Exclusions for Sale?
Tariff Exclusions in the US-China Trade War*

Davin Chor — Dartmouth and NBER

Matthew Grant — Dartmouth

Bingjing Li — University of Hong Kong

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Abstract

In 2018-2019, the US imposed a swathe of Section 301 tariffs on around two-thirds of its imports from China. Less well-known is the fact that companies could seek exclusions from these tariffs under an administrative process managed by the Office of the US Trade Representative. Using data on all applications, we document the extent of these exclusions (they were non-trivial), and explore what explains successful requests (importantly, lobbying and other proxies of the applicant's ability to convey information about the material impact of the tariffs). We assess the welfare implications of this policy design, by developing and calibrating a "protection for sale" model in which firms reveal information about their dependence on imports from China as grounds for seeking an exclusion. Quantitatively, the higher initial tariff rates announced under a policy of "tariffs with exclusions" substantially raise the overall welfare cost to the US, compared to a counterfactual policy of "tariffs without exclusions"; this is even though (conditional on given tariff rates) the exclusions improve the targeting of the tariffs across heterogeneous firms within product codes.

JEL Codes: F1

Key words: *US-China trade war, Section 301 tariffs, tariff exclusions, lobbying.*

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Author emails: davin.chor@dartmouth.edu; Matthew.W.Grant@dartmouth.edu; bingjing@hku.hk.

1 Introduction

Between July 2018 and September 2019, the United States under the Trump administration enacted unilateral tariffs against a broad swathe of its imports from China, invoking Section 301 of the Trade Act of 1974 to address the Chinese government's "acts, policies, and practices related to technology transfer, intellectual property, and innovation" (Federal Register, 2018a). The additional tariffs were extensive: They covered over two-thirds of the US' imports from China, and touched over 90% of HS 6-digit product codes in whole or part; by the end of 2019, the average tariff increase on these imports was around 20 percentage points. With the announcement of these tariffs, the US government concurrently introduced an exclusions process, allowing importers to petition to exempt specific goods brought in from China from the additional duties. These exclusions have been largely treated as a sidenote in evaluations of the impact of the US-China tariff war in academic research, even though it was the focus of substantial government and corporate effort: Firms and their representatives submitted 52,746 exclusion requests, stretching the administrative capacity of the Office of the US Trade Representative (USTR). In all, 426 Federal Register notices related to exclusions were issued.

We ask and address three questions in this paper. How extensive were these exclusions, as measured by the value or share of imports from China eventually granted relief from the Section 301 tariffs? Why did the US government use these exclusions, in tandem with the increase in tariffs? And perhaps most importantly, how did the exclusions alter the impact of the Section 301 tariffs, in terms of the welfare of US consumers and producers respectively (as opposed to that of policymakers)? This last question is, by its nature, integral to the ongoing efforts to size up the economic consequences of the US-China tariff war. At the same time, it connects to a broader issue relevant in policy domains beyond trade policy: Does having multiple policy instruments available to address a distortion necessarily deliver better outcomes, even when each of the instruments would individually support the policy objective?

On the first question we investigate, the exclusions were a quantitatively larger phenomenon than has been widely recognized. We infer this using detailed US customs data at the monthly frequency for each Harmonized Tariff Schedule (HTS) 10-digit product code, from the changes in duties paid recorded around the implementation date of the Section 301 tariffs; here, we take care to use an up-to-date version of the customs data that nets out duties initially paid that were then rebated retroactively after the exclusion decisions were announced. Aggregating over all codes, we find that a meaningful fraction – around 15.8% – of imports (by value) from China originally slated for Section 301 tariffs were ultimately granted an exclusion. This amounts to around \$12.6 billion of potential tariff revenue foregone (annually, based on 2017 import values), which is of a similar order of magnitude to total US tariff revenues prior to the trade war (\$33.6 billion in 2017, across all origin countries). Given the scope of these exclusions, an evaluation of the impact of the Section 301 tariffs would be incomplete without taking into account the exclusions that were granted.[1]

Turning to why the US government adopted this system with exclusions, the short answer is that this was intended to make the Section 301 tariffs more efficient as a redistributive instrument, in the face of imperfect information on the effect of the additional tariffs on individual firms. We arrive at this from our reading of the institutional details of the exclusions program and our empirical investigation of the application outcomes. For this purpose, we have assembled a dataset covering the universe of exclusion applications, which includes details on: the applicant firm; the requested good; process variables; and the eventual outcome (whether the request was granted, and if unsuccessful, the reason for denial).

In setting up the exclusions process, the USTR stipulated that the system was intended for affected US entities to seek tariff relief for specific goods that met a list of eligibility criteria (see Section 2.1). Of these, the two that proved to be most relevant in practice were whether the good was available only from China, and whether the additional duties would result in severe economic harm to US interests. Crucially, the exclusions were meant to cover "particular products classified within a HTSUS subheading" (Federal Register, 2018b). In line with this, our calculations show that the granted exclusions typically covered a fraction of the import value *within* detailed HTS 10-digit product codes; there was substantial variation in this "exclusion share" across codes, but blanket exemptions for an entire 10-digit code were exceedingly rare.

These stylized findings point to heterogeneity across US-based importers in their dependence on goods sourced from China, and hence in the extent of the economic harm they would suffer, both across and within detailed product codes. While the USTR was cognizant of this heterogeneity, it did not have the ability and capacity to directly observe the operations and activities of each firm. The exclusions process therefore enabled the USTR to elicit this information about specific firms and goods, rather than rely on data aggregated across many goods at the level of even the finest trade classifications. As we will see, the USTR went so far as to spell out specific details – on whether comparable goods might be available from the US or third-countries; the percentage of the firm's total gross sales that would be impacted by the tariff on the good; etc. – that applicants were required to provide in their submissions. With this information, the USTR could then decide on which goods to grant an exclusion to – in principle, this would be goods for which the Section 301 tariffs created a disproportionate deadweight loss relative to their political benefits – thus making the policy more efficient from the US government's perspective.

Using our dataset on applications, we uncover evidence that supports this view that the exclusions process served as a conduit for firms to transmit private information to the USTR. We find that application features that plausibly speak to a firm's effectiveness in conveying information are positively correlated with the likelihood of approval. These include: whether the application was submitted by a representative (e.g., a legal or consulting firm with expertise on trade issues); and whether the USTR received a letter of comment supporting the exclusion request (e.g., from an industry association or politician). Of note, we also find a higher success rate among

[1] Fajgelbaum and Khandelwal (2022) point to this as an open question for further research in their survey of the literature on the repercussions of the US-China tariff war.

companies that engaged contemporaneously in lobbying activities on trade-related issues. Such lobbying activities could well have served an informational purpose, by providing applicant firms with a line of contact to the Office of the USTR; in principle too, these could reflect quid pro quo lobbying for exclusions in return for the firm's political support of or contributions to the Trump administration (Fotak et al., 2024).

While the overall success rate of exclusion requests was low (just 12.9%), submission by a representative, receiving a positive comment letter, and engaging in lobbying were associated with a 3.4-9.1 percentage point increase in the likelihood of approval. We moreover show that the USTR took significantly more time to determine the outcome of applications with these features, suggesting that these allowed the firm to call more attention to an application, and perhaps even enhance the informational content of its submission (hence, the longer processing time). When unsuccessful, applications with these features were also less likely to be denied for failing to provide sufficient information to show availability only from China or to demonstrate severe economic harm. This set of findings holds even when controlling for a host of other firm and product characteristics, that speak in particular to other political economy forces (such as campaign contributions, or whether the firm was located in a swing district). With this body of evidence in mind, we thus set out to assess the exclusions program on the basis of its stated purpose to allow the USTR to more finely target the Section 301 tariffs across heterogeneous firms within product codes.

Our final contribution is then to formally model and quantify the impact of this trade policy design of "tariffs with exclusions". This will enable us to furnish an answer to the third research question, to more fully evaluate the welfare impact of the Section 301 tariffs by comparing the implemented policy of "tariffs with exclusions" against a counterfactual policy of "tariffs without exclusions" (i.e., where the government sets a uniform tariff for each product code, and commits not to grant exclusions). At first blush, one might intuit that the exclusions necessarily improved social welfare, as this gave the US government an additional degree of policy freedom to gather more information and improve the efficiency of the Section 301 tariffs. However, the policy as currently designed can have ambiguous welfare effects, since at the time the tariffs were set, the government anticipated the future exclusions process and so would be inclined to (optimally) announce a higher initial average level of the tariff (e.g., by applying the tariff to more product codes). This is why a quantitative model calibrated to the setting of the Section 301 tariffs is needed, in order to assess whether this increased distortion from a higher initial tariff would outweigh the reduced distortion from granting exclusions on the specific goods that most merit it.

Our model and calibration is built on conventional economic and political frameworks. We examine a setting as in Grant (2024) in which tariffs are defined at the level of a detailed product code, but there are nevertheless many different ("hidden") goods falling within each code.[2] Trade follows Armington (1969): There are three "countries" – the US, China, and the rest of the world – with each country producing a different variety of each good competitively under a constant elasticity of supply, while being subject to CES utility on the demand side. Tariffs act to manipulate

[2]This builds upon ideas and techniques from a literature on aggregation bias and classification in trade, including Imbs and Mejean (2015, 2017).

the terms of trade. They also serve to redistribute surplus from consumers (i.e., US importers) to domestic producers, in accord with the different political weights the government attaches to each of these groups, following Baldwin (1987) and Grossman and Helpman (1994, 1995a); the model thus accommodates possible quid pro quo lobbying by producers, and counter-lobbying by domestic user interests, with our welfare assessments being valid insofar as bargaining between the government and lobbying groups is not exposed to frictions or inefficiencies. On the other hand, as in Grossman and Helpman (1995b) and Bagwell and Staiger (1999), international agreements lead governments to internalize the effects of policies on foreign welfare and thus dampen the motivation for governments to exercise terms-of-trade power. In our setting, the US further chooses to impose the Section 301 tariffs on China due to a political shock (i.e., Trump's election in 2016), which leads the US government to place a lower weight on the surplus (producer profits) accruing to China.

