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Lobbying or Innovation: Who Does What Against Foreign Competition?

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Abstract:

This paper studies the relationship between competition and firms' political influence. I use the China shock identification strategy to assess the impact of rising imports over the last two decades on US corporate lobbying. The empirical results are the following i) the increase in foreign competition has brought firms to increase their lobbying effort by approximately 35 percent per four-year period, ii) results are heterogeneous and the increase is focused on low productivity firms, iii) this increase does not target trade policies specifically but rather a variety of topics contributing to firms' competitiveness. I comment two mechanisms: first, firms for which innovation is too expensive naturally increase their lobbying effort in proportion to the threat of competition, and second differentiation (through innovation) and exit concentrate the lobbying effort on fewer firms, helping to decrease free-riding.

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1 Introduction

This paper studies empirically how firms use non-market strategies - more precisely, lobby the legislative chambers for protection - after a competition shock. I develop a framework that allows me to use detailed micro data to quantify the impact of these changes on firms' political influence strategies.

This paper takes its origin in the literature assessing how firms react to competitive pressures. A strand of the literature derived from Schumpeterian models has focused on the heterogeneity of firms' responses in terms of innovation based on their initial productivity (Aghion et al., 2005). In particular, Aghion et al. (2009) show how foreign competition may induce an “escape-competition” effect pushing the more productive firms to further innovation and differentiation in order to separate from the pack of lower productivity followers. This effect pushes the technological frontier further and innovation becomes more difficult and expensive for followers that are behind the frontier resulting in a “discouragement” effect. An animated debate in the literature has been spurred by the empirical validation of this intuition in the context of competition pressures induced by the rise of Chinese imports following the country's accession to the World Trade Organization in 2001. Bombardini et al. (2017) and Fieler and Harrison (2018) provide confirmation of a positive effect of competition on innovation for Chinese firms close to the technological frontier and Bloom et al. (2016) and Hombert and Matray (2018) report a rise in innovation and productivity from firms in the industries most affected by Chinese imports, respectively in the European Union and the United States. On the contrary, Autor et al. (2020) find a negative effect of competition on the patenting activity of US firms in the industries the most affected by the adverse shock.

Within this debate, this paper has the ambition to contribute to the understanding of an alternate method of protection: lobbying. Explaining how firms adapt their political influence tools in reaction to a competition shock can then help reconcile discrepant empirical results found in different settings and countries with disparate institutional frameworks. The China shock is a perfect framework to study the question: on the one side, it hit a multitude of countries allowing to generalize the intuition of the results of this research to a large share of developed economies and, on the other, it can help to understand the impact of any competition shock on the political intensity of firms.

More precisely, this paper asks: following an adverse competition shock, if firms at the

technological frontier innovate to “escape-competition”, what happens to those behind the frontier for which innovating over the frontier becomes even less profitable? Do firms use political influence tools, i.e. lobbying, to curb foreign competition in the event of a negative competitive shock? Which firms tend to lobby more in response to large foreign competition shocks? What do they hope to achieve with their political influence?

I study the changes in lobbying expenditures, in the context of the China shock on the US manufacturing sector between 1999 and 2017. The United States are both a pioneer in terms of antitrust and lobbying legislation, resulting in a high quality database, and the country with the highest level of expenses in lobbying. Using exhaustive firm-level data from the Senate Office of Public Records on all publicly-traded firms, I document several facts about how foreign competition impacts firms’ lobbying choices. While imports have increased in all the industries since the beginning of the Register, there is a significant heterogeneity across industries both in the speed and timing of the change. I rely on these differences and use the China shock methodology to measure quantitatively the causal effect of the increase in imports on the lobbying strategy of US firms.

The first fact is that an increase in imports causes a significant increase in lobbying expenditures. I estimate that the average increase in imports during the 1999-2017 period induced an increase in lobbying of approximately 35 percent per four-year sub-period. Second, I show that there is a heterogeneity in firms’ responses: only the smaller, the less productive and the less innovating ones - relatively to our sample - increase their lobbying activity after a shock in foreign supply. Third, I show that this response is reflected both in the intensive and the extensive margin for firms behind the technological frontier: the increase in foreign competition causes both more firms to lobby and the one that already do to increase their intensity. Fourth, separating the different issues targeted by lobbyists, I show that the increase in lobbying activity is not restricted to lobbying for trade policies.

Two main mechanisms that might explain the increase in the pursuit for political influence are commented in this paper: the first and more direct one is that with tightening competition from Chinese firms, innovation over the technological frontier becomes too costly for low productivity firms, incentivizing them to turn towards non-market strategies, such as lobbying. The second and more subtle mechanism is that the adverse competition shock has pushed firms at the top of the productivity distribution to innovate and differentiate and firms at the very

bottom of the distribution to exit the market, leaving the subset of low and medium productivity firms much smaller and more concentrated. In this context, the collective action problem highlighted by [Oslo \(1965\)](#) and the incentives to free-ride on lobbying decrease, resulting in a rise of lobbying activity.

I employ a variety of strategies to alleviate concerns that these patterns arise from omitted factors or through reverse causality. The strategy relies on the instrumental strategy proposed by [Autor et al. \(2013\)](#). It is carried on first differences within firm in order to identify variations that are not driven by firm-specific fixed observed or unobserved characteristics, such as size or industry of operation of the firm. I control for period and industry fixed effects, that are to be interpreted as controls for time trends in a linear specification, along as for a variety of firm and industry characteristics. I use different measures of imports to provide robustness to my analysis.

An other concern of my analysis is the focus on lobbying activity as channel of political influence resulting in the neglecting of other non-market strategies such as revolving doors ([Cooper, 1968](#); [Blanes i Vidal et al., 2012](#)), campaign donations ([Stratmann, 2005](#); [Bombardini and Trebbi, 2011](#)) or strategic advocacy through charitable giving ([Bertrand et al., 2020, 2021](#)) and grassroots organizations ([Walker, 2009](#)). The first clear advantage of focusing on lobbying is the magnitude of this channel of influence with respect to others mentioned above. Total annual lobbying activity represents expenditures at least ten times larger than federal campaign contributions for instance. The second advantage of employing lobbying expenditures comes from the quality and structure of the data. Not only, using ([Kim, 2018](#)) do we have firms industry and can easily have their characteristics, but we also know precisely the issues targeted by lobbyists. Therefore, differently from other avenues of political influence studied in the political economy literature, lobbying gives the possibility to study the centrality of trade policy relatively to imports pattern. Focusing on lobbying and campaign contributions, the money in politics literature suggests that different tools are generally used as complements in the political influence activity ([Ansolabehere et al., 2002](#); [Lorenz, 2020](#); [Kim et al., 2022](#)). I then conjecture that the addition of omitted political channels to the analysis would not change qualitatively the results but would rather increase the magnitude of the effects described in this paper.

A last concern on the choice of the data is the absence of lobbying associations at the industry level. An important concern with trade associations is that we don't know which firms

precisely contribute (and at what level of expenses). [Bombardini and Trebbi \(2012\)](#) manually match trade associations to industries and estimate the share of individual lobbying in the industry total to be in average 67 percent, with a median at 96 percent, showing that in the median industry, trade associations spend relatively little amounts in lobbying. Although this is still a shortcoming of the analysis, I conjecture that trade associations would react in the same direction as individual firms after an adverse shock from foreign competition.

My paper is related to the literature of lobbying efforts by economic loser, and in particular the ones sustaining concentrated losses as the result of foreign competition ([Hillman, 1982](#); [Cassing and Hillman, 1986](#); [Braillard and Verdier, 1994](#); [Baldwin and Robert-Nicoud, 2007](#)). This literature links the Schumpeterian literature on firms' productivity with the one on corporate lobbying and non-market strategies. The first alert on unproductive entrepreneurs comes from [Baumol \(1990\)](#) that made explicit political influence as one of the rent-seeking activities practiced by unproductive entrepreneurs "leading a parasitical existence that is actually damaging the economy." Extended empirical work has focused on the historic increase of profits trying to disentangle the revenues between profits and capital ([Barkai, 2020](#)) and understanding whether rising profits are the result of innovation or simply of rents from incumbent positions ([Autor et al., 2020](#); [Aghion et al., 2019](#)) and in particular from political rents ([Bessen, 2016](#); [Brown and Huang, 2017](#)). [Akcigit et al. \(2020\)](#) conduct a similar analysis and provide evidence, in the context of Italian firms, that incumbents tend to connect to local politicians to extract positional rents rather than innovate. I contribute to this literature by showing that all industries in the manufacturing sector have contributed to this trend of increased political influence for rent seeking motives and that this trend is caused by the subset of firms below the sample mean for sales, employment, productivity, or Research and Development expenditures. Importantly, this result suggests that not all firms endeavor to be at the technological frontier.

Relatedly, this paper also connects to the literature on industrial concentration and political influence ([Faccio and Zingales, 2017](#); [Covarrubias et al., 2019](#); [Gutiérrez and Philippon, 2019](#); [Cowgill et al., 2021](#); [Lancieri et al., 2022](#)). This literature focuses on the causes of the increase in market concentration observed during the past two decades. Market concentration can be explained by breakthrough innovation, increasing returns to scale or rising regulatory barriers. For the case of the United States, there is a consensus on the role of firms' political influence in weakening antitrust enforcement, that has resulted in stronger superstar firms in highly

concentrated markets. I contribute to this literature by bringing new evidence that after a competition shock firms choose, with respect to their initial productivity, between innovation and lobbying considering them as substitutes.

Another literature closely linked to this paper focuses on “protection for sale” (Grossman and Helpman, 1994; Baumgartner et al., 2009; Stoyanov, 2009; Drutman, 2015). This vast literature focuses on the industry-level organization of firms for political influence, in particular against foreign competition with an international trade context. Escaping-competition and specifically increased tariffs are clearly identified as the goals of the lobbying activity (Gawande, 1998; Goldberg and Maggi, 1999; Gawande and Bandyopadhyay, 2000). Differently with respect to most of the literature, this paper focuses on the *efforts* exerted by firms rather than on the *results* obtained, such as tariffs. I contribute to this literature by producing supporting evidence that while the protection for sale phenomenon is still alive, escape-competition objectives have led low-productivity firms to diversify the issues they lobby for (lobbying for product regulations or patent rights or lower labor costs, for instance), indirectly raising new barriers to foreign entry.

