and Competition. The Inverse Mills Ratio is based on the first stage probit reported in Table 5. Robust (clustered by industry) standard errors in parentheses.

Table 4: Lobbying Strategy given SC, with Selection
Dependent variable: Lobbying Strategy = Collective, Individual, Dual

MNL Model 1. Base-Individual Lobbying

	Categories	(1)	(2)
Elasticity	Collective	-0.290	-0.140
		(0.347)	(0.308)
	Dual	-0.053	0.029
		(0.245)	(0.230)
Concentration	Collective	-0.016	-0.025
		(0.014)	
	Dual	-0.061**	-0.081**
		(0.013)	(0.017)
Firm_Size	Collective	-0.025	-0.067
		(0.372)	(0.322)
	Dual	-0.011	0.129
		(0.296)	(0.327)
Special	Collective	-0.356	0.081
		(0.253)	(0.186)
	Dual	0.227	-0.392
		(0.188)	(0.219)
Inverse Mills	Collective		-1.946
			(2.682)
	Dual		-9.030
			(2.606)**

MNL Model 2. Base-Collective Lobbying

	Categories (1)	(2)	
Elasticity	Individual	0.290	0.140
		(0.347)	(0.308)
	Dual	0.236	0.169
		(0.362)	(0.278)
Concentration	Individual	0.016	0.025
		(0.010)	(0.014)
	Dual	-0.045 **	-0.056**
		(0.014)	(0.015)
Firm_Size	Individual	0.025	0.067
		(0.372)	(0.322)
	Dual	0.014	0.196
		(0.291)	(0.280)
Special	Individual	0.356	0.392
		(0.253)	(0.219)
	Dual	0.584**	0.473*
		(0.224)	(0.222)
Inverse Mills	Individual		1.946
			(2.682)
	Dual		-7.084*
			(3.134)
N		137	137

* $p < 0.05$; ** $p < 0.01$

Note: Table 4 shows the results from the heckman selection as a robustness check for tehe primary findings above. The coefficients (log odds) from the Multinomial Logit (MNL) regressions are reported for the lobbying strategies, given MFN activity. Both columns (1) - (2) contain control variables on Foreign Ownership and Competition. The Inverse Mills Ratio is based on the first stage probit reported in Table 5. Robust (clustered by industry) standard errors in parentheses.

Table 5: Selection Equation

Dependent variable: Lobbying Decision = 0 or 1

Variables	(1)
Elasticity	-0.036
	(0.233)
Concentration	0.022
	(0.014)
Firm_Size	-0.160
	(0.180)
MFN	0.598**
	(0.163)
Special	-0.217
	(0.121)
Effectiveness	0.586**
	(0.222)
N	146

* $p < 0.05$; ** $p < 0.01$

Note: Table 5 shows the probit coefficients for the selection equation on all 146 firms. Note that all previous specifications are on only 137 firms that report to lobby. The specification contains the control variables on foreign ownership and competition. I also introduce MFN and Special Consignments (SC/Special) together as in this specification I examine the determinants of the ecision to lobby. The exclusion restriction is the effectiveness in lobbying which is defined as firm perception on the overall effectiveness of its sector. MFN and effectiveness effect the decision to lobby positively and significantly. The standard errors are robust and clustered by sector.
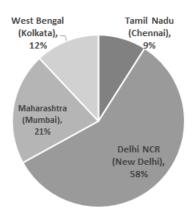
Figure 1: Geographical Distribution of Sample

Figure 2: Survey Summary

Detail/Stage	Numbers	Sources/Task	Criteria	Precision (Reduce Possible Bias)
Sampling Frame	508+913 =1421	Lists from Associations & Phone Directories	Sectoral weights from World Bank Enterprise Survey	By Economic Sectors
Stratification	1032	Comparison of Lists	Drop overlapping firms (389)	By Association Members & Non-Members
Randomization	508+524 =1032	Lists Re-arranged in descending order	Distribution of firms by size.	By Firm Size (Number of Workers)
Randomization	350	Random Selection	Draw one firm at fixed intervals of size + Budget (Optimum Allocation)	By Strata
E-Mails	320	Potential Respondents	Sectoral weights from World Bank Enterprise Survey (30 Firms dropped)	By Economic Sectors
Final Appointments	250	Target Coverage	Follow-ups + Contribution to economic activity + Budget	By Economic Sectors
Actual Interviews	146	Actual Coverage	Complete and eligible responses	By Economic Sectors

Figure 2 lists the summary of the survey with specific details at every step.

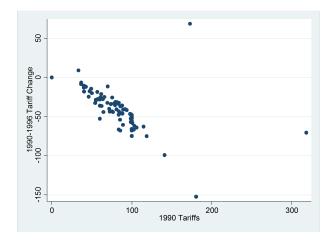Figure 3: Tariffs and Tariff Changes 1990-1996

Figure 3 shows a linear relationship between pre-reform MFN tariff and tariff changes from 1990-1996.

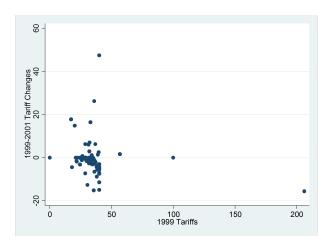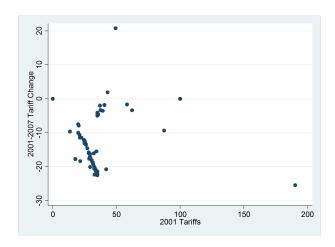Figure 4: Tariffs and Tariff Changes 1999-2001

Figure 4 shows a non-linear relationship between 1999 MFN tariffs and tariff changes from 1999-2001.

Figure 5: Tariffs and Tariff Changes 2001-2007

Figure 5 shows further non-linear relationship between 2001 MFN tariffs and tariff changes from 2001-2007.

Figure 6: Lobbying Strategy

Figure 6 shows the number of firms by Lobbying Strategy. Note that the three categories are mutually exclusive for the 137 firms that lobbied in my sample.