To these building blocks, we add imperfect information on the part of the government. US users have different consumption shares over varieties made in China across the many goods within each product code; as will be made clear in Section 4, this arises in our model from heterogeneity in the supply and demand shifters across the different goods by country-of-origin (e.g., China may provide an especially high-quality or low-cost version of a particular good). For goods where the relative consumption of Chinese varieties is high, tariffs are less efficient at redistributing surplus to US producers and reducing profits accruing to China. The tariff exclusions process thus permits the government to elicit information about precisely which goods it most wishes to exempt. Furthermore, we assume that there is a continuum of true goods within every code, and that the distribution of the relative consumption of Chinese goods within each code is known by the US government. Thus, when the US government picks the initial level of Section 301 tariffs, it is able to fully anticipate the distributional characteristics of the goods which will subsequently be granted an exclusion; however, neither the government nor us as researchers can directly observe which specific firms are importing each of these goods, unless a firm chooses to reveal this by applying for an exclusion. When taking the model to the data, we therefore calibrate it to code-level (as opposed to good- or firm-level) data moments as a matter of necessity. We calibrate the model (code-by-code) with trade elasticities estimated using the Feenstra (1994) methodology, as extended in Grant (2024) to accommodate within-code heterogeneity. We moreover pin down the political weight parameters and dispersion parameters by matching observed code-level import shares, the share of excluded goods, as well as the Section 301, MFN, and Column 2 tariff rates.[3]

With our calibrated model, we are able to evaluate welfare under the current policy regime of "tariffs with exclusions", and compare this against the counterfactual policy scenario of "tariffs without exclusions". When the tariff rate and exclusions are jointly set, our simulations point to the average level of the initial tariff being close to a full percentage point higher (21.6% versus 20.6%), confirming the intuition that the government would endogenously choose to set a higher initial rate for the additional discretionary tariffs when it anticipates granting exclusions. While

[3]While the USTR required applicants for exclusions to disclose items of information related (for example) to the share of the good imported from China, this was not disclosed in the records viewable to the public.

this difference in tariff rates may appear small, the resulting extra distortion in welfare terms turns out to be quite sizeable; this is due to the fact that the 21.6% tariff rate is much elevated compared to the optimal tariff of 7.7% (over prevailing MFN tariffs) that would be set by a government pursuing pure terms-of-trade manipulation sans political weights. More specifically, we obtain that the policy of "tariffs with exclusions" results in a 19% greater social welfare loss (relative to the MFN world), compared to the counterfactual policy of "tariffs without exclusions". The government's inclination to set a higher initial tariff thus represents a hidden welfare cost of this system of "tariffs with exclusions".

Our paper builds on a recent but already extensive literature on the consequences of the US-China tariff war for international trade flows and domestic economic outcomes (e.g., Amiti et al., 2019a; Fajgelbaum et al., 2020, 2024; Chor and Li, 2024; Flaaen and Pierce, 2024). While the tariff exclusions have generally not been a point of emphasis in these studies, there is a growing appreciation of their relevance for welfare assessments of the tariffs' impact (Feenstra and Hong, 2024). From a modeling perspective, our work is closely related to prior quantitative models of trade policy (in particular, Ossa, 2014, 2016). It also contributes to a smaller literature on policies that grant discretionary tariff relief. For example, Ludema et al. (2018) study exclusions to US tariffs granted by congressional Tariff Exemption Bills, while Grant (2020) studies exemptions for Special Economic Zones; that said, neither of these papers quantifies how the existence of exemptions affects the underlying level of tariffs. We should highlight too that the setup of the exclusions application process was not unique to the Section 301 tariffs on China: Cox (2024) has utilized information disclosed in applications for exclusions from the 2000 Bush Steel Tariffs to learn about firm uses of inputs.

Our modeling work is related to a strand in the trade policy literature, that has studied the efficacy of having both production subsidies and import tariff instruments at the government's disposal (e.g., Rodrik, 1986; Staiger and Tabellini, 1987; Wilson, 1990; Grossman and Helpman, 1994). Our quantitative findings echo in particular an earlier (theoretical) result from Rodrik (1986), that a government with access to production subsidies can, in equilibrium, deliver a worse welfare outcome than one with only access to import tariffs; this is because subsidies induce a higher level of redistribution, which can outweigh the direct effect of their being more efficient instruments than tariffs.[4] Related to our policy setting of "tariffs with exclusions", countries have been known to set less generous MFN tariff rates on products on which they then grant preferential tariff treatment to developing economies under such schemes as the Generalized System of Preferences (see Section 4.5 of Ornelas, 2016, and the references therein). At a broader level, our analysis connects with studies in other policy spheres, notably environmental economics, where the joint use of multiple policy instruments (e.g., carbon taxes, cap-and-trade markets, green subsidies) is commonplace, due to the presence of multiple distortions in a second-best world

[4]This provides a potential explanation for why political actors might want to limit the government to use tariffs and not subsidies. By way of contrast, note that in Staiger and Tabellini (1987), it is the government that would choose to tie its own hands because it is hurt by the greater dynamic distortion associated with production subsidies.

(Bennear and Stavins, 2007), or the desire to offset subtle policy externalities (e.g., Kotchen and Maggi, 2024) or uncertain outcomes (e.g., Borenstein et al., 2019) that arise when only a single instrument is used.

Our results also have importance for a broader literature on lobbying, as surveyed in Bombardini and Trebbi (2020). Our study provides another example of informational lobbying; notably, the applications and lobbying statements in our setting permit us to observe some of the information relayed from firms to the government, similar to Bertrand et al. (2021). We are also able to shed light on the welfare implications of lobbying activity that is (at least partially) driven by such informational objectives Bertrand et al. (2014). We should emphasize that the nature of our exercise – in drawing attention to the informational role of lobbying in the Section 301 exclusions process – is not an attempt to rule out quid pro quo motivations; several studies have in fact highlighted the relevance of political variables for explaining the likelihood of approvals (Fotak et al., 2024; Lopatin et al., 2024), and our model moreover can be interpreted through the lens of quid quo lobbying under efficient bargaining. Rather, our goal is to highlight how the exclusions process bears a hidden welfare cost by nature of its policy design, even while putting aside further distortions often associated with lobbying that could arise from bargaining frictions or pure rent-seeking by stakeholders.

The paper proceeds as follows. Section 2 provides background on the Section 301 tariff exclusions process and on our key data sources. Section 3 presents our main empirical findings. We then develop our model in Section 4, and use it to perform a quantitative evaluation of the policy of "tariffs with exclusions" in Section 5. Section 6 concludes. Additional analysis and derivations are reported in the appendix.

2 Institutional Background and Data Sources

Our study is grounded in the institutional context of the US-China trade tensions, specifically the Section 301 tariffs and the accompanying exclusions process that were rolled out in 2018-2019. In this section, we describe the procedures put in place to administer the exclusions, while presenting summary statistics on the applications received. We emphasize in particular how the application process provided a key channel for affected firms or business associations to convey information to the authorities on whether a good was available only from China and how severely the additional tariff on the good would impact them. This background will in turn guide our empirical analysis and modeling.

2.1 Section 301 China Tariffs and the Exclusions Process

In early 2018, the Trump administration initiated a series of unilateral tariff actions, with the Section 201 tariffs on imported washing machines and solar panels (in February), and the Section 232 tariffs on aluminum and steel (in March). While these first two sets of tariffs targeted specific goods rather than any individual country, the tariffs that were subsequently introduced under

Section 301 of the Trade Act of 1974 were levied exclusively on China on the grounds of redressing unfair trade practices.[5]

Over four rounds of tariff lists, the Section 301 tariffs substantially ramped up US trade barriers on goods from China. The first two rounds (Lists 1 and 2) in July and August 2018 covered $50 billion in total of US imports. This escalated sharply in late September 2018, with the List 3 tariffs impacting $200 billion of imports from China with a 10% duty, a rate which was then raised to 25% in June 2019. The final round (List 4) in early September 2019 imposed an additional 15% tariff on a range of Chinese products worth $112 billion.[6] By the end of 2019, with this "tariff war" at its height, US tariffs on China had surged by 19.9 percentage points on average; these increases covered 88.2% of all Harmonized Tariff Schedule (HTS) 10-digit codes, accounting for 62.0% of the 2017 value of US imports from China (or equivalently, covering 13.2% of US total imports).[7] Each of the Section 301 Lists triggered a corresponding round of retaliatory tariffs from China, although these will not be a focus of this paper.

Recognizing that some US firms could be adversely hit by the Section 301 tariffs, and in line with the provisions of the Trade Act of 1974, the Office of the US Trade Representative (USTR) put in place a formal process for impacted companies or stakeholders to submit a request for an exclusion. That such a process would be convened was made known in the initial "Notice of Action" on tariffs for each List; a Federal Register notice was then posted detailing the application procedure. Taking List 1 as an example, a formal proposal of these tariffs was first posted on 6 April 2018; the initial "Notice of Action" with the list of products to be targeted was published on 20 June 2018; these tariffs then came in force on 6 July 2018; and the Federal Register with the notice of action for tariff exclusions was released thereafter on 11 July 2018 (see Table 1 for the timeline for each of the four Lists). Exclusion requests had to be filed within three months of the notice of action. After each request was submitted and posted on the USTR's exclusions portal, interested parties had a 14-day window to submit public comments; these could either support the exclusion request (e.g., a local politician echoing concern about the economic harm that the applicant would suffer) or express opposition (e.g., domestic producer interests calling for the tariff to be maintained to protect against imports from China).