Finally, I believe this paper offers a contribution to the recent strand of literature focusing on lobbying and non-market strategies, both in the political economy literature and in the politics one (Blanes i Vidal et al., 2012; Bertrand et al., 2014; Kang, 2016; Huneus and Kim, 2021; Bombardini and Trebbi, 2020).¹ This paper participates in explaining the recent observed boom in lobbying expenses.

The rest of paper is organized as follow. Section 2 describes the data, the construction of the variables used in the main analysis and the empirical strategy and approach to inference. Section 3 presents the baseline estimation results on the average change in lobbying expenditures and document their robustness to different specification and identification choices. Section 4 presents results on the heterogeneity of the lobbying response, its different margins and expands the analysis to the issues lobbied. The last section concludes.

¹See Drutman (2015) and de Figueiredo and Richter (2014) for recent review.

2 Data

2.1 Data

My baseline measure of political activity is the sum of annual expenses in lobbying at the firm level for U.S. firms over the period 1999-2017. Thanks to the legal framework built in the U.S. Lobby Disclosure Act of 1995 and amended and strengthened by the Honest Leadership and Open Government Act of 2007, there exists an exhaustive and public database where all federal lobbyists in activity ought to be registered, declare their activities and issues petitioned, and report payments received from clients – the firms under analysis in my paper. In practice, firms employ different lobbyists reporting each their activities quarterly. Although the primary data is available from the Senate Office of Public Records (SOPR), [Kim \(2018\)](#) offers a much cleaner organization of this data, supplementing information about each firm and its industry, linking lobbying reports to unique identifiers enabling the cross-reference of the SOPR data set to other important firm-level databases (such as the gvkey identifier for the Compustat database or the bvdid for the Orbis data – more on this below), and correcting faulty or incomplete entries.

From the [Kim \(2018\)](#) database, I collect information on: 1) the name (and gvkey if relevant) of the firm paying for lobbying services; 2) the amount spent by the client for these lobbying services; 3) the issue lobbied (out of a predefined list of 79 issues listed in the lobbying reports); and 4) the firm’s industry. The data is available from 1998, I collect all the entries until 2017 and collapse it at the year level. I start the analysis in 1999 to be sure all the firms lobbying at the federal level are actually registered.

To give a sense of the magnitudes involved, total U.S. federal lobbying spending oscillated between 3 and 3.5 billion dollars per year for the past ten years, starting from 1.5 billions in 1998, with about 12,000 registered lobbyists operating across all federal agencies each year.

Because I am looking to study both the intensive and the extensive margin of the lobbying response to an increase in foreign competition, I cross reference the lobbying dataset to Compustat data and keep all the firms in industries that have received imports from China, even if they never declared a lobbying activity. Compustat is a standard repository of balance sheet level information for publicly traded and large corporations and a routine reference data set for research in Financial Economics. It has to be noted that the focus on Compustat data per se induces a strong element of selection in the analysis. Compustat firms are typically large and

complex organizations and are only representative of the right tail of the size distribution of all U.S. firms. It is also known that such large business entities may be more prone to lobbying activities, due to the inherent fixed costs of government interaction and the retention of specialized advocacy personnel, as illustrated for example in [Kerr and Mishra \(2014\)](#). While less than representative, I believe Compustat is actually an appropriate sample for my analysis as it identifies the sample of firms for which lobbying decisions are actionable in practice. When data does not allow us to know precisely the firm’s date of entry (or exit) of the market, I use the date of entry in Compustat as the one for the market entrance.

Trade data between China and the US is obtained from [Comtrade \(2020\)](#) for the period 1999-2017 (Comtrade 2020). This data gives the value of the bilateral trade at the six-digit HS level, which I map into six-digit Naics codes using the [Schott \(2008\)](#) concordance tables. When an HS code is mapped into multiple Naics codes, I report the corresponding value of imports to all the industries. ²

I use measures of sales, employment R&D expenses from Compustat North-America. The number of patent applications comes from the USPTO database ([Graham et al., 2013](#)). Missing a common identifier between our database and the USPTO one, I use a fuzzy matching on names to link patent applications to their filing firms.

Descriptive statistics

I have now specified all main variable of interests, I present here a brief discussion of the summary statistics in [Table 1](#), to provide some context to readers not familiar with lobbying data. Our dataset is composed of 3,148 individual firms among which 948 also appear at least once in the SOPR data set with strictly positive lobbying expenses. The average yearly lobbying expense is of 217,000 dollars considering all the observations and of more than 600,000 dollars excluding firms that never lobbied. Total lobbying expenses dramatically increased during the period, going in the dataset from around 185 million dollars in 1999 to 655 million dollars in 2017.³ These are figures congruent with the ones reported in [Bertrand et al. \(2014\)](#). Furthermore, the order of the magnitudes surpasses by far campaign contributions, as illustrated in [Bombardini and Trebbi \(2020\)](#). I conjecture here that adding other political tools to my analysis would only

²In appendix, I show the results of the main regression are robust to splitting imports between the different NAICS.

³All expenses are in 2007 US dollars.

increase, both in direction and in magnitude, the effects that I report below based on lobbying expenditures alone. This rationale is based on a reduction in attenuation due to measurement error. Firms are spread across 217 industries and I observe in the data a positive average and median change in imports over industries and periods. The same can be said about lobbying expenses. Focusing on firms that lobby at least once, I observe that the mean difference in lobbying expenses is very close in magnitude to the equivalent measure for imports.

2.2 Importance of lobbying for Trade

When filling a lobbying report, lobbyist need to declare which issue the client is lobbying for, in a list of 79 issues. There are two specific trade-related issues in that list: trade (domestic and foreign) and miscellaneous tariff bill. This second issue is negligible in the data: it is reported ten times less often than the trade issue for a total expenses thirteen times smaller.

Over the period 1999-2017 and in the manufacturing sector, trade is the second issue receiving the more money, after taxation. In my dataset, the issue is present in 10% of the lobbying declarations which represent 49% of total lobbying expenses and more than 4.2 billions over the period.⁴ The resources dedicated got multiplied by three during the period, going from 105 million dollars in 1999 to 317 million dollars in 2017. The share it represents in total lobbying expenses first decreased between 2000 and 2008 going from 60% to 40% of total lobbying expenses, to rise back to 55% by the end of the period.

Inside the manufacturing sector – which is unsurprisingly the leading sector in term of lobbying for trade, there is an important disparity between industries. Out of twenty 3-digit NAICS industries, the top four represent 88% of the lobbying expenses dedicated to trade, leaving the other to relatively small shares. In decreasing levels of expenses, they are: the chemicals industry (34% of expenses), the transportation equipment industry (25%), the computer and electronic industry (18%) and the petroleum and coal products one (11%). The chemicals industry is the biggest spender in the trade issue every single year of the period. With the transportation industry they are also respectively, the first and fourth industries with the highest change in imports over the period studied. Among the industries spending relatively lower amounts in

⁴Most reports contain several issues. In this context, if trade is one of the issues, I consider the whole expense of the report dedicated to trade policies. In the rest of the paper, the corresponding expenses will be reported to each issue group.

lobbying, some still have a very high concentration of their expenses focused on the trade issue: the machinery manufacturing (60%), the primary metal manufacturing (57%), the fabricated metal product manufacturing (56%)..

However essential the context in international trade may be to explain the increase in lobbying expenses, I decide not to focus solely on the expenses targeting official trade laws, because other laws (such as product regulations or public subsidies) might indirectly raise new barriers to foreign entry, even if not falling necessarily under the trade issue umbrella.

3 Empirical strategy and main results

3.1 Empirical strategy

I estimate the impact of changes in industry exposure to import competition on lobbying expenditures at the firm level. The baseline regression specification I estimate is in first differences and of the form:

$$\Delta Lobby_{i,j,\tau} = \alpha_{\tau} + \beta \Delta M_{j,\tau} + \gamma X_{i,j,0} + e_{i,j,\tau} \quad (1)$$

where $\Delta Lobby_{i,j,\tau}$ is the relative change in lobbying expenditures of firm i , in industry j over time period τ and is defined as $\Delta Lobby_{i,j,\tau} = \log(Lobby_{i,j,t}) - \log(Lobby_{i,j,t-1})$. ΔM is the relative change in imports at the industry level and is defined analogously. One of the advantage of this growth rate is its symmetry: it corrects for very large growth rates coming from industries with initially very small imports and very high increase. All null lobbying expenses are replaced by 1. $X_{i,j,0}$ comprises controls for non-trade related factors that may affect the capacity of a firm to lobby such as its sales and innovativeness (R&D spending as a share of sales). I also control for industry levels of size, employment, R&D expenses (both in levels and intensity) and the intensity of capital expenditures.⁵ Finally, because I only consider the flow of imports, I control for the initial level of imports, and its size relatively to industry sales. All control variables are constructed with Compustat variables and are considered at the beginning of the period. In the analysis of equation (1) standard errors are clustered at the industry-period level.

⁵Bombardini and Trebbi (2011) show for instance how central the employment level is in the decision to lobby, because employees are considered as voters by politicians.

Because it is well established that some categories of firm lobby significantly more (for instance large firms able to overcome fixed costs or firms in highly regulated industries (such as pharmaceuticals) and in order to focus on identifying variations not driven by firm-specific observed or unobserved characteristics, the empirical analysis focuses on first differences within firm i .

The data is divided in five periods: 1999 to 2002, 2002 to 2006, 2006 to 2010, 2010 to 2014 and 2014 to 2017. All the firms identified in Compustat appear during their registration period.