The outcomes of the applications were released in tranches, over 38 separate Federal Register issues spread out from 28 Dec 2018 to 5 Aug 2020. Across applications, the time taken to arrive at a decision could vary from several months to more than 1 year, pointing to the drawn-out nature of the review process. If granted, the exclusions were retroactively applied to the date the tariff was imposed, and the applicant was refunded for tariffs paid. The exclusion would in principle also apply to any good that could be shown to meet the description of the excluded item, regardless

[5]For a study of earlier invocations of the Section 301 clause under previous US administrations and how these disputes were resolved, see Elliott and Richardson (1997).

[6]The Phase 1 trade deal signed between the US and China in January 2020 brought a pause to the tariff escalation. As part of this agreement, the US reduced its Section 301 List 4 tariffs by a half in mid-February 2020. For more details on the full sequence of tariff actions, see Bown and Kolb (2021).

[7]The sharp rise in tariffs on China under the Trump administration was overwhelmingly driven by the Section 301 tariffs, rather than by the Section 201 or 232 tariffs, as documented for example in Table A.1 of Chor and Li (2024).

of whether the importer was the original requester. For unsuccessful applications, the USTR's decision was *de facto* absolute and final, as no official appeal process was put in place. While the exclusions had an initial expiration date of 31 Dec 2020, a significant number were extended or reinstated at the discretion of the ruling administration; of the 1,155 HTS 10-digit codes in which a Section 301 exclusion was granted, exclusions were in place in 164 of these codes till 31 Aug 2025.[8] This approach of "tariffs with exclusions" is poised to remain a fixture of the US trade policy landscape, given the likelihood of further unilateral tariff actions during the second Trump presidential term.[9]

Table 1: Key Dates of Section 301 Tariff Actions and Exclusions

Tariff List	Announcement of Proposed Tariffs	Notice of Action for Tariff List	Tariff Enactment	Notice of Action for Tariff Exclusion	Notice of Exclusions Granted
List 1	06/Apr/2018	20/Jun/2018	06/Jul/2018	11/Jul/2018	Varies across 10 batches 28/Dec/2018 - 11/Feb/2020
List 2	20/Jun/2018	16/Aug/2018	23/Aug/2018	18/Sep/2018	Varies across 5 batches 31/Jul/2019 - 10/Jul/2020
List 3	10/Jul/2018	21/Sep/2018	24/Sep/2018	24/Jun/2019	Varies across 15 batches 07/Aug/2019 - 19/Jun/2020
List 4	17/May/2019	20/Aug/2019	01/Sep/2019	24/Oct/2019	Varies across 8 batches 10/Mar/2020 - 05/Aug/2020

Notes: Based on the US government Federal Register, various issues.

The USTR received close to 53,000 exclusion applications across all four Section 301 Lists. Applicants had to submit a separate request for each individual good, and most goods put forward for an exclusion had descriptions more specific than that of their corresponding HTS 10-digit category.[10] Hence, the USTR typically granted exclusions as carveouts rather than blanket exemptions for an entire 10-digit code. For example, within HTS 8473301180, three types of printed circuit assemblies were excluded through 31 May 2025: those "for rendering images onto computer screens", "to enhance the graphics performance of automatic data processing machines", and "constituting unfinished logic boards".

Each exclusion request was evaluated by the USTR on five criteria (GAO, 2021). These were: (i) whether the good was available only from China; (ii) whether the additional tariff on the good would cause severe economic harm to the requester or other US interests; (iii) whether the good was strategically important to China, or related to the "Made in China 2025" or other Chinese industrial policies; (iv) whether the request would undermine the objective of the Section 301 investigation; and (v) whether the good was defined precisely enough for the exclusion to be

[8]See Figure A.1 in the appendix for the count of unique HTS 10-digit codes with tariff exclusions from July 2018 to September 2024.

[9]See, for example, Times (2024) on how US-based companies are expected to continue to pursue avenues for exemptions from tariffs even as they anticipate more tariff actions following the commencement of Donald J. Trump's second term in January 2025.

[10]A number of applications even included copies of the corporate or technical brochures that described the good, highlighting the specific and narrow scope of the products for which exclusions were sought.

administrable by customs authorities.[11] The Federal Register notices on the exclusions process made clear that applicants were expected to furnish information that addressed these criteria (see for example Federal Register, 2018b). According to several sources – including independent reports by the Congressional Research Service (CRS, 2021) and the Government Accountability Office (GAO, 2021) – the USTR's review process for the Section 301 exclusions largely adhered to these evaluation criteria. This seems to have been, in part, a response to stakeholders' criticisms of the exclusions process for the preceding Section 232 tariffs on aluminum and steel products, which were widely seen as lacking in transparency and clarity (Axios, 2019; CRS, 2021).[12]

Across all four Section 301 Lists, the success rate in securing an exclusion was just 12.9%, indicating that the evaluation criteria were applied fairly stringently. As we will see below from the data, criteria (i) and (ii) were in practice the most consequential, as the vast majority of unsuccessful applications were turned down on these grounds. Importantly, the burden was on the requester to demonstrate why the specific good was available only from China and how the additional tariffs would cause it severe economic harm, which underscores the key role of the exclusions process in providing a platform to convey such information to the USTR. While data on the share of imports from China at the HTS 10-digit level is publicly available, heterogeneity across firms importing within a 10-digit code – reflected in the detailed nature of the items for which exclusions were sought – ultimately meant that each individual firm's degree of reliance on China as a source country and how adversely it would be hurt by the tariffs were matters of private information unless this was disclosed through the exclusions process.

It should be noted, however, that the USTR's administrative capacities came under severe strain as it scrambled to formulate internal procedures in realtime to manage the large volume of exclusion requests. Even as the first Federal Register posting on the Section 301 exclusions on 11 July 2018 appeared to establish the USTR's evaluation criteria (Federal Register, 2018c), it found it necessary to issue a follow-up notice on 18 September 2018 to expand on several specific details related to criteria (i)-(ii) that applicants needed to provide. These mandatory items of information included: the annual quantity and value of the good imported by the requester from China over the past three years; details on whether the good (or a comparable product) could be available from sources in the US or in third countries; for a good sold as a final product, the percentage of the requester's total gross sales in 2017 that the good accounted for; and for a good used as an input, the percentage of total costs attributable to it, as well as the total gross sales in 2017 accounted for by final products that used the good as an input (Federal Register, 2018b). (Note though that these details were not released in the application records made accessible to the public, presumably due to their confidential nature.)

The USTR moreover faced staffing constraints, with the average processing time for each

[11] Note that criteria (iii) and (iv) would be grounds for denying the exclusion request.

[12] The Section 232 exclusions process was managed by the US Commerce Department. Following an internal audit, the Department's Inspector General reported at least one case of "improper influence in decision-making" (Axios, 2019). Several Members of Congress were also on record questioning the Section 232 exclusions process for its ability "to pick winners and losers through granting or denying exclusion requests"; by contrast, the Section 301 exclusions process did not draw as much attention or criticism (CRS, 2021, pp.22-23).

application coming up to 230 days. For Lists 1 and 2, the more than 14,000 exclusion requests were reviewed by 5-6 attorneys in the Office of the General Counsel within the USTR. For Lists 3 and 4, the USTR hired more staff (including trained contractors), restructured the review process to delegate its initial stages, and created a dedicated exclusions submission portal, in order to handle what was rightly anticipated to be a surge in their caseload.[13] Even so, there were still instances where consistency checks were not performed on companies that submitted multiple applications, and a number of internal procedures and the rationale for some exclusion decisions were not full documented (GAO, 2021).

Given these circumstances, it should come as no surprise that companies with the experience or resources to do so would undertake various actions – such as engaging a representative (e.g., trade consultants or lawyers) to prepare and submit the application, procuring supportive public comment letters, and formally lobbying the USTR – in order to draw attention to and amplify the information contained in their exclusion requests. Moreover, the specific line-item nature of the firm-level details sought by the USTR would have discouraged misrepresentation of this information in the applications, since these operational details could in principle be verified, for example, through selective audits.

2.2 Data Sources

With this institutional background on the Section 301 tariff exclusions in mind, we turn now to briefly describe the main data sources in our analysis. (Further details are documented in Appendix A.)

Exclusion Applications: We collected the full set of tariff exclusion requests from Regulations.gov (for Lists 1 and 2) and the USTR's exclusions portal (for Lists 3 and 4). For each request, we have information on: the requester's name; the 10-digit HTS code for the good under request; the filing date; whether the request was filed by a representative; as well as all public comments received (both those supporting and opposing). In addition, we have: the decision date from the USTR; the outcome of each request ("granted" or "denied"); and the reason for denial (if the request was unsuccesful).

Table 2 presents summary statistics on this data. In all, there were 52,746 tariff exclusion requests filed by 4,771 firms, so it is fairly common to observe multiple requests being made by the same firm.[14] The goods for which an exclusion was sought fell under 4,475 unique 10-digit HTS codes, from 2,082 6-digit categories. Notably, across these 4,475 10-digit HTS codes, imports from China accounted for 26.1% of total US imports; this is higher than the overall Chinese share in US imports of around 22% in 2017, confirming that the exclusions were generally sought for

[13]Each List 3 or 4 exclusion application was first read by two initial reviewers and up to three tariff classification experts, before a recommendation was brought up to the Office of the General Counsel; the final approval for a decision was then in the hands of the USTR.

[14]One particular firm, AEP Holdings Inc., a manufacturing parts and supplies wholesaler, alone accounted for 10,221 requests. We will verify that our regression findings in Section 3 are robust to dropping the firms that submitted the most requests (see Table B.3 in the appendix).