There are two main concerns about estimating the baseline regression as an OLS. The first is I could capture the increase in the US demand, and not a supply-shock from China. The second concern is reverse causality, or the fact that lobbying expenditures may affect foreign firms' capability to enter the market and increase their sales in the US. Following [Autor et al. \(2013\)](#), I instrument US import changes from China by the change in imports of eight different countries, during the same period. These countries are Australia, Denmark, Finland, Germany, Japan, New Zealand, Spain and Switzerland. I refer to this new variable as ΔOM and define the difference in foreign imports analogously as the difference in US imports and lobbying expenditures. [Autor et al. \(2013\)](#) and [Autor et al. \(2014\)](#) provide evidence about the identifying assumption, which is that the demand import shocks of these eight developed economies are orthogonal one to another. [Table 2](#) shows that the instrument is a robust one, in the sense that its correlation to the endogenous variable is strong.

The within-sector dispersion in the magnitude of the shock industries face is not solely explained by labor-intensity but by the concentrated comparative advantage on a few products across industries ([Autor et al., 2016](#); [Hanson et al., 2015](#)).

The remaining variations in the difference in lobbying expenses, after controlling for different firm-level and industry-level characteristics and while considering the *within* firm difference, can also come from different factors: managerial quality and strategy are undoubtedly some, but they can also be explained by legislators ideology or public opinion pressure on legislators. The instrument and the error term should then not be correlated.

Another parallel concern on the identification strategy is that firms might lobby to gain a comparative advantage over Chinese firms in the countries used to construct the instrument, which would violate the exclusion restriction. Because the lobbying activity affects local policies and hence mainly the competition game and player in the local market, I believe it is rather

natural to consider that firms will lobby against foreign competition the institutions responsible for the local market.

I use several tests to confirm the robustness of the baseline result. First, to assess how representative the sample is with respect to all lobbying firms, I run the analysis on the exhaustive set of firms reporting lobbying expenditures to the Senate Office of Public Records. Comparing the baseline estimates with and without these smaller firms in the sample allows me to state whether the impact of foreign competition on lobbying is bounded to large firms. I also realize a long term analysis dividing my sample into two times periods: 1999-2008 and 2008-2017. I can then not only analyze firms behavior in the long run but also compare the two time periods. Considering that the increase in Chinese imports was more rapid during the first period, the effect of the exposure to import competition could be different in the two periods. I then report results with an alternate measure of the growth rate of imports and with normalized imports. Finally, to address the simultaneity bias, I follow [Pierce and Schott \(2016\)](#) strategy of exploiting China's accession to the permanent NTR status resulting in a change in tariff and trade-policy uncertainty.

The following section reports my main empirical findings. I begin by studying the response of firms in terms of their lobbying activity as the result of heightened foreign competition over the entire period of analysis 1999-2017. In a second time, I study the heterogeneity of the response in terms of size and productivity. I then look at the issues targeted by this increase in lobbying activity before analyzing the effect of the shock on the different margins of response.

3.2 Baseline results

[Table 3](#) gives the estimation results for the baseline model in [Equation 3.1](#). [Table 3](#) gives the estimation results for the baseline model in [Equation 3.1](#). The coefficients on the difference in imports are all positive and significant across specifications. In all the different specifications the five periods of time are stacked. Columns (1), (3) and (5) present the estimated coefficients of the OLS model, while the other columns display the results of the instrumental variable regressions. Column (1) presents the raw correlation between the change in imports and the change in lobbying expenditures. In column (2), the change in imports to the United States is instrumented by the change in imports to the eight other high income countries, as described in [subsection 3.1](#). Both estimates are positive and significant. Consistent with the reverse causality

bias, the IV estimate is significantly larger than the OLS one: if lobbying is successful, it might curb down Chinese exports to the United States, resulting in lower foreign competition and downwards biased OLS estimates.

Columns (3) and (5) add controls first for the period, and then for both the period and the industry fixed characteristics to address differences between political cycles and sectors. Since the model is already in first differences, industry controls are to be interpreted as controls for time trends in a linear specification. Columns (4) and (6) repeat the analysis with instrumental variable estimates. Columns (7) and (8) successively add controls to account for other potential characteristics affecting lobbying, first at the industry level and then at the firm level. Results remain of the same order of magnitude and the importance to instrument the change in imports is highlighted by OLS estimates losing their significance when adding controls.

The impact of the increase in foreign competition is meaningful in terms of magnitude: given that the average change in imports over the period is of 0.65, the estimated coefficients imply that the competition shock increased lobbying expenditures by 28% to 31% each period. This implies that more than a third of the increase in lobbying expenditures over the 1999-2017 period can be explained by the China shock.

The observed increase of lobbying activity that followed the China shock is consistent with the “protection for sale” line of thought (Grossman and Helpman, 1994; Goldberg and Maggi, 1999; Gawande and Bandyopadhyay, 2000; Stoyanov, 2009).

3.3 Different sampling

These baseline estimates of [subsection 3.2](#) provide causal evidence that firms in industries where rising Chinese imports to the US were the sharpest have reacted through a significant (and simultaneous) increase in lobbying expenses. I now present results on different samples in [Table 4](#).

Exhaustive set of lobbying firms A first potential threat to the analysis is the set of firms studied in the sample and its potential lack to represent smaller firms. The advantage of the sample used for the baseline estimates is the broad information available about firms, including a check on their industry and information about their longevity. There is a certain number of smaller firms however, that also do lobby individually. I here keep these firms in the analysis,

as a robustness check on the universe of lobbying firms.⁶ This exercise has the advantage of gathering the exhaustive set of firms that lobby in the manufacturing sector during the period of interest but the disadvantage of the difficulty of comparing firms that lobby with firms that do not. When considering only Compustat firms, this is not an issue since I consider a homogeneous set of firms in its totality, regardless of lobbying activity. Not having information on these firms, the set of controls is much more limited.

I estimate the [Equation 3.1](#) on this new dataset and present the estimated coefficient in [Table 4](#). This modified data-set is complemented by a small number of new industries lacking very large firms. The first stage F-statistic however still suggests that our instrument is robust in the sense that the correlation of the imports from China between the United-States and the group of the other countries is still high. I obtain positive and significant estimates of a similar magnitude than in the case bounded to Compustat firms.

The causal impact of Chinese imports remains positive and significant. Surprisingly, it is slightly superior to the baseline case suggesting the impact of the competition shock to be even more important on smaller firms. The opposite result could have been expected since smaller firms may have higher liquidity issues or higher tendency to associate in lobbying.⁷ To corroborate the effectiveness of lobbying by smaller corporations, let us note that the OLS regression does not provide a significant estimate suggesting a stronger reverse causality than when focusing only on publicly-traded firms.

Long-term effect A second question on the analysis is the duration of the effect of the foreign competition shock on firms' political activity. I have shown an immediate and consistent reaction but persistence being an important explanatory variable of lobbying choices the question remains on whether the impact of the competition shock lasts in the long run.

Intuitively, once incumbents manage to raise entry barriers against foreign firms - both in tariffs or regulations - they have the incentive to keep lobbying to maintain their advantage. [Brillard and Verdier \(1994\)](#) show how the degree of protection an industry manage to obtain

⁶Information on the industry of non-market traded firms comes from [Kim \(2018\)](#). Lobbyist spending less than 5000\$ do not need to register and there hence could be low lobbying intensity firms missing from the data.

⁷[Bombardini and Trebbi \(2012\)](#) indeed show that sectors with higher concentration and more differentiated products tend to lobby more individually, while sectors characterized by a higher degree of competition tend to lobby more together. I remind here that trade associations are not considered here.

depends importantly on past protection. On the other side, one might argue that the rolling of political agenda could be sufficient to insure a status-quo and allow firms to decrease their political activity after having obtained advantageous policies. I here divide the sample in two time periods of nine years each: from 1999 to 2008 and from 2008 to 2017 to study long-term effects.

I present the estimated coefficients in [Table 5](#) where the two periods are pulled together in columns (1) and (2). The estimates are positive and significant, suggesting that the increase in lobbying expenditures is persistent with time. The magnitude of the effect is about twice as large as in the short term specification.

[Autor et al. \(2021\)](#) present extensive evidence on the great difference in imports between the 1999-2008 period and the 2008-2017 one: in this dataset, the median industry observes an increase in imports three times superior in the first period relatively to the second. It is hence also of first interest to compare the two periods. In columns (3) and (4) I therefore include, in addition to the main instrument, an interaction term between the instrument and the first period, following [Autor et al. \(2020\)](#). The long term difference in imports loses its significance, but the coefficient is positive and significant for the interaction term. This pattern suggests that the effect of exposure to imported competition on lobbying expenditures has been larger during the first period with respect to the second one.

3.4 Alternate measure of trade shock

The remaining potential threats to the analysis come from the construction of the trade shocks. [Table 6](#) reports the estimates using alternative instruments for trade exposure. I proceed in the following way: I first check the robustness of the chosen measure of the *change* in imports, I then propose an alternate measure of the *flow* of imports and finally, I change the nature of the shock using the accession of China to the PNTR status in 2001 as a quasi-experiment.

Alternate measure of growth rate As a robustness check on the measure of the change in imports, I use the “Davis-Haltiwanger-Schuh” (DHS) growth rate or the difference in imports over a period divided by the average of the two periods: $\Delta \tilde{M} = \frac{1}{2} \frac{M_{j,t} - M_{j,t-1}}{M_{j,t} + M_{j,t-1}}$ Similarly to the difference of the log used in the rest of the paper, this modified growth rate has the advantages to be symmetric. Differently, it is bounded between -2 and 2 accommodating for entry and

exit.⁸ Results with the DHS growth rate are presented in columns (1) and (2). The first-stage F-statistics are superior to ten in both cases showing that the instrument remains a robust one with the new specification of the difference in imports. The estimates of the second stage reaffirm the positive causal relationship between foreign competition and political spending.

Alternate measure of imports Another robustness exercises focuses on the trade flows. In the baseline analysis, I consider the change in imports from China to the United States, as in [Aghion et al. \(2021\)](#). Alternatives consist in normalizing Chinese imports either with total imports ([Bloom et al., 2016](#)) or with apparent consumption ([Autor et al., 2020](#)). The advantage of the first method is to focus on the increase on imports coming specifically from China, hence adjusting for potential trends of liberalization. Differently, the second method focuses on the size of the local market. I apply here the former method in columns (3) and (6) of [Table 6](#). Similar results as in the main section would again confirm that the analysis focuses on a supply shock to Chinese firms, rather than a shock either to US firms or local demand.

The change in the share of Chinese imports in the aggregate imports at the industry level is positively correlated with the change in lobbying expenditures (column 3). When I introduce firm and industry level controls, the coefficient remains positive and of the same magnitude (column 4). Column (5) and (6) repeat the same exercise instrumenting the shock by the normalized change in imports of other developed economies, as in the main part of the paper. Estimates remain positive and significant with a magnitude much increased, suggesting, again, the possibility of reverse causality.

Normalized Trade Relations Tariff Gap As an alternative instrument, I use the accession of China to the permanent NTR status, or *PNTR*, as a quasi-experiment. The methodology relies on the difference between the normal-trade-relations (NTR) and the non-NTR tariffs and follows [Pierce and Schott \(2016\)](#).⁹

China first received the NTR status on annual renewable basis in 1980. The renewable was granted every following year, but with increasing uncertainty. In 2000, China was granted the *permanent* NTR status, or *PNTR* status, removing uncertainty about future tariffs.¹⁰ I here

⁸See [Davis et al. \(1996\)](#) and [Törnqvist et al. \(1985\)](#) for a detailed discussion on this growth rate.

⁹The data on the NTR-gap also comes from [Pierce and Schott \(2016\)](#).

¹⁰See [Pregelj \(2005\)](#), for a larger discussion on the past trade status of China.

use the NTR-gap as a proxy for the uncertainty associated with China’s temporary NTR status before 2001. Two arguments are highlighted by [Pierce and Schott \(2016\)](#) sustaining that the NTR-gap can be used to evaluate the impact of China’s accession to the WTO. First, the vote was controversial and it was unclear whether it would pass. Second, the non-NTR tariffs were initially set decades before.

Contrary to other studies in the China shock literature, my dataset almost integrally succeeds China’s accession to the *PNTR* status. Being a one time shock, the impact of the shock should be decreasing over time, if not canceled after a few years. To control for different effects over time, I include, in addition to the NTR-gap, an interaction term of the instrument with the first two periods, following [Autor et al. \(2020\)](#). The estimated coefficients are presented in columns (7) and (8) of [Table 6](#).

Surprisingly, the tariff gap is negatively correlated to the NTR-gap. We however also note a positive and significant coefficient for the interaction term, meaning that industries with higher tariff gaps experience an increase in lobbying between 1999 and 2006. This pattern suggests that in the early 2000s, lobbying increased more in industries subject to larger reductions in trade policy uncertainty. When adding all the firm-level and industry-level controls, the main effect loses its significance while the interaction term remains positive and statistically significant and its magnitude increases.

As an alternative quasi-experiment, I could have used the abolishing of the Multi-Fiber Agreement quotas, as in [Bloom et al. \(2016\)](#). The difficulty in this framework however comes from the small number of firms in industries concerned by these quotas. Over more than 3000 individual firms, only 120 are in the industries where the quotas were effective, over nine different industries.

4 Additional analysis

4.1 Heterogeneity by initial condition

The increase in foreign competition reducing the market shares and profits of local firms, it can be expected that firms increasing their lobbying expenditures will have to cut costs of other escape competition avenues, such as innovation. The Schumpeterian framework predicts clearly that firms will innovate to escape competition when they are close to their competitors [Aghion](#)

et al. (2005). If they are technologically far behind, the increase in competition will only make catching up more difficult and expensive, discouraging the firm to innovate. It is within this framework that firms may resort to non-market strategies to preserve their profits. I hence explore whether the impact of import competition on firm lobbying is more important within an industry for firms far from the technological frontier.

In table [Table 7](#), I examine the impacts of increased exposure to foreign competition on firms lobbying, separating the sample based on whether, at the beginning of the period, firms are below or above various indicators of performance. The cutoff is the industry mean performance. Since the distribution is highly skewed, most of the firms in an industry are below this cutoff. I show in [Appendix A](#) that the results found in this section are robust to using the median as a cutoff, instead of the mean. The first panel separates firms with respect to proxies for size that are sales, employment and R&D expenditures. The second panel, splits the sample with respect to productivity and innovation. First in terms of sales per employee, then in terms of R&D expenditures per employee and last in terms of patents. For this last measure, the distribution of patents being extremely skewed, the sample is divided between firms applying for patents at the USPTO at the beginning of the period and firms that don't. A good example to illustrate this choice is the pharmaceutical industry: instead of dividing firms with respect to the number of new drugs patented, the first group of firms includes firms producing only generics while the second group is composed by firms patenting and producing new drugs. Let's recall here that only Compustat firms are considered so that the sample is only representative of large and complex entities at the technological frontier and just behind this frontier.

The general conclusion of [Table 7](#) is that, no matter how we divide the sample, the increase in foreign competition caused by the China shock has only impacted the lobbying activity of the less productive or less profitable firms. Firms with lower initial sales, both global (column (1) of the first panel) and per employee (column (1) of the second panel), lower initial employment (column (3) of the first panel), lower R&D expenditures, again both global (column (5) of the first panel) and per employee (column (3) of the second panel) or non patenting firms increase their lobbying expenditures after an increase in import competition exposure, contrarily to their local competitors that initially perform better. The increase is around twice as large than in the baseline regression, with estimates hovering between 0.79 and 1.6, suggesting that lobbying expenditures of these firms increased between 51% and 84% per period.

The difference in response for firms at the frontier versus behind the frontier is also statistically significant in five out of the six cases – sales per employees being the only specification for which there is no statistically meaningful difference. Though not statistically different from zero, the estimated coefficient of the firms above the industry mean is negative in five of the six different specifications. According to both theoretical and empirical results, these firms probably respond to the shock through innovation and by catering to domestic tastes bundling products with non-tradable services (Aghion et al., 2009; Fielser and Harrison, 2018).

4.2 On why firms increase their lobbying activity

There is a wide literature on why firms spend in political influence tools. It is well established that lobbying firms obtain better performances in terms of equity returns, stock market and survival (Akey, 2015; Chalmers and Macedo, 2021; Chen et al., 2010; Faccio and Parsley, 2009) and the observed channels leading to these irregular profits are several. The span of benefits obtained contains lighter taxation (Arayavechkit et al., 2017; Richter et al., 2009), increased access to R&D public subsidies (Fang et al., 2018; Richter et al., 2009) and procurement contracts (Goldman et al., 2013). An other segment of the literature focuses precisely on lobbying for trade policies such as tariffs and quotas designed to protect domestic production (Goldberg and Maggi, 1999; Gawande and Bandyopadhyay, 2000; Stoyanov, 2009). I complement this literature by exploring what objectives firms try to achieve through lobbying after an adverse foreign competition shock.

I hence turn to the issue targeted by the lobbying activity. When filing their reports to the Senate Office, lobbyists have to declare which issue the firm is lobbying for, in a list of 79 issues. Note that most of the studies cited above focus on specific aspects of the *results* of lobbying and rather than on the *targets* of the activity. In this section, I group the relevant issues in four main categories to see where the excess in spending is directed to. The four categories are: government expenditures, trade policies, reduction of the relative cost of production of local firms and industry specific issues. Results are presented in Table 8, where columns (1) and (2) repeat the results of Table 3 as baseline. Even columns simply add industry and firm-level controls to odd ones.

Columns (3) and (4) focus on reports including issues linked to government expenditures and potential procurement contracts such as appropriations, urban development or defense and

homeland security.¹¹ Columns (5) and (6) are limited to reports including trade policies and tariff bills. Columns (7) and (8) concentrate on expenditures linked to the reduction of local firms relative costs. This group includes issues targeting both at raising barriers to foreign entry - such as consumer issues, safety and protection or copyright, patent and trademark - and at decreasing the production costs of local firms (labor issues, antitrust and workplace; medicare and medicaid; retirement; immigration and taxation). Last, columns (9) and (10) focus on the issues specific to an industry in the dataset. This category includes the manufacturing issue, as the most generic one in our interest, in addition to a list of issues which content is directly binding with an industry in the manufacturing sector, such as the beverage industry, the chemicals industry, the computer industry or the apparel, textile and clothing one.

Surprisingly, lobbying targeting trade and tariff issues is not affected by the competition shock. This provides evidence that the increase in lobbying expenditures caused by increasing imports is not bounded to tariff related issues. Intuitively, as the technological frontier is pushed further by tightening competition, innovation becomes more expensive and lobbying results, consequently cheaper. This result remains qualitatively unchanged when changing slightly the category definition of trade related issues, as shown in the [Appendix A](#).

Expenditures linked government expenditures and industry-specific issues do not increase either in reaction to the the rise in Chinese imports. We only observe an increased lobbying effort for the group of issues based on the reduction of the relative costs of local firms. For this set of issues, the estimates hover around 0.6 suggesting a positive relationship slightly stronger than the one over the entire set of issues.

It is worth noticing that - contrarily to government expenditures - successful lobbying on this category of issues would profit a multitude of local firms and not only the ones lobbying. In this sense, trade barriers or lower labor costs can be assimilated at the industry level as a public good. Considering lobbying as the private provision of a public good raises the question of the collective action problem, especially in industries with low concentration levels ([Oslon, 1965](#); [Bergstrom et al., 1986](#); [Gawande, 1997](#); [Bombardini, 2008](#)).

¹¹The complete list of issues in each group is presented in [Appendix A](#)

4.3 Heterogeneity in the margins

Lobbying activity is a relatively rare phenomenon mainly practiced by large and settled firms. The persistence of the firm behavior in its lobbying choice is very high, both in the intensive and in the extensive margin, partly explained by the up-front costs associated with entering the political process (Huneus and Kim, 2021; Kerr and Mishra, 2014).¹² I here decompose the baseline result to understand whether the increase in lobbying expenditures observed comes from an intensive or an extensive margin.