Table 2: Summary Statistics

	All	List 1	List 2	List 3	List 4
Num. of Applications	52746	10814	2869	30283	8780
Num. of Firms	4771	1215	458	2611	1271
Unique 10-digit HTS codes	4475	806	209	2243	1226
Among which: Share of Imports from China	0.261 (0.234)	0.112 (0.113)	0.131 (0.129)	0.342 (0.259)	0.364 (0.214)
Unique 6-digit categories	2082	382	124	1132	531
Granted	0.129 (0.335)	0.338 (0.473)	0.379 (0.485)	0.049 (0.217)	0.065 (0.247)
Unique 10-digit HTS codes with Granted Exclusion	1155	362	99	570	128
Among which: Share of Imports from China	0.302 (0.240)	0.162 (0.115)	0.152 (0.137)	0.390 (0.257)	0.399 (0.233)
Self-report: no US or third country alternatives	0.795 (0.404)	0.784 (0.411)	0.823 (0.382)	0.820 (0.385)	0.716 (0.451)
Submission by a Representative	0.327 (0.469)	0.494 (0.500)	0.570 (0.495)	0.225 (0.418)	0.394 (0.489)
Num. of Comments	0.204 (1.941)	0.116 (0.596)	0.052 (0.436)	0.155 (0.707)	0.529 (4.503)
Support	0.132 (1.851)	0.088 (0.555)	0.050 (0.433)	0.102 (0.646)	0.314 (4.320)
Oppose	0.072 (0.319)	0.027 (0.168)	0.002 (0.049)	0.053 (0.267)	0.215 (0.553)
Num. of Lobbying Firms	415	146	78	218	119
Share of Applications by Lobbying Firms	0.115 (0.319)	0.178 (0.383)	0.233 (0.423)	0.077 (0.267)	0.125 (0.331)
Share of Granted Exclusions to Lobbying Firms	0.196 (0.397)	0.176 (0.381)	0.227 (0.419)	0.226 (0.419)	0.183 (0.387)
Granted: Requests by Lobbying Firms	0.221 (0.415)	0.334 (0.472)	0.369 (0.483)	0.145 (0.352)	0.096 (0.294)
Granted: Requests by Non-Lobbying Firms	0.117 (0.322)	0.339 (0.473)	0.382 (0.486)	0.041 (0.199)	0.061 (0.240)

Notes: We define firms with positive lobbying expenditure over 2018Q1-2020Q2 as lobbying firms. The average share of imports from China across 10-digit HTS codes is calculated using the 2017 value of US imports in each code as weights, based on the 2017 MITD data. Standard deviations are reported in parentheses.

goods that were sourced relatively more intensively from China. Among the 1,155 unique 10-digit HTS codes containing goods that eventually received an exclusion, the average import share from China was even higher at 30.2%. The majority of the applications (79.5%) self-reported that there was no comparable good available from the US or third countries. Additionally, 32.7% of the applications were submitted by a representative. Regarding public comments, on average, each request received 0.2 comments, with 0.13 in support of the application and 0.07 opposing it. The overall success rate of just 12.9% indicates that it was not straightforward or easy for firms to secure a tariff exclusion. This success rate was noticeably much higher for Lists 1 and 2 (34.7%), but tailed off for Lists 3 and 4 (5.3%), suggesting that the evaluation process became more stringent as the administrative capacity of the USTR expanded in these later rounds; we will thus include List fixed effects in the regression analysis to follow, when we explore what explains success in an exclusion request.

To complement the above, we put together data at the 10-digit HTS level on: (i) monthly import flows and duties collected, from the US Census Bureau's Monthly International Trade Datasets (MITD); (ii) Most Favored Nation (MFN) rates from the USITC's tariff schedules (converted to ad valorem equivalents where necessary using Census Bureau trade data); (iii) Section 301 tariff rates, sourced from Bown (2021); and (iv) the publication and expiration dates of each tariff exclusion, from the Federal Register notices.[15] In Appendix B.1, we demonstrate through

[15]If there are multiple goods within a specific HTS 10-digit code receiving an exclusion, we consider the earliest date across goods as the start date for that code. Analogously, if the expiration dates vary across goods within a

an event-study analysis that exclusion approvals are indeed followed by increases in monthly US imports from China, while expirations of tariff exclusions are followed by comparable declines in import flows.

Firm Lobbying Records: The Lobbying Disclosure Act of 1995 requires lobbyists and lobbying firms to file quarterly reports disclosing their lobbying activities. We link these records, which have been extracted and made available by Kim (2018) on LobbyView.org, to the set of firms that submitted tariff exclusion requests. The lobbying records are available at the quarterly frequency, and include information on: the firm paying for the lobbying; the firm's total lobbying expenditure in the quarter; a list of lobbyied issues (e.g., trade, banking, immigration); and a textual description of the lobbying activities on each issue.

The bottom rows of Table 2 show that among the firms that applied for a Section 301 tariff exclusion, 415 of them engaged in lobbying activities in at least one quarter between Q1/2018 and Q2/2020. The total lobbying expenditures incurred by these firms during this period was $592 million, or an annual average of $0.57 million per lobbying firm.[16] These lobbying firms accounted for 11.5% of the exclusions applications. Notably though, lobbying *per se* was neither necessary nor sufficient to secure an exclusion from the Section 301 tariffs: Non-lobbying firms did receive exclusions (at a success rate of 11.7%). While engaging in lobbying was associated with a higher success rate (22.1%), a favorable outcome was by no means guaranteed. We will describe in Section 3 below several key patterns related to how the timing of lobbying, particularly on trade issues, coincided with the US tariff actions.

Other Data Sources: We will make use of additional measures and controls at the firm, industry, and region levels when exploring what explains the granting of tariff exclusions. These are drawn from the following sources: (i) the 2017 Input-Output (IO) Tables, from the US Bureau of Economic Analysis, which we utilize to calculate the import share in US domestic absorption (for 6-digit IO codes); (ii) the Bureau van Dijk Orbis data, for information on firms' industry affiliation (at the 4-digit NAICS level), county of location, and firm size categories (small, medium, large, and very large); (iii) County Business Patterns (CBP) data, published by the US Census Bureau, for computing employment in each county-by-industry cell; (iv) David Leip's US Election Atlas, from which we calculate the 2016 Republican presidential two-party vote share in each county; and (v) OpenSecrets.org, by the Center for Responsive Politics, from which we obtain records on the campaign contributions made by firm employees.[17]

3 Empirical Findings

We now use the above data to present several empirical facts on the Section 301 exclusions, starting with our estimates of the scope of the granted tariff exclusions. We also explore the full set of

HTS 10-digit code, we consider the latest date across goods to be the expiration date for that code.

[16]This aligns closely with the annual average expenditures of lobbying firms reported elsewhere in the literature, respectively: $0.55 million in (Bombardini et al., 2021, Table 1) and $0.48 million in (Kerr et al., 2014, Table 1).

[17]The county-level voting outcomes in (iv) are drawn from the dataset assembled by Blanchard et al. (2024).

applications with an eye toward understanding what explains success in these requests: Did the application outcomes broadly adhere to the stated assessment criterion? And did channels that speak to a firm's ability to convey information to the USTR – including lobbying – matter for securing an exclusion?

3.1 Scope of the Section 301 Tariff Exclusions

How extensive were the Section 301 exclusions? We provide estimates below of the share by value of goods granted an exclusion within each 10-digit HTS code (the "exclusion share"); this will then allow us to infer the aggregate scope of the exclusions in terms of potential tariff revenue foregone.

Recall that the typical exclusion request submitted to the USTR described a good at the sub-10-digit level. Hence, the exclusions granted would often apply only to a specific subset of goods within a 10-digit code; the USTR's decisions could moreover vary across requests that fell under the same code. To the best of our knowledge, firm-level data on duties paid on imported goods at the sub-10-digit level is not readily available even in US administrative data sources. Instead, we infer the coverage ratio of the exclusions from public product-level trade flows data in the MITD, by exploiting changes in effective duty rates recorded around the date of tariff enactment, drawing on the approach in Bown (2021). This leverages institutional details related to how the exclusions were implemented and captured in the trade data. After the announcement of each granted request, firms that imported the good could seek refunds for Section 301 duties paid since the original tariff enactment date. As the US Census Bureau updates the data in the MITD periodically for three years after its initial release, the revised version of this data after three years would then fully reflect these retroactive tariff refunds.[18]

More specifically, let $\Delta DutyRate_{kt}^{CHN}$ denote the change in effective duty rate applied on imports from China in a particular 10-digit HTS code k. This can be expressed as:

$$\Delta DutyRate_{kt}^{CHN} = \frac{1}{S}\sum_{s=1}^{S} DutyRate_{k,t+s}^{CHN} - Tariff_k^{MFN} = (1-\pi_k) \times Tariff_k^{CHN}. \qquad (1)$$

Here, $DutyRate_{k,t+s}^{CHN}$ is the duty rate imposed on these product-level imports from China in the s-th full month following the tariff enactment date t, as obtained from the MITD.[19] In (1), we are thus estimating the post-enactment effective duty rate by averaging $DutyRate_{k,t+s}^{CHN}$ over the S months immediately after the Section 301 tariff on product k came into force; we take a five-month average as a baseline (i.e., $S = 5$), though we have verified similar results using either a three- or seven-month window (available on request). In the absence of exclusions, the difference between this effective duty rate and the 2018 MFN tariff rate, $Tariff_k^{MFN}$, should be equal to the