To study the extensive margin, I split the sample in two: firms that don't lobby at the beginning of the period, and firms that do. With the first subset, I measure the impact of changes in import on the probability that a firm starts lobbying before the end of the period. Symmetrically, I use the second subset to test whether import competition affects the probability that lobbying firms stop lobbying. For both cases I transform the baseline Equation 3.1 into a linear probability model, changing the left hand side variable by 1 if the firm starts/stops to lobby and by 0 if the firm's behavior remains unchanged. I then focus on the intensive margin: the specification is the same as in Equation 3.1 but the sample is limited to those firms that do lobby before and after the period under analysis. The results are presented in Table 9 where the two first columns present the results of the impact of increased imports on the entry margin, the two following the impact on the exit margin and the last two the results on the intensity. All specifications have industry and period controls, even columns also include firm- and industry-level controls.

The first panel gathers all firms and shows a high impact of the competition shock on the extensive margin of lobbying and no significant impact on the intensive margin. On average, firms lobby more when imports grow faster: more firms start to lobby (columns 1 and 2), less firms stop lobbying (columns 3 and 4).

The following two panels split the sample between frontier firms (or firms with higher R&D expenditures per employee than the industry mean) and firms behind the frontier. We note in the second panel that the whole effect is driven by firms with low innovation-intensity and that this group of firms also have a high response in their intensive margin (panel 2).

The third panel confirms that firms investing the more in R&D do not increase (or activate) their lobbying strategies as a reaction to the competition shock: the only significant result for

¹²Persistence graphs for both margins are in Appendix A.

this group of firm is a decreased probability to stop lobbying after an adverse shock.

In terms of magnitude, the likelihoods that a firms below the industry mean of R&D per employee starts to lobby is of 9 percentage and the probability that another stops lobbying is of 23 percentage. Considering the average difference in log imports in the dataset, the likelihood increases by 6 percentage points each period for both extensive margins, or about 67 percent for entry and 26 percent for exit. This is a significant extensive margin. The coefficient of the intensive margin for the low innovation firms implies that their lobbying expenditures increase between 70 and 220 percent.

A competition shock being the moment where firms need the more protection, there is no surprise in observing a positive impact in the intensive margin and a negative one in the exit rate of lobbying for firms behind the frontier. The impact of the competition shock on the decision to start lobbying, though is less obvious. In a time where competition tightens and revenues are expected to shrink it is notable to see a positive effect on lobbying entry regardless of upfront costs. Overall these results show an important mobilization from firms behind the frontier.

I interpret this result as the improvement of the collective action problem at the industry level caused by the competition shock. After the adverse shock, the most competitive firms decrease their lobbying effort to focus on other more productive strategies - such as innovation. Simultaneously, competition will force the least productive ones to exit the market. This phenomenon leaves a reduced number of firms in the industry willing to lobby for protection at the industry level. This leads to a more homogeneous set of firms lobbying for the provision of public goods and to less free-riding per standard [Oslon \(1965\)](#) logic, increasing each individual firm's lobbying efforts.

5 Concluding remarks

The objective of this paper is to understand how firms use political tools in the event of an adverse competitive shock. The motivation comes from the lively debate on innovation and competition, following the China shock.

It is well established that innovation can be the response to a competition shock and I show here that so is lobbying. If firms at the frontier tend to lobby more after an adverse shock, firms with lower productivity levels tend to lobby more. Understanding how firms interact with the political sphere in different countries and settings is therefore crucial to reconcile different

empirical results on the relationship between competition and innovation.

The increase of the lobbying activity is emphasized by an indirect effect of competition. The reallocation of expenditures from political tools to innovation from highly productive firms on the one side, and the exit of the less productive ones on the other side will leave a more homogeneous and concentrated set of firms lobbying. These firms tend to lobby more both on the intensive and the extensive margin not particularly for trade policies, but more generally, for the provision of public goods boosting the productivity of the whole industry.

References

- Aghion, P., A. Bergeaud, M. Lequien, M. Melitz, and T. Zuber (2021). Oposing firm-level responses to the china shock: Horizontal competition versus vertical relationships? Working Paper 29196, National Bureau of Economic Research.
- Aghion, P., A. Bergeaud, H. Li, P. Klenow, and T. Boppart (2019). A Theory of Falling Growth and Rising Rents. 2019 Meeting Papers 458, Society for Economic Dynamics.
- Aghion, P., N. Bloom, R. Blundell, R. Griffith, and P. Howitt (2005). Competition and Innovation: an Inverted-U Relationship. *The Quarterly Journal of Economics* 120(2), 701–728.
- Aghion, P., R. Blundell, R. Griffith, P. Howitt, and S. Prantl (2009). The Effects of Entry on Incumbent Innovation and Productivity. *The Review of Economics and Statistics* 91(1), 20–32.
- Akcigit, U., S. Baslandze, and F. Lotti (2020). Connecting to Power: Political Connections, Innovation and Firm Dynamics. FRB Atlanta Working Paper 2020-5, Federal Reserve Bank of Atlanta.
- Akey, P. (2015, 06). Valuing Changes in Political Networks: Evidence from Campaign Contributions to Close Congressional Elections. *The Review of Financial Studies* 28(11), 3188–3223.
- Ansolabehere, S., J. M. S. Jr, and M. Tripathi (2002). Are pac contributions and lobbying linked? new evidence from the 1995 lobby disclosure act. *Business and Politics* 4(2), 131–155.
- Arayavechkit, T., F. E. Saffie, and M. Shin (2017). Too Big to Pay: Tax Benefits and Corporate Lobbying.
- Autor, D., D. Dorn, and G. H. Hanson (2013). The China Syndrome: Local Labor Market Effects of Import Competition in the United States. *American Economic Review* 103(6), 2121–68.
- Autor, D., D. Dorn, and G. H. Hanson (2021, October). On the Persistence of the China Shock. IZA Discussion Papers 14804, Institute of Labor Economics (IZA).
- Autor, D., D. Dorn, G. H. Hanson, G. Pisano, and P. Shu (2020). Foreign Competition and

- Domestic Innovation: Evidence from US Patents. *American Economic Review: Insights* 2(3), 357–74.
- Autor, D., D. Dorn, G. H. Hanson, and J. Song (2014). Trade Adjustment: Worker-Level Evidence. *The Quarterly Journal of Economics* 129(4), 1799–1860.
- Autor, D., D. Dorn, L. F. Katz, C. Patterson, and J. V. Reenen (2020). The Fall of the Labor Share and the Rise of Superstar Firms [“Automation and New Tasks: How Technology Displaces and Reinstates Labor”]. *The Quarterly Journal of Economics* 135(2), 645–709.
- Autor, D. H., D. Dorn, and G. H. Hanson (2016). The China Shock: Learning from Labor-Market Adjustment to Large Changes in Trade. *Annual Review of Economics* 8(1), 205–240.
- Baldwin, R. E. and F. Robert-Nicoud (2007). Entry and Asymmetric Lobbying: Why Governments Pick Losers. *Journal of the European Economic Association* 5(5), 1064–1093.
- Barkai, S. (2020). Declining Labor and Capital Shares. *Journal of Finance* 75(5), 2421–2463.
- Baumgartner, F. R., J. M. Berry, M. Hojnacki, D. C. Kimball, and B. L. Leech (2009). *Lobbying and policy change: Who wins, who loses, and why*. University of Chicago Press.
- Baumol, W. J. (1990). Entrepreneurship: Productive, Unproductive, and Destructive. *Journal of Political Economy* 98(5), 893–921.
- Bergstrom, T., L. Blume, and H. Varian (1986, February). On the private provision of public goods. *Journal of Public Economics* 29(1), 25–49.
- Bertrand, M., M. Bombardini, R. Fisman, B. Hackinen, and F. Trebbi (2021). Hall of Mirrors: Corporate Philanthropy and Strategic Advocacy. *The Quarterly Journal of Economics* 136(4), 2413–2465.
- Bertrand, M., M. Bombardini, R. Fisman, and F. Trebbi (2020). Tax-Exempt Lobbying: Corporate Philanthropy as a Tool for Political Influence. *American Economic Review* 110(7), 2065–2102.
- Bertrand, M., M. Bombardini, and F. Trebbi (2014). Is It Whom You Know or What You Know? An Empirical Assessment of the Lobbying Process. *American Economic Review* 104(12), 3885–3920.

- Bessen, J. E. (2016). Accounting for Rising Corporate Profits: Intangibles or Regulatory Rents? Law and economics research paper, Boston University School of Law.
- Blanes i Vidal, J., M. Draca, and C. Fons-Rosen (2012). Revolving door lobbyists. *American Economic Review*. 7(102), 3731–48.
- Bloom, N., M. Draca, and J. van Reenen (2016). Trade Induced Technical Change? The Impact of Chinese Imports on Innovation, IT and Productivity. *The Review of Economic Studies* 83(1), 87–117.
- Bombardini, M. (2008). Firm heterogeneity and lobby participation. *Journal of International Economics* 75(2), 329–348.
- Bombardini, M., B. Li, and R. Wang (2017). Import competition and innovation: Evidence from china. Mimeo, University of British Columbia.
- Bombardini, M. and F. Trebbi (2011). Votes or money? theory and evidence from the us congress. *Journal of Public Economics* 95(7-8), 587–611.
- Bombardini, M. and F. Trebbi (2012). Competition and political organization: Together or alone in lobbying for trade policy? *Journal of International Economics* 87(1), 18–26.
- Bombardini, M. and F. Trebbi (2020). Empirical models of lobbying. *Annual Review of Economics* 12(1), 391–413.
- Braillard, S. L. and T. Verdier (1994). Lobbying and adjustment in declining industries. *European Economic Review* 38(3-4), 586–595.
- Brown, J. R. and J. Huang (2017, April). All the President’s Friends: Political Access and Firm Value. NBER Working Papers 23356, National Bureau of Economic Research, Inc.
- Cassing, J. and A. Hillman (1986). Shifting comparative advantage and senescent industry collapse. *American Economic Review* 76(3), 516–23.
- Chalmers, A. W. and F. S. Macedo (2021). Does it pay to lobby? examining the link between firm lobbying and firm profitability in the european union. *Journal of European Public Policy* 28(12), 1993–2010.

- Chen, H., D. Parsley, and Y. wen Yang (2010, January). Corporate Lobbying and Financial Performance. MPRA Paper 21114, University Library of Munich, Germany.
- Comtrade, U. (2020). International trade statistics database. united nations comtrade database.
- Cooper, G. (1968). The tax treatment of business grassroots lobbying: Defining and attaining the public policy objectives. *Columbia Law Review* 68(5), 801–859.
- Covarrubias, M., G. Gutiérrez, and T. Philippon (2019, March). From Good to Bad Concentration? US Industries over the Past 30 Years. In *NBER Macroeconomics Annual 2019, volume 34*, NBER Chapters, pp. 1–46. National Bureau of Economic Research, Inc.
- Cowgill, B., A. Prat, and T. Valletti (2021). Political power and market power.
- Davis, S. J., J. C. Haltiwanger, and S. Schuh (1996). *Job Creation and Destruction*. MIT Press.
- de Figueiredo, J. M. and B. K. Richter (2014). Advancing the empirical research on lobbying. *Annual Review of Political Science* 17(1), 163–185.
- Drutman, L. (2015). *The business of America is lobbying: How corporations became politicized and politics became more corporate*. Oxford University Press.
- Faccio, M. and D. C. Parsley (2009). Sudden deaths: Taking stock of geographic ties. *The Journal of Financial and Quantitative Analysis* 44(3), 683–718.
- Faccio, M. and L. Zingales (2017, January). Political Determinants of Competition in the Mobile Telecommunication Industry. NBER Working Papers 23041, National Bureau of Economic Research, Inc.
- Fang, L., J. Lerner, C. Wu, and Q. Zhang (2018). Corruption, Government Subsidies, and Innovation: Evidence from China. *Working Paper*.
- Fieler, A. C. and A. Harrison (2018). Escaping Import Competition in China. NBER Working Papers 24527, National Bureau of Economic Research, Inc.
- Gawande, K. (1997, April). US non-tariff barriers as privately provided public goods. *Journal of Public Economics* 64(1), 61–81.
- Gawande, K. (1998). Stigler-olson lobbying behavior in protectionist industries: Evidence from the lobbying power function. *Journal of Economic Behavior Organization* 35(4), 477–499.

- Gawande, K. and U. Bandyopadhyay (2000). Is protection for sale? evidence on the grossman-helpman theory of endogenous protection. *The Review of Economics and Statistics* 82(1), 139–152.
- Goldberg, P. K. and G. Maggi (1999). Protection for sale: An empirical investigation. *American Economic Review* 89(5), 1135–1155.
- Goldman, E., J. Rocholl, and J. So (2013). Politically connected boards of directors and the allocation of procurement contracts. *Review of Finance* 17(5), 1617–1648.
- Graham, S. J., G. Hancock, A. C. Marco, and A. F. Myers (2013). The uspto trademark case files dataset: Descriptions, lessons, and insights. *Journal of Economics & Management Strategy* 22(4), 669–705.
- Grossman, G. M. and E. Helpman (1994). Protection for sale. *The American Economic Review* 84(4), 833–850.
- Gutiérrez, G. and T. Philippon (2019, June). The Failure of Free Entry. NBER Working Papers 26001, National Bureau of Economic Research, Inc.
- Hanson, G., N. Lind, and M.-A. Muendler (2015). The dynamics of comparative advantage. NBER Working Papers 21753, National Bureau of Economic Research, Inc.
- Hillman, A. (1982). Declining industries and political-support protectionist motives. *American Economic Review* 72(5), 1180–87.
- Hombert, J. and A. Matray (2018). Can Innovation Help U.S. Manufacturing Firms Escape Import Competition from China? *Journal of Finance* 73(5), 2003–2039.
- Huneus, F. and I. S. Kim (2021). The Effects of Firms’ Lobbying on Resource Misallocation. Working Papers Central Bank of Chile 920.
- Kang, K. (2016). Policy Influence and Private Returns from Lobbying in the Energy Sector. *Review of Economic Studies* 83(1), 269–305.
- Kerr, William R., W. F. L. and P. Mishra (2014). The dynamics of firm lobbying. *American Economic Journal: Economic Policy* 4(6), 343–79.
- Kim, I. S. (2018). Lobbyview: Firm-level lobbying congressional bills database.

- Technical report. *Unpublished manuscript, MIT, Cambridge, MA. A. <http://web.mit.edu/insong/www/pdf/lobbyview.pdf> Google Scholar Article Location.*
- Kim, I. S., J. Stuckatz, and L. Wolters (2022). Strategic and Sequential Links between Campaign: Donations and Lobbying. Mit political science department research paper no. 2021-2.
- Lancieri, F., E. A. Posner, and L. Zingales (2022). The Political Economy of the Decline in Antitrust Enforcement in the United States. Working paper series: Vol. 2022(01, ETH ZURICH CLE.
- Lorenz, G. M. (2020). Prioritized interests: Diverse lobbying coalitions and congressional committee agenda setting. *The Journal of Politics* 82, 225–240.
- Oslon, M. (1965). *The Logic of Collective Action*. Harvard University Press.
- Pierce, J. R. and P. K. Schott (2016, July). The surprisingly swift decline of us manufacturing employment. *American Economic Review* 106(7), 1632–62.
- Richter, B. K., K. Samphantharak, and J. F. Timmons (2009). Lobbying and taxes. *American Journal of Political Science* 53(4), 893–909.
- Schott, P. K. (2008). The relative sophistication of Chinese exports. *Economic Policy* 53(23), 6–49.
- Stoyanov, A. (2009). Trade policy of a free trade agreement in the presence of foreign lobbying. *Journal of International Economics* 77(1), 37–49.
- Stratmann, T. (2005). Some talk: Money in politics. a (partial) review of the literature. *Public Choice* 124(1), 135–156.
- Törnqvist, L., P. Vartia, and Y. Vartia (1985). How Should Relative Changes be Measured. *The American Statistician* 39, 43–46.
- Walker, E. T. (2009). Privatizing participation: Civic change and the organizational dynamics of grassroots lobbying firms. *American Sociological Review* 74(1), 83–105.

6 Figures and tables

	Mean	Median	Min	Mx	Sd	Count
All firms						
Lobbying exp.	239'793	0	0	32'680'098	1'320	8577
$\Delta Lobby$	.32	0	-13.66	15.73	3.63	8577
Lobbying firms						
Lobbying exp.	620'610	19'505	0	32'680'098	2'067'030	3314
$\Delta Lobby$	.82	0	-13.66	15.73	5.81	3314
Changes in imports						
ΔM	.65	.51	-4.45	6.65	.87	951
ΔOM	.63	.52	-3.05	5.19	.72	951

Table 1: Descriptive Statistics

6.1 Baseline regression

	ΔM	ΔM	ΔM
ΔOM	0.638***	0.494***	0.438***
	(0.033)	(0.039)	(0.046)
Observations	951	951	937
Adjusted R^2	0.278	0.321	0.290
Period control		✓	✓
Industry control			✓

Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 2: First stage results of [Equation 3.1](#).

	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$
ΔM	0.176**	0.402***	0.137 ⁺	0.331*	0.132 ⁺	0.434**	0.470**	0.481**
	(0.070)	(0.122)	(0.090)	(0.187)	(0.088)	(0.217)	(0.236)	(0.236)
Period control			✓	✓	✓	✓	✓	✓
Sector control					✓	✓	✓	✓
Industry controls						✓	✓	✓
Firm controls								✓
Model	OLS	2SLS	OLS	2SLS	OLS	2SLS	2SLS	2SLS
First stage F-stat		39.27		19.76		12.32	8.19	8.20
Observations	8577	8577	8577	8577	8565	8565	8512	8512

Standard errors in parentheses, clustered at the client level.

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

Table 3: Effect of the increase of China competition on lobbying expenditures.

6.2 Robustness analysis

	All lobbying firms			
ΔM	0.090	0.452*	0.070	0.528**
	(0.093)	(0.239)	(0.092)	(0.258)
Ind & year controls	✓	✓	✓	✓
Ind controls			✓	✓
Model	OLS	IV	OLS	IV
First stage F-stat		12.20		9.81
Observations	9307	9307	9180	9280

Standard errors in parentheses, clustered at the client level.

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

Table 4: Effect of the increase of China competition on the lobbying expenses on the universe of lobbying firms.

	Long term			
ΔM	0.920*** (0.162)	0.701*** (0.247)	0.002 (0.264)	0.466+ (0.283)
ΔM^* Period 1			0.684*** (0.142)	0.336+ (0.224)
Ind controls	✓	✓	✓	✓
Ind & Firm controls		✓		✓
First stage F-stat	39.07	13.61	32.97	8.16
Observations	2363	2266	2363	2266

Standard errors in parentheses, clustered at the industry-period level.

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

Table 5: Long term effect of the increase of China competition on lobbying expenses.

	DHS		Normalizing M		Normalizing M		NTR gap	
	growth rate		OLS reduced form		IV			
Exposure variable	0.598* (0.329)	0.648* (0.357)	0.171* (0.0922)	0.155* (0.0933)	0.586** (0.249)	0.689** (0.305)	-0.757* (0.423)	-0.818 (0.499)
Exposure variable x Period 1-2							0.900*** (0.325)	1.077*** (0.285)
Observations	8565	8512	8565	8512	8565	8512	8570	8520
First stage F-stat	14.16	11.99			7.97	6.79		
Ind & year controls	✓	✓	✓	✓	✓	✓		
Ind & Firm controls		✓		✓		✓		✓

Standard errors in parentheses, clustered at the industry-period level.