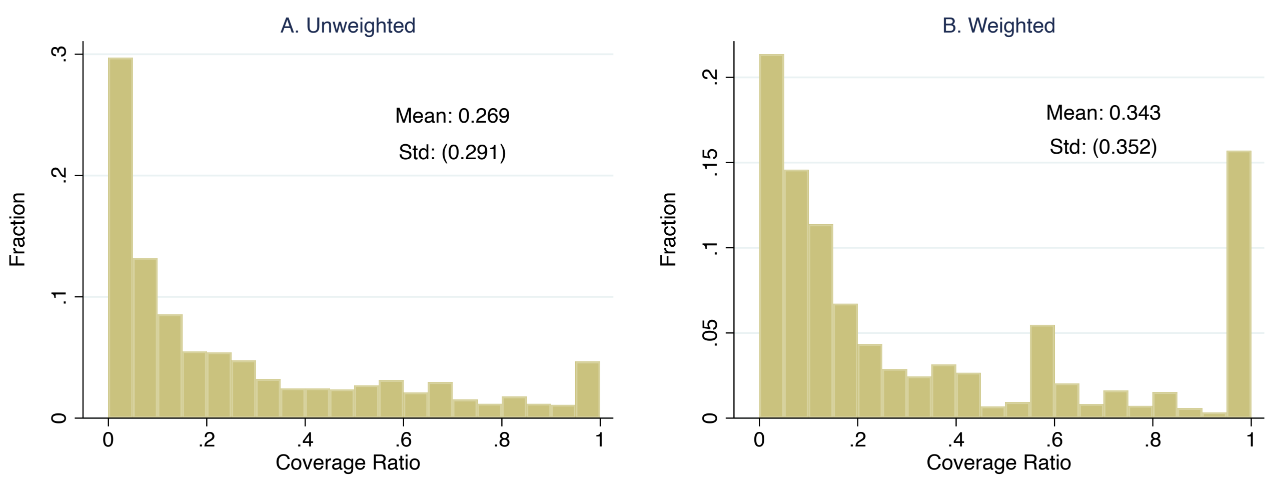
[18] We use the monthly US product-level trade data downloaded on 25 Oct 2023; this is the finalized version for flows that occured up until August 2020, the last month in which a tariff exclusion was announced. The estimates in Bown (2021), on the other hand, are based on earlier vintages of this data.

[19] The dates of tariff enactment for the four lists are: 6 Jul 2018, 23 Aug 2018, 24 Sep 2018, and 1 Sep 2019. We designate t to be the nearest full month to the actual event date, using the middle of the month as the cutoff.

additional statutory tariff rate imposed by the US on imports from China, $Tariff_k^{CHN}$(i.e., the announced Section 301 tariff rate). Equation (1) therefore infers the exclusions coverage ratio – or more simply, the exclusion share, π_k – for this 10-digit HTS code from the extent to which this effective duty rate change falls short of the full extent of $Tariff_k^{CHN}$.[20] Note that this approach assumes that between the tariff enactment date and the exclusion announcement date, importers did not endogenously increase their purchases of goods within a code k that received an exclusion *ex post* relative to those that did not. We regard this as plausible, given that the Section 301 tariffs were imposed *ex ante* on all goods within the 10-digit code, and there was a protracted review process lasting several months during which the outcome of the exclusion request was uncertain and could not be fully anticipated.

Panel A of Figure 1 plots the raw distribution of π_k across the 10-digit HTS codes that received some tariff exclusions, while Panel B illustrates this distribution weighting by the 2017 value of product-level imports from China ($Imp_{k,2017}^{CHN}$). The unweighted mean of the exclusions coverage ratio (0.269) is lower than the weighted mean (0.343), which indicates that products with higher initial imports from China tended to be granted a greater share of exclusions. The dispersion in π_k across product codes is also evident from these panels; the distributions are bimodal, with a cluster with near-zero exclusion shares ($\pi_k \approx 0$) and a second cluster that are close to fully exempt ($\pi_k \approx 1$).

Figure 1: Distribution of the Exclusion Share, π_k, across Products



Notes: Panel A displays the distribution of the exclusion shares, π_k, for those 10-digit HTS product codes with $\pi_k > 0$ (i.e., codes with at least one successful exclusion request). In Panel B, the observations are weighted by their 2017 import value from China.

[20]As an example, consider the first batch of exclusions for List 1 that were announced on 28 December 2018. Importers of these excluded goods could receive a refund for the 25% Section 301 duties paid on transactions dating back to 6 July 2018 (when List 1 was first implemented). For an associated product code k, the change in the effective duty rate averaged over the five months from July to November 2018, $\Delta DutyRate_{kt}^{CHN}$, should be smaller than the Section 301 tariff on imports from China, $Tariff_k^{CHN}$. The larger is this gap to $Tariff_k^{CHN}$, the larger is the exclusion share π_k. For a small number of cases, π_k calculated this way is larger than one (or negative); for such scenarios, we replace π_k by 1 (respectively, by 0).

The volume of imports from China that received an exclusion can be expressed as: $\sum_k \pi_k \times Imp^{CHN}_{k,2017}$, where we evaluate this at pre-tariff war import values in 2017. Based on this calculation, \$52.95 billion of US imports from China were ultimately covered by an exclusion; this constitutes 15.8% of the imports originally targeted for Section 301 tariff actions. We can further estimate the tariff revenue foregone due to these exclusions by: $\sum_k \pi_k \times Imp^{CHN}_{k,2017} \times Tariff^{CHN}_k$, which sums up to \$12.62 billion. This is sizeable when considering that total US import duties collected in 2017 were \$34.8 billion (CBP, 2018). Moreover, the scope of the Section 301 exclusions is comparable to that of several other tariff relief programs, including: (i) the \$3.42 billion in duties forgone or deferred annually in special economic zones in the US (Grant, 2020); (ii) the \$1.6 billion in tariff revenue forgone by the US tariff suspensions associated with Miscellaneous Tariff Bills introduced over 1999-2006 (Ludema et al., 2018); and (iii) the \$7.8 billion in duties exempted for *de minimis* shipments – individual shipments with less than \$800 of declared value – arriving in the US in 2021 (Fajgelbaum and Khandelwal, 2024).

3.2 The Informational Role of the Exclusions Process

Evidence from Application Outcomes. We next use the full set of applications, to uncover features that help explain success in securing an exclusion. We do so with the following regression specification:

$$Granted_{ifk} = \beta_0 + \beta_X' \boldsymbol{X}_{ifk} + D_K + D_\ell + \varepsilon_{ifk}. \tag{2}$$

The dependent variable $Granted_{ifk}$ is an indicator variable equal to 1 if application i submitted by firm f for a good that falls in HTS 10-digit code k was granted an exclusion from the Section 301 tariffs. We regress this on a vector $\boldsymbol{X}_{ifk}$ of explanatory variables, these being potentially relevant product, firm, or application characteristics. In line with the administrative criterion laid out as grounds for an exclusion, we include in $\boldsymbol{X}_{ifk}$: (i) imports in code k obtained from China in 2017, expressed as a share of US domestic absorption; and (ii) the analogous share of imports from the rest of the world.[21] The former reflects the degree of dependence on imports from China, at the most disaggregate level we can observe in the public MITD dataset; the latter in turn helps to capture the potential availability of alternative foreign sources for the good i in question.

The vector $\boldsymbol{X}_{ifk}$ further contains several variables that speak to the effectiveness and informativeness of the application in advancing firm f's case for an exclusion for good i. These are indicator variables for: whether or not the application was submitted on the firm's behalf by a representative (typically, a legal or consulting company that specializes in trade issues); whether the application received at least one letter of support (such as from a trade association or politician)

[21]We use the 2017 US Input-Output (IO) Tables from the Bureau of Economic Analysis to compute the US domestic absorption share for each 6-digit IO code. We then adjust the share of imports from China (respectively, the ROW) in total imports at the HTS 10-digit level, by using the domestic absorption share of the 6-digit IO code that the HTS 10-digit code maps to; this yields an estimate of the share of imports from China (respectively, the ROW) in US domestic absorption.

during the public comments window; conversely, whether the application drew at least one letter of objection; and whether firm f undertook lobbying activities on trade issues $LobbyTRD_{f,18Q1-20Q2}$ during the 2018Q1 to 2020Q2 time window (bearing in mind that application outcomes continued to be announced through August 2020). The D_K's in equation (2) are a set of fixed effects for 6-digit product codes, while the D_ℓ's are fixed effects for the four Section 301 tariff lists.[22] We estimate (2) via OLS, with standard errors clustered two-ways by firm and HTS 2-digit codes.

Table 3 reports our baseline findings. Column 1 confirms that an exclusion was more likely to be granted to goods in product codes with a higher China import share. This is prima facie consistent with one of the objectives of the exclusions program, namely to allow firms to seek tariff relief for goods that could only feasibly be procured from China. On the other hand, we do not find a significant effect for our proxy for the availability of goods from third-countries (the ROW). (These preceding findings could in principle be sharpened if one had the direct firm-level information on the China and ROW import shares of the specific goods for which the exclusions were sought; however, these details are not disclosed in the publicly-viewable application records.)

Of note, Column 1 shows that exclusions were more likely to be granted if the application was submitted with the help of a representative, if it received supporting comment letters, or if it was accompanied by firm lobbying efforts on trade issues. Each of these three covariates is statistically significant (at the 1% level); the implied effects – respectively, a 3.9, 4.4, and 3.8 percentage point increase in the likelihood of approval – are also meaningful and sizeable, when compared against the overall success rate for applications of only 12.9% (Table 2). Conversely, opposing comment letters tend (as one might expect) to hurt an application, although this effect is not statistically significant. We view submission by a representative as a means through which firms could improve the effectiveness of their exclusion applications: a lawyer or consultant with experience on trade issues would have expert knowledge on how to "hit the right notes", in ensuring that relevant information was included in the application to address each of the stated administrative criteria. The letters of support likely played a similar role: a letter from an industry association could underscore the severity of the economic impact of the additional tariffs from a broader industry perspective, while a letter from a local politician could attest to how constituents employed by the firm might be affected. As for the lobbying variable, the work of lobbyists on behalf of the firm could certainly serve an informational role, by calling the USTR's attention to the particular application(s) submitted by the firm and by opening up an additional channel of communication. This would be advantageous given the large number of applications received, and what we now know of the USTR's staffing and time constraints. The lobbying variable could also be capturing legal efforts to influence or sway trade policy in the applicant firm's favor, in exchange for political support from the firm or industry interests undertaking these lobbying activities.