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

Table 6: Robustness tests of the effect of the increase of China competition on the lobbying expenses. Dependent variable: change in lobbying expenditures at the firm level.

6.3 Heterogeneity by initial condition

	Sales		Employment		R&D Exp.	
	< Ind	>= Ind	< Ind	>= Ind	< Ind	>= Ind
	Mean	Mean	Mean	Mean	Mean	Mean
ΔM	0.893***	-0.227	0.844**	-0.135	1.379**	-0.278
	(0.341)	(0.484)	(0.333)	(0.531)	(0.538)	(0.533)
First-stage F-stat	7.04	19.24	7.36	14.74	5.29	16.01
Observations	5753	1625	5233	1630	4720	1319

	Sales/Emp		R&D/Emp		Patents	
	< Ind	>= Ind	< Ind	>= Ind	No	Yes
	Mean	Mean	Mean	Mean		
ΔM	0.846**	0.327	1.564***	-0.156	0.792**	-0.114
	(0.359)	(0.389)	(0.555)	(0.420)	(0.361)	(0.414)
First-stage F-stat	7.71	12.39	6.44	7.41	9.69	8.68
Observations	4014	2770	3772	1813	5329	3154

Standard errors in parentheses, clustered at the industry-period level.

These regressions include controls for the period and the industry, as well as the firm-level and industry-level controls cited above.

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

Table 7: Effect of the increase of China competition on lobbying expenditures: Splitting samples according to initial size. Dependent variable: change in the lobbying expenses of the client.

6.4 For what issues do firm increase their political spending

	All		Government expenditures		Trade only	Relative costs reduction		Industry specific issues		
ΔM	0.434**	0.481**	-0.223	-0.263	-0.009	0.006	0.576**	0.653**	0.189	0.202
	(0.217)	(0.236)	(0.274)	(0.306)	(0.203)	(0.224)	(0.230)	(0.288)	(0.155)	(0.186)
Observations	8565	8512	8532	8480	8536	8484	8536	8484	8533	8481
Observation \neq 0	2508	2491	1403	1398	770	760	1397	1388	1180	1170
Ind & year controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind & Firm controls		✓		✓		✓		✓		✓
First stage F-stat	12.32	8.20	9.51	9.51	9.50	7.07	9.50	9.50	9.51	9.51

Standard errors in parentheses, clustered at the industry-period level.

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

Table 8: Effect of the increase of China competition on the lobbying expenses over precise issues.

6.5 The margins of response

All firms						
	Entry		Exit		Intensive margin	
ΔIP	0.038**	0.041*	-0.070**	-0.073**	0.133	-0.007
	(0.017)	(0.021)	(0.030)	(0.035)	(0.596)	(0.746)
Ind & Firm controls		✓		✓		✓
First stage F-stat	9.96	7.74	9.98	7.93	11.79	10.17
Observations	6112	6078	2732	2716	1976	1964
Firms below industry mean of R&D per employee						
	Entry		Exit		Intensive margin	
ΔM	0.0688**	0.0878**	-0.0724**	-0.0927**	1.710**	2.241*
	(0.0288)	(0.0406)	(0.0332)	(0.0456)	(0.715)	(1.145)
Ind & Firm controls		✓		✓		✓
First-stage F-stat	12.45	8.81	9.69	6.18	7.95	5.57
Observations	2995	2961	1213	1197	770	770
Firms above industry mean of R&D per employee						
	Entry		Exit		Intensive margin	
ΔM	0.00487	-0.00365	-0.0896*	-0.0870*	-0.862	-1.152
	(0.0244)	(0.0260)	(0.0485)	(0.0496)	(1.014)	(1.107)
Ind & Firm controls		✓		✓		✓
First-stage F-stat	7.00	5.58	7.89	7.25	8.11	8.34
Observations	3085	3085	1311	1311	1035	1035

Standard errors in parentheses, clustered at the industry-period level.

These regressions include controls for the period and the industry, as well as the firm-level and industry-level controls cited above.

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

Table 9: Effect of the increase of China competition on the intensive and extensive margin of lobbying expenditures..

A Appendix

A.1 Trends in lobbying expenditures and imports

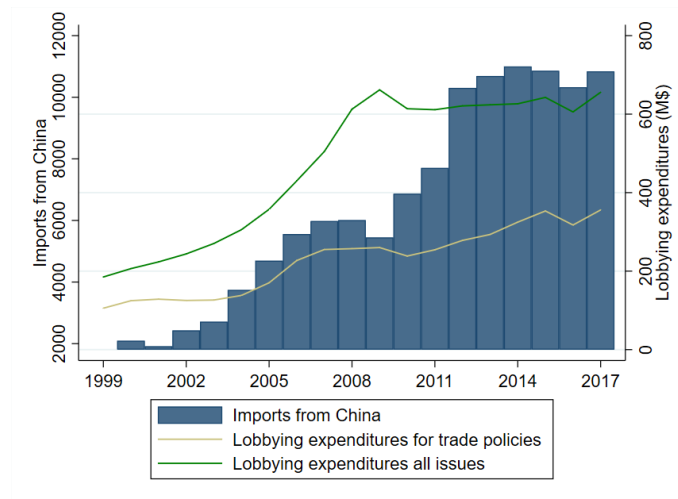


Figure 1: Trends in Lobbying Expenditures and Imports in the United States, 1999-2017.

A.2 Initial imports and lobbying expenditures by sub-sectors

Naics	Industry Name	1999 Lobbying	$\Delta Lobby$	1999 Imports	ΔM
311	Food and Kindred Products	7.35	0.27	564	0.62
312	Beverages and Tobacco Products	30.84	0.26	12	0.49
313	Textiles and Fabrics	0.26	-0.30	282	0.52
314	Textile Mill Products	0.20	-0.51	932	0.32
315	Apparel and Accessories	0.74	0.32	0	0
316	Leather and Allied Products	0	2.64	1'283	0.29
321	Wood Products	1.43	0.46	1'167	1.04
322	Paper	6.70	0.36	360	0.86
323	Printed Matter and Related Products, NESOI	1.38	0	128	0.39
324	Petroleum and Coal Products	23.40	0.52	71	0.48
325	Chemicals	84.01	0.44	1'124	0.91
326	Plastics and Rubber Products	0.99	0.09	3'625	0.53
327	Nonmetallic Mineral Products	2.39	0.32	2'284	0.30
331	Primary Metal Manufacturing	8.60	0.40	266	0.72
332	Fabricated Metal Products, NESOI	1.97	0.24	2'451	0.70
333	Machinery, except Electrical	6.86	0.12	2'808	0.71
334	Computer and Electronic Products	24.55	0.22	16'248	0.60
335	Electrical Equipment, Appliances and Components	2.98	0.29	6'148	0.60
336	Transportation Equipment	67.48	0.40	1'246	0.68
337	Furniture and Fixtures	0.05	0.30	5'274	0.85
339	Miscellaneous Manufactured Commodities	1.61	0.37	8'799	0.46

Table 10: List of 3-digit NAICS in Manufacturing

Aggregate industry levels of lobbying expenditures (Column 3) and imports (Column 5) both in 2007 million dollars and non-weighted average of difference in firm-level lobbying expenditure (Column 4) and industry-level imports (Columns 6). We here see that the measure of the change is not biased in the sense that high initial levels are not necessarily linked with low differences. The chemical industry had the highest aggregate level of expenses in 1999 and the second highest mean difference; similarly, the industries text mill products and printed matter and related products have among the lowest mean differences while starting with 1999 levels below the sector median.

A.3 Persistence in lobbying activity

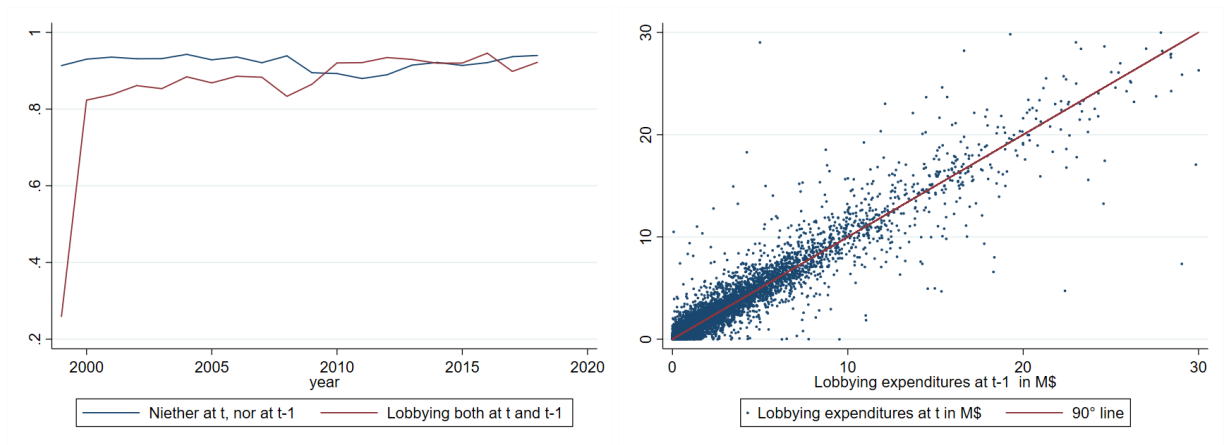


Figure 2: Intensive and extensive margin of lobbying between two years.

Figure 2 shows the extensive margin (left panel) and the intensive one (right panel) of lobbying expenditures. On the left panel, I start from the strategy of the firm in year $t-1$ (either lobbying or not lobbying) and show the share of firms that did maintain their strategy – in blue, firms not lobbying, in red firms lobbying. On the right panel, I focus on firms that did lobby both in year $t-1$ and year t and plot the lobbying expenditures of one period, relatively to the other. For a visibility issue, I discard the few firms spending over 30 million dollars. It is here clear that the propensity to replicate the behavior of the previous year is very strong, both in the choice of lobbying and the choice of the magnitude.