These preceding findings – on the effects of the China import share, on the application features, and on lobbying – are strong empirical regularities. They continue to hold in the rest of

[22] We have also run separate regressions using the exclusion requests respectively for the Lists 1 & 2 tariffs and for the Lists 3 & 4 tariffs, since these two sets of applications were put through a different administrative review process. Our results are broadly similar across these two subsamples; see Table B.3 in the appendix.

Table 3: The Informational Role of the Exclusions Process: Baseline Results

Dep. Var.: Granted_{ifk}	(1)	(2)	(3)
$\text{Submission by a Representative}_{if}$	0.039***	0.037***	0.054***
	(0.007)	(0.007)	(0.012)
$\text{Num. Comments: Support}_{if} > 0$	0.044***	0.040***	0.034***
	(0.014)	(0.015)	(0.012)
$\text{Num. Comments: Oppose}_{if} > 0$	-0.015	-0.018	0.013
	(0.012)	(0.011)	(0.024)
$\text{LobbyTRD}_{f,18Q1-20Q2}$	0.038***	0.040***	0.091***
	(0.014)	(0.015)	(0.013)
$\text{Share Imp from CHN}_{k,17}$	0.206**	0.186**	0.096*
	(0.081)	(0.075)	(0.049)
$\text{Share Imp from ROW}_{k,17}$	0.038	0.034	-0.035
	(0.094)	(0.092)	(0.102)
Additional Controls:			
$\ln(\text{Imp from CHN})_{k,17}$		0.008	0.008
		(0.006)	(0.008)
$\ln(\text{Total Num. of Application})_f$		-0.003	-0.004
		(0.003)	(0.004)
$\text{Requested Before}_{if}$		0.006	0.023*
		(0.006)	(0.013)
$\ln(\text{Empl})_{c(f)j(f),16}$			0.003
			(0.005)
$47\% \leq \text{GOP Vote Share}_{c(f)} \leq 53\%$			0.094***
			(0.033)
$\text{GOP Vote Share}_{c(f)} > 53\%$			-0.034***
			(0.010)
6-digit HS FEs	Y	Y	Y
List FEs	Y	Y	Y
4-digit NAICS FEs	N	N	Y
Size Group FEs	N	N	Y
Observations	50,454	50,454	41,252
R^2	0.446	0.446	0.529

Notes: Robust standard errors are two-way clustered at the firm and the HTS 2-digit level. *** p<0.01, ** p<0.05, * p<0.1

Table 3, where we incorporate more product and firm controls. Conditioning on the application characteristics from Column 1, we find that it is not the volume of imports of product k from China per se – but rather the import share – that matters for whether an exclusion is ultimately granted. Submitting more applications in total does not raise a firm's chances of success, although we do find a modest positive effect of prior experience with the exclusions process ("$\text{Requested Before}_{if}$"). Our core results are unaffected in Column 3 where we use further sets of fixed effects for the applicant firm's NAICS 4-digit industry j as well as for firm size categories (drawn from Orbis); these help in particular to account for possible variation in the propensity to engage a representative, to solicit letters of support, or to undertake lobbying, across firms in different industries or by larger firms.[23]

[23] We are able to link firms in Orbis to approximately 83% of the exclusion applications; this explains the decrease

We also include several variables in Column 3 that speak to potential political economy considerations. These include: the number of jobs that could be exposed to the tariffs (the log of industry-j employment in county c), and indicators for how closely contested county c was in the 2016 presidential election. We corroborate here the result in Lopatin et al. (2024) that the USTR was more likely to grant exclusions to firms located in swing counties, defined as those with a 2016 Trump vote share between 47-53%, which could reflect a desire to bolster electoral support in these keenly-contested areas. Separately, we find that campaign contributions by firm employees to Republican candidates over the 2017-18 and 2019-20 election cycles are positively associated with approval likelihood, whereas contributions to Democratic candidates have the opposite effect (see Table B.2 in Appendix B.3), in line with Fotak et al. (2024). Importantly though, the estimated effects our three variables of interest – submission by a representative, supportive comment letters, and lobbying – are largely unchanged and highly relevant, after accounting for such political spending.

In Appendix B.3, we show that our results are still stable when considering other measures and specifications. These include: (i) using either coarser or finer product-level fixed effects; (ii) measuring lobbying activities in a narrower time window around the Federal Register "Notices of Action" on tariff exclusions; (iii) focusing on lobbying efforts specific to the Section 301 tariffs; (iv) switching to a more continuous measure of lobbying activities based on lobbying expenditures; and (v) excluding firms that were outliers in terms of the large number of applications they submitted.

Additional Evidence. We provide further evidence that submission through a representative, supporting letters, and lobbying on trade issues appeared to raise the efficacy of an application, by calling more attention to and raising the informativeness of the firm's formal submissions. At a basic level, it is useful to know whether the USTR did make use of the information conveyed in the applications (or the lack thereof) to determine if a request met the stated eligibility criteria for an exclusion. With each application that was turned down, the USTR cited a reason – which of the five criteria the application fell short on – for the negative outcome; Table 4 below presents summary statistics on these reasons for denial. The vast majority of unsuccessful applications were denied on grounds that can be viewed (at least in part) as reflecting deficiencies in the information conveyed, these being a failure to demonstrate that the Section 301 tariffs would inflict severe economic harm (69% of the denials) or to establish that the good was available only from China (23%).

We build on this observation in Column 1 of Table 5. There, we focus on the subset of unsuccessful applications, and consider a dependent variable equal to 1 if a request was denied due either to: (i) failure to show availability only from China; or (ii) failure to show that the additional tariffs would cause severe economic harm to the applicant or to other US interests.[24]

in sample size in Column 3.

[24]This dummy variable is otherwise set to 0 if the request was denied due to: the product being deemed strategically important to China; the tariff exclusion being seen as undermining the objective of the Section 301 investigation; and the exclusion being non-administrable by customs authorities.

Table 4: Distribution of Reasons for Request Denials

	All	List 1	List 2	List 3	List 4
(i) Fail to show availability only from China	0.230	0.255	0.162	0.219	0.264
(ii) Fail to show economic harm caused by additional tariffs to the US	0.691	0.428	0.491	0.760	0.717
(iii) Product subject to strategic importance to China	0.043	0.196	0.201	0.003	0.012
(iv) Exclusion would undermine the objective of the Section 301 investigation	0.040	0.145	0.150	0.016	0.007
(v) Non-Administrability	0.004	0.011	0.030	0.001	0.000

Notes: The USTR reply letters are not available for 21 denied requests in List 1 and 12 denied requests in List 3.

Using a regression akin to (2), we find that applications submitted by a representative or that were from firms that lobbied on trade issues were less likely to be turned down for these reasons; the effect of having a letter of support has a similar negative sign, but is not statistically significant. While hiring a representative or engaging in lobbying do not fully guarantee the success of an exclusion application, they nevertheless appear to help the firm avoid a denial that stems from insufficient information being furnished on these two main eligibility criteria.

We also examine the number of days taken by the USTR to process each exclusion request.[25] In Column 2 of Table 5, we find that the use of a representative, receiving either positive or negative comment letters, and lobbying on trade issues by the firm are all associated with a longer processing time on the USTR's end. This pattern is not an artefact per se of the USTR requiring more time to review and process requests that were ultimately successful ("Granted" coefficient, Column 3). Overall, these three application features appear to prompt the USTR to pay more attention and spend more time in deliberation, possibly because of the larger volume of information contained in these submissions. The significant finding here for the $LobbyTRD_{f,18Q1-20Q2}$ variable is particularly interesting, as it suggests that these activities served (at least in part) an informational role; had the lobbying been purely in service of a quid pro quo exchange, one might have expected that applications from lobbying firms would have been expedited, resulting in a shorter processing time instead.

On the Lobbying Effect. We briefly present several additional results related to lobbying activities, which will exploit the fact that their timing is drawn from a separate data source (LobbyView.org) distinct from the exclusion application records. (On the other hand, the timing of the "submission by representative" and "comment letter" variables is less interesting, since these are dated to a tight window around each application submission.) We document in Appendix A.3 that lobbying for trade-related issues surged during the US-China trade war from Q1/2018 to Q4/2019, whereas there was no observable uptick in lobbying for non-trade issues. Using more specifically the timing of applicant firms' exposure to the Section 301 tariffs, Appendix B.2 shows that firms were more likely to engage in lobbying on trade-related issues following the first tariff

[25] We calculate the length of this processing time using the date when the application was received by the USTR and the date of the USTR's response. Table A.1 presents the summary statistics of this processing time.