A.4 Top issues

Issue	Mean expenses	Top Industry by issue	Share of Top Industry
Taxation/Internal Revenue Code	359	Chemical	27%
Trade	303	Transportation equipment	28%
Health Issues	245	Chemical	57%
Budget/Appropriations	232	Chemical	30%
Energy/Nuclear	162	Transportation equipment	28%
Environmental/Superfund	159	Transportation equipment	29%
Copyright/Patent/Trademark	158	Chemical	57%
Defense	156	Transportation equipment	54%
Medicare/Medicaid	127	Chemical	83%
Transportation	122	Transportation equipment	39%
Homeland Security	120	Transportation equipment	41%
Labor Issues/Antitrust/Workplace	88	Transportation equipment	34%
Foreign Relations	85	Transportation equipment	34%
Consumer Issues/Safety/Protection	73	Chemical	36%
Financial Institutions/Investments/Securities	71	Transportation equipment	52%
Agriculture	66	Chemical	47%
Aerospace	62	Transportation equipment	73%
Science/Technology	57	Transportation equipment	54%
Clean Air & Water (Quality)	53	Transportation equipment	40%
Aviation/Aircraft/Airlines	51	Transportation equipment	75%
Government Issues	51	Petroleum and Coal Products	24%
Fuel/Gas/Oil	50	Petroleum and Coal Products	64%
Automotive Industry	49	Transportation equipment	82%
Miscellaneous Tariff Bills	46	Chemical	57%
Telecommunications	46	Computer and Electronic Product	57%
Retirement	46	Transportation equipment	43%
Food Industry (Safety, Labeling, etc.)	45	Chemical	36%
Immigration	42	Computer and Electronic Product	45
Education	42	Transportation equipment	36%
Chemicals/Chemical Industry	42	Chemical	45%

Table 11: Issues the most lobbied in the manufacturing sector.

List of top 30 issues the most lobbied in the manufacturing sector with the average yearly expenses in 2007 million US dollars (column 2) and the industry lobbying the more for the issue and its share in total expenses for the issue (columns 3 and 4). We note that the transportation equipment and chemical industries are the leaders for a majority of issues.

A.5 Groups of issues

I have constructed different groups of issues around a similar goal:

- issues related to trade policies: trade (domestic and foreign) and miscellaneous tariff bills,
- issues related to firms costs: bankruptcy; consumer issues, safety and protection; copyright, patent and trademark; health issues; labor issues, antitrust and workplace; medicare and medicaid; retirement; immigration and taxation; economics, economic development.
- industry-specific issues: manufacturing; aerospace; apparel, clothing industry, textiles; automotive industry; aviation, aircraft, airlines; beverage industry; chemicals, chemical industry; science, technology; computer industry; marine, maritime, boating, fisheries; medical, disease research, clinical labs; pharmacy; railroads; roads, highway; transportation; advertising; intelligence and surveillance; tobacco; animals; firearms, guns, ammunition; commodities (big ticket); media (information/publishing).
- issues related to public expenses: budget, appropriations; law enforcement, crime, criminal justice; urban development, municipalities; defense; homeland security; foreign relations; District of Columbia; environmental, superfund,
- other: the remaining 37 issues.

	Mean amounts	Mean differences	Share in declarations	Share in expenses
Trade issues	562'883	0.08	16%	10%
Public expenses	593'933	0.12	38%	23%
Decreasing costs	744'099	0.23	47%	23%
Specific industry	483'181	0.11	28%	15%
Other	539'241	0.21	41%	29%

Table 12: Lobbying expenses by group of issue.

Table 12 shows descriptive statistics of lobbying expenses by main group issues: mean amounts (in 2007 US \$) and mean difference at the firm-level, share of declarations including at least one issue of the group, mean share of expenses by issue at the firm-level. In this table only lobbying firms are considered.

A.6 Robustness of the imputation of product-level imports in industries

	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$
ΔM	0.179*** (0.0610)	0.405*** (0.122)	0.153* (0.0801)	0.332* (0.186)	0.143* (0.0759)	0.426* (0.222)	0.463* (0.242)	0.475* (0.242)
Period control			✓	✓	✓	✓	✓	✓
Sector control					✓	✓	✓	✓
Industry controls							✓	✓
Firm controls								✓
Model	OLS	2SLS	OLS	2SLS	OLS	2SLS	2SLS	2SLS
Observations	8577	8577	8577	8577	8565	8565	8512	8512
First-stage F-stat		39.01		19.39		14.47	11.82	11.94

Standard errors in parentheses, clustered at the industry-period level. IV regressions with industry and period fixed effects.

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

Table 13: Effect of the increase of China competition on lobbying expenditures, splitting imports between the different NAICS they map into instead of imputing the whole amount to each industry.

A.7 Robustness of the instrument

	Australia	Spain	Switzerland	Germany	Denmark	Japan	Finland	New Zealand
	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$
ΔM	0.507**	0.524**	0.347*	0.477**	0.414*	0.342	0.437**	0.462**
	(0.238)	(0.257)	(0.194)	(0.223)	(0.222)	(0.256)	(0.215)	(0.219)
First-stage F-stat	8.40	7.07	18.81	14.21	11.97	5.73	12.68	12.19
Observations	8565	8565	8565	8560	8565	8565	8565	8565

Standard errors in parentheses, clustered at the industry-period level. IV regressions with industry and period fixed effects.

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

Table 14: Effect of the increase of China competition on lobbying expenditures, removing one country at a time from the instrument.

	Period 1		Period 2		Period 3		Period 4		Period 5	
	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$	$\Delta Lobby$
ΔM	0.314	0.351	0.492**	0.524**	0.500***	0.539***	0.0480	0.0517	0.495**	0.525*
	(0.303)	(0.313)	(0.243)	(0.251)	(0.160)	(0.172)	(0.450)	(0.487)	(0.223)	(0.307)
Observations	6537	6503	6708	6668	6926	6882	7036	6993	7027	6985
First-stage F-stat	7.91	6.73	13.86	18.69	26.92	32.75	3.06	2.77	9.54	6.03
Ind & year controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind & Firm controls		✓		✓		✓		✓		✓

Standard errors in parentheses, clustered at the industry-period level. IV regressions with industry and period fixed effects.

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

Table 15: Effect of the increase of China competition on lobbying expenditures, removing one period at a time.

A.8 Robustness of the heterogeneity by initial conditions

	Sales		Employment		R&D Exp.	
	< Ind	>= Ind	< Ind	>= Ind	< Ind	>= Ind
	Median	Median	Median	Median	Median	Median
ΔM	0.759***	0.421	0.553**	0.662	1.067***	0.724
	(0.272)	(0.399)	(0.248)	(0.475)	(0.333)	(0.575)
First-stage F-stat 9.58	7.59	10.46	7.26	8.05	5.05	
Observations	3753	3627	3597	3267	3062	2972

	Sales/Emp		R&D/Emp	
	< Ind	>= Ind	< Ind	>= Ind
	Median	Median	Median	Median
ΔM	0.481	0.725**	1.000***	0.854 ⁺
	(0.368)	(0.318)	(0.375)	(0.589)
First-stage F-stat	8.49	9.04	8.17	5.38
Observations	3472	3308	2891	2697

Standard errors in parentheses, clustered at the industry-period level.

These regressions include controls for the period and the industry,

as well as the firm-level and industry-level controls cited above.

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

Table 16: Effect of the increase of China competition on lobbying expenditures: Splitting samples according to initial size and productivity. Dependent variable: change in the lobbying expenses of the client. Robustness: using industry median instead of mean as cutoff.

A.9 Robustness of the margins of response

Firms below industry mean of sales						
	Entry		Exit		Intensive margin	
ΔM	0.0513**	0.0619**	-0.116**	-0.196*	0.157	0.312
	(0.0211)	(0.0286)	(0.0547)	(0.103)	(0.934)	(1.268)
Ind & Firm controls		✓		✓		✓
First-stage F-stat	9.01	6.79	6.57	3.77	9.84	7.81
Observations	4848	4817	1118	1107	669	660
Firms above industry mean of sales						
	Entry		Exit		Intensive margin	
ΔM	-0.00784	0.00173	-0.0385	-0.0284	-0.102	-0.311
	(0.0266)	(0.0302)	(0.0365)	(0.0320)	(0.636)	(0.776)
Ind & Firm controls		✓		✓		✓
First-stage F-stat	15.73	12.30	10.25	9.26	10.17	9.32
Observations	1239	1236	1487	1487	1288	1288

Standard errors in parentheses, clustered at the industry-period level.

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

Table 17: Effect of the increase of China competition on the intensive and extensive margin of lobbying expenditures: heterogeneity by firm size (sales).

A.10 Robustness of different categorization of the issues related to trade policies

	Definition 1		Definition 2		Definition 3	
	(1)	(2)	(3)	(4)	(5)	(6)
ΔM	0.0254 (0.150)	0.0447 (0.168)	-0.00597 (0.163)	0.00727 (0.180)	-0.0420 (0.167)	-0.0282 (0.183)
Observations	8307	8259	8307	8259	8307	8259
Ind & Firms controls		✓		✓		✓
First stage F-stat	12.30	9.99	12.30	9.99	12.30	9.99

Standard errors in parentheses, clustered at the industry-period level.

Table 18: Impact of the increase in Chinese imports on US lobbying for trade issues.

This table presents the results of the baseline regression focused only the trade policies. Standard errors are clustered at the industry-period level and all specifications control for the industry and period. Different sets of issues targeting trade policies are proposed: in the first column only the reports including the issue "Trade (Domestic and Foreign)" are considered; in the second column, I add the "Miscellaneous Tariff Bills" issue to the latter; and in the third column I add the "Foreign Relations" bill. Errors are clustered at the industry-period level and the controls are the same as in the main regression. The baseline estimates suggests that however we define the group of issues linked to trade policies, the lobbying expenditures firms dedicated to it does not tend to increase after an adverse shock from foreign competition.