Table 5: Supporting Evidence on Informational Channels

	(1)	(2)	(3)
Dep. Var.:	Denied: Availability or Severe economic harm$_{if\ell}$	Processing Time$_{if\ell}$	Processing Time$_{if\ell}$
Sample:	Granted$_{ifk}$=0	All	All
Submission by a Representative$_{if}$	-0.027***	10.355***	7.176***
	(0.005)	(2.435)	(2.426)
Num. Comments: Support$_{if}$ > 0	-0.009	13.370***	11.407***
	(0.009)	(3.664)	(3.282)
Num. Comments: Oppose$_{if}$ > 0	0.004	9.084***	8.338***
	(0.022)	(2.640)	(2.912)
LobbyTRD$_{f,18Q1-20Q2}$	-0.031***	11.161**	5.849*
	(0.010)	(4.537)	(3.354)
Share Shipment from CHN$_{k,17}$	-0.160**	10.077	4.563
	(0.061)	(21.830)	(19.558)
Share Shipment from ROW$_{k,17}$	-0.089	-4.778	-2.506
	(0.068)	(17.386)	(17.259)
Granted$_{ifk}$			59.669***
			(8.038)
6-digit HS FEs	Y	Y	Y
List FEs	Y	Y	Y
4-digit NAICS FEs	Y	Y	Y
Size Group FEs	Y	Y	Y
Additional Controls	Y	Y	Y
Observations	36,042	41,202	41,202
R^2	0.630	0.459	0.506

Notes: The additional controls used are as in Column 3 of Table 3, namely: the logarithm of imports from China for product k in 2017, the logarithm of the total requests filed by firm f, whether the firm had previously submitted a request, the logarithm of employment in the affiliated industry j and county c, and dummy variables reflecting various bins of the GOP presidential vote share in county c. Robust standard errors are clustered at the 2-digit HS level. *** p<0.01, ** p<0.05, * p<0.1.

announcement relevant to them (i.e., for which they submitted their first exclusion request); by contrast, there was no discernible change in their lobbying activities on non-trade issues.[26]

As a further exercise, we investigate whether this timing of the lobbying activities is associated with success in exclusion applications. We follow closely the earlier specification in (2) to estimate:

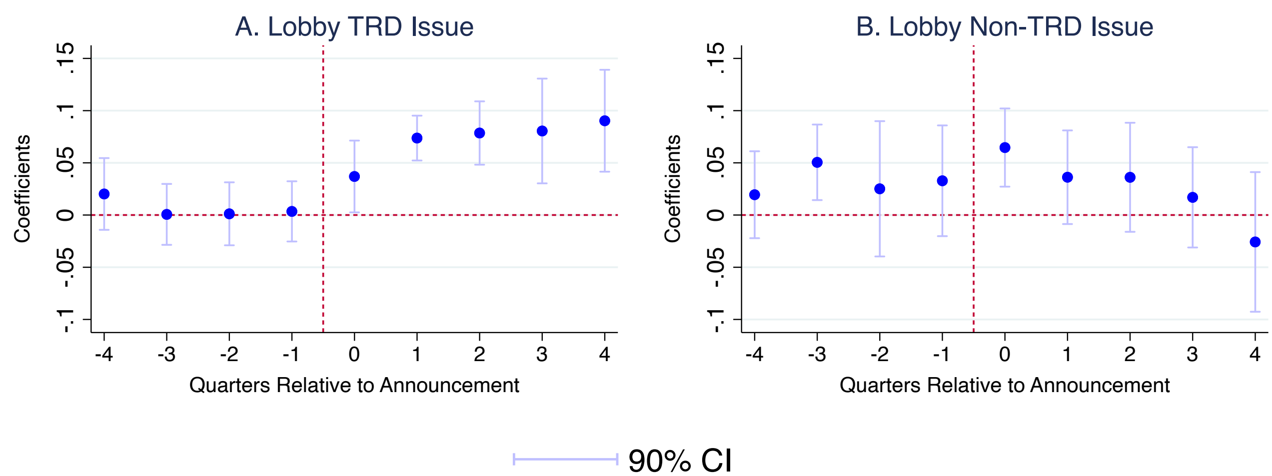
$$Granted_{ifk} = \beta_0 + \beta_1 LobbyTRD_{f,\tau} + \beta_X' \boldsymbol{X}_{ifk} + D_K + D_\ell + \nu_{fi\ell}, \tag{3}$$

where $LobbyTRD_{f,\tau}$ indicates whether firm f lobbied for trade-related issues in period τ. We work with quarters of the year as our time periods for this analysis, with τ denoting quarters relative to the date of announcement of the tariff action that first affects firm f. We estimate (3) separately for each value of τ, and the estimated coefficients for $LobbyTRD_{f,\tau}$ are illustrated in Figure 2. Panel A shows that the effect of lobbying reveals itself only for $\tau \geq 0$; a Granger test rules out the

[26]In practice, we consider quarters as our time periods for this analysis, and associate each tariff announcement date to the quarter in which it lies.

possibility that the detected effect is driven by an underlying correlation between lobbying and pre-determined firm characteristics (such as prior political connections) which might independently raise the likelihood of approval. As a placebo test, in Panel B, we conduct an analogous analysis for lobbying activities related to non-trade issues. This yields noisier and largely insignificant coefficient estimates, with no discernible differences in the effects before and after the initiation of the exclusions process.

Figure 2: Lobbying Activities and Tariff Exclusion: Timing of the Lobbying Effects



Notes: Panel A plots the estimated coefficients for $LobbyTRD_{f,\tau}$ in equation (3). Panel B plots the corresponding coefficients for $LobbyNonTRD_{f,\tau}$. For each firm, we identify the Tariff List of its first tariff exclusion request, and the x-axis indicates the quarters relative to the date of the announcement of tariff actions specific to this List. Standard errors are clustered at the 2-digit HS level. Error bars show 90% confidence intervals.

On a separate note, a natural concern is that the lobbying coefficient estimated in (2) via OLS could suffer from endogeneity bias. For example, firms may be more likely to undertake lobbying if they perceive a low ex-ante probability that their exclusion request will be granted. While pinning down a causal effect is not the main focus of our investigation, we nevertheless offer an instrumental variables approach in Appendix B.4 that helps allay this concern. We propose two IVs for $LobbyTRD_{f,18Q1-20Q2}$. The first is an indicator variable for whether the firm had previously lobbied on *non*-trade issues, which could pick up firms' prior experience with incurring the necessary fixed costs to start engaging with lobbyists (Kerr et al., 2014). The second is an indicator for whether there are other firms seeking tariff exclusions within the same HTS 6-digit heading that have lobbied on trade issues; this could pick up possible free-rider effects and thus be negatively correlated with firm f's own propensity to lobby. We show in Table B.4 that our baseline lobbying effect is robust with the use of these IVs; the IVs are jointly relevant, have significant and oppositely-signed effects (as hypothesized) on the likelihood of firm f lobbying on trade issues, and moreover pass an overidentification test.

3.3 Taking Stock

To sum up our empirical exploration, we draw out several salient features of the exclusions process that will be particularly important in guiding how we proceed with the modeling in the next section.

First, it bears repeating that the Trump administration's intention to set up an exclusions process was made known at the time of the announcement of each Section 301 tariff list. One can infer from this that the Trump administration preferred exclusions as a route for granting firms relief from the tariffs if necessary, rather than announcing lower Section 301 tariff rates. In our model, we will therefore set up the government's decision over tariff rates – over which products and at what level to set them – as one that fully anticipates that it may want to grant selective exclusions ex post.

Second, the exclusions granted were limited to highly specific goods within HTS 10-digit product codes. Based on the exclusions shares we calculated, among the 1,155 10-digit codes that saw at least one exclusion, only 0.04% of these were fully excluded (i.e., with $\pi_k = 1$); for the vast majority of codes, any exclusions were instead applied to some fraction of their initial import value from China. This prompts us toward a model setup that features heterogeneity across goods within each product code; the exclusions thus allowed the government to more finely target which goods to exempt from the tariffs, rather than choosing a different tariff rate to apply to all products in a HTS 10-digit code.

Third, the exclusions process collected information from firms on their reliance on imported goods from China. The USTR required that key details related to the good's use in firm-level operations be disclosed, in order to ascertain that the good could only be feasibly obtained from China, and to demonstrate the severity of the harm that the additional tariffs would cause the firm or US commercial interests. That the USTR set up an official application process (instead of granting blanket exclusions without formal requests) is indicative of how it saw the need to collect what would otherwise be private, firm-level information before deciding on the merits of each case. We have moreover reported on an array of variables – filing through a representative, public comment letters, and lobbying on trade issues – which appear to have helped firms amplify their ability to convey information to the USTR. While these features in an application did raise the likelihood of a granted exclusion, it is notable that these did not ensure success; for example, the success rate among applications put in by lobbying firms was still just 22.1%, which suggests that the lobbying effect was not purely driven by political favoritism. In the model to follow, we will incorporate this informational role of the exclusions process.

Fourth, the USTR broadly adhered to the stated objectives of the exclusions program when deciding the outcome of applications. For each unsuccessful request, the USTR provided reason(s) for denial that were based on the five eligibility criteria (e.g., failure to demonstrate severe economic failure was the most commonly cited reason); overall, this resulted in less contentiousness over the Section 301 exclusions program, compared to the preceding Section 232 exclusions which had drawn congressional complaints. The empirical findings also support this interpretation, as exclusions were more likely to be granted in HTS 10-digit codes with a higher Chinese import share, the latter being a plausible indication of a greater dependence on China for goods within such product codes. The eligibility criteria in principle sought to balance off several priorities of the US government, both to assist US-based importers (consumers of the affected good) who would be hurt by the additional tariffs, while at the same time mounting a response against Chinese policies seen to be benefiting Chinese firms "unfairly" (at the expense of US producers and other domestic interest groups). This is akin to the tradeoffs that political decision-makers face when determining tariffs in a "protection for sale" framework. The exclusions program can thus be viewed as being in service of a similar set of political objectives as the tariff setting itself.

4 A Model of "Exclusions for Sale"

We develop a model of optimal exclusions and tariffs in a "protection for sale"-style framework (Grossman and Helpman (1994) and Grossman and Helpman (1995b)). Toward this end, the model incorporates heterogeneity in demand or supply shifters across goods within a product code (in the style of Grant (2024)). This gives rise to within-code heterogeneity in the extent to which goods are imported from China versus being produced domestically or imported from the rest of the world, which in turn gives the government a motive to exclude some goods from code-level tariffs. We also develop a model of the Section 301 exclusion setting process, and explain how the exclusion process gives the government the necessary information to exclude the right set of goods. In this section, we characterize the resulting set of tariffs and exclusions, and discuss how these map to our empirical findings and the context of the Section 301 tariffs and accompanying exclusions process.

4.1 Supply and demand

We consider a three-country setting, with countries subscripted by: h for the home country (the US), c for China, and f for the rest of the world (ROW). The inclusion of the ROW allows for trade diversion effects. Each country supplies a unique variety of every good g, following the Armington (1969) assumption. Each country can face different (ad valorem) tariffs for access to the home market, which we denote by τ_{gc} and τ_{gf} for good g.

Demand:

Each product code (indexed by χ) contains a continuum of goods (indexed by g).[27] This follows the setup in Grant (2024), except that we take the mapping from goods to codes as exogenous.[28]

[27]The assumption that there is a continuum of goods removes aggregate uncertainty both in the government's tariff setting problem with exclusions and in our calibration.

[28]As Grant (2024) shows, codes are generally not exogenous to policy. The way the Section 301 tariffs were implemented in practice is consistent with Grant (2024) – new codes were created to implement the higher taxes on Chinese imports, and further new codes were created to implement the exclusions. However, we do not have

In our context, consumers are firms that use goods as inputs, in line with the fact that most of the earlier Section 301 tariff rounds disproportionately targeted intermediates rather than final goods (Bown and Kolb, 2021; Grossman et al., 2024).

The utility of the representative consumer in the US is quasilinear across goods and CES across country varieties within a good:

$$U = X_0 + \sum_{\chi} \sum_{g \in \chi} E_g \ln X_g, \tag{4}$$

where: X_0 denotes consumption or use of the numeraire good, E_g is expenditure on good g, and X_g is a CES aggregator over consumption of good g over the three source country varieties. This aggregator is given by: $X_g^{\frac{\sigma_\chi - 1}{\sigma_\chi}} = b_{gh}^{\frac{1}{\sigma_\chi}} x_{gh}^{\frac{\sigma_\chi - 1}{\sigma_\chi}} + b_{gc}^{\frac{1}{\sigma_\chi}} x_{gc}^{\frac{\sigma_\chi - 1}{\sigma_\chi}} + b_{gf}^{\frac{1}{\sigma_\chi}} x_{gf}^{\frac{\sigma_\chi - 1}{\sigma_\chi}}$, where σ_χ is the elasticity of substitution, and the b_{gi}'s are exogenous demand shifters that differ across goods g and source countries $i \in \{h, c, f\}$. Note that while demand shifters, expenditures, and (as we shall see below) supply shifters are all defined at the good level, the key elasticity parameters are shared by all goods within a code.

The utility system in equation (4) yields CES demand over goods from each source country. The corresponding share of good-g expenditures on the variety from source country $i \in \{h, c, f\}$ is given by:

$$s_{gi} = b_{gi}(1 + \tau_{gi})^{1-\sigma_\chi} \left(\frac{p_{gi}}{P_g} \right)^{1-\sigma_\chi}, \tag{5}$$

where $(1+\tau_{gi})p_{gi}$ is the tariff-inclusive price, i.e. producers receive p_{gi} (with $\tau_{gh} = 0$ for all domestic varieties), and P_g is the ideal price index for good g over the three source countries. The share of the country-i subvariety is increasing in the demand shifter b_{gi}, which can be interpreted in our context as capturing quality or suitability for the needs of the US firm that is purchasing it. A higher tariff τ_{gi} reduces the share of expenditures on goods of country i origin.

Supply:

We assume that every country produces its variety of good g in code χ for sale in the Home country market with perfect competition and according to the Cobb-Douglas production process

$$q_{gi} = \frac{A_{gi}^{\frac{\omega_\chi}{1+\omega_\chi}}}{\left(\frac{1}{1+\omega_\chi} \right)^{\frac{1}{1+\omega_\chi}}} L_{gi}^{\frac{1}{1+\omega_\chi}} K_{gi}^{\frac{\omega_\chi}{1+\omega_\chi}}$$

where q_{gi} is the quantity of good produced for sale in the the Home country market, L_{gi} is the amount of labor used, and K_{gi} is good and destination specific capital; i.e. it is capital which can

access to data disaggregated in this way, which is not (to our knowledge) reported by the US Census. Instead, we observe the data aggregated back to the original classifications, and so this is how the codes are handled in the model.

be used to make the country i variety of good g for sale in the Home country market. We further assume that the wage is pinned down by the outside sector.[29]

As we show in Appendix C.1, this gives rise to a supply curve for variety i of good g to the home market given by

$$s_{gi} = (1+\tau_{gi}) \frac{a_{gi}^{-\frac{1}{\omega_\chi}}}{E_g} p_{gi}^{\frac{\omega_\chi+1}{\omega_\chi}} \tag{6}$$

where a_{gi} is a cost shifter specific to variety i of good g and $1/\omega_\chi$ is a constant supply elasticity that is common to all goods g in code χ. Note that a positive productivity shock for good g in country i for supply to the home market would lower the cost shifter a_{gi}, which would in turn raise the expenditure share within good g from country i

There are several features of this supply and demand framework that are worth noting. First, they map readily into the Feenstra (1994) framework, from which we will draw our elasticity estimates when we turn to the quantification. Second, the supply structure also microfounds separable supply decisions across markets, which means we need only considering the impact of home policy in the home market.[30] This enables us to calibrate the model at a more disaggregate level since we do not need to work with coarser classifications which are harmonized across countries.

Equilibrium:

In equilibrium, equations (5) and (6) must be equal, so that demand meets supply for each subvariety in the US market. We show in Appendix C.2 that these expenditure shares are implicit functions of τ_{gc} and τ_{gf} given by:

$$s_{gc}/s_{gh} = r_{gc} (1+\tau_{gc})^{-\frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1}}, \tag{7}$$

$$s_{gf}/s_{gh} = r_{gf} (1+\tau_{gf})^{-\frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1}}, \text{and} \tag{8}$$

$$1 = s_{gh} + s_{gc} + s_{gf}, \tag{9}$$

where r_{gc} and r_{gf} are expenditure share shifters and are defined as:

$$r_{gc} \equiv (a_{gc}/a_{gh})^{-\frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1}} (b_{gc}/b_{gh})^{\frac{\omega_\chi + 1}{\omega_\chi \sigma_\chi + 1}}, \text{and} \tag{10}$$

$$r_{gf} \equiv (a_{gf}/a_{gh})^{-\frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1}} (b_{gf}/b_{gh})^{\frac{\omega_\chi + 1}{\omega_\chi \sigma_\chi + 1}}. \tag{11}$$

Recall that the a_{gi}'s and b_{gi}'s are respectively supply and demand shifters for the goods g that originate from each of the source countries i. This heterogeneity is summarized in the above

[29]Formally, we assume the numeraire X_0 is made one-for-one from labor, is freely and costlessly traded, and that there is sufficient labor that the numeraire is produced in every country in any equilibrium, such that the equilibrium wage in all countries is always 1.

[30]In a fully general market, home import policies would also affect profits earned by home firms exporting to foreign markets.

expressions for r_{gc} and r_{gf}, which describe equilibrium shares as a function of tariffs without need to separately identify supply versus demand shifters. In short, the expenditure shares s_{gh}, s_{gc}, and s_{gf} can be uniquely recovered using equations (7)-(9) from r_{gc} and r_{gf}, for any given set of tariff rates τ_{gc} and τ_{gf}.

4.2 Government Objective and Tariff Setting

Government Objective Function:

The home-country government's objective follows a standard "protection for sale" form:

$$\Omega = Y_0 + \sum_{\chi} \sum_{g \in \chi} \left(\lambda_\chi \pi_g + \beta_\chi CS_g + \sum_{i \in \{c,f\}} (\tau_{gi} p_{gi} q_{gi} + \gamma_{\chi i} \pi_{gi}) \right) \tag{12}$$

where Y_0 denotes labor income, and for good g, π_g denotes producer surplus, CS_g denotes consumer surplus, and $\tau_{gi} p_{gi} q_{gi}$ is tariff revenue from taxing imports from country i. The objective also includes a number of weights on components of welfare. First, $\lambda_\chi - 1$ is equal to the extra weight placed by the government on home-country producer profits relative to tariff revenue (c.f., Baldwin, 1987; Hillman, 1982; Grossman and Helpman, 1994). We view this political preference weight as an exogenous parameter, where differences across χ could reflect for example the fact that some products tend to be concentrated in politically-important swing states in their production locations.[31] Second, $\beta_\chi - 1$ is the extra weight the government places on domestic consumer interests,. which in our setting could reflect counter-lobbying by US-based firms who use the imported goods as intermediate inputs. The λ_χ's and β_χ's can be viewed as political weights that are a reduced-form representation of the preferences of the government of the day for favoring specific producer and consumer interests. As is well-known from Grossman and Helpman (1994), one can microfound these terms within a model with campaign contributions, in which producer (respectively, consumer) special interests pledge to support the political party of the incumbent government with contributions in exchange for a set of desired tariff policies. The government objective function in equation (12) can thus broadly accommodate both the informational and quid pro quo interpretations of the role of lobbying. And third, the $\gamma_{\chi c}$'s and $\gamma_{\chi f}$'s are respectively the weights placed by the home government on the corresponding producer profits that accrue in China and in the rest of the world. These capture in a reduced-form way how the home country might be internalizing industrial outcomes in the foreign country in trade negotiations or trade agreements ($\gamma_{\chi i} > 0$, as in Grossman and Helpman, 1995a; Adão et al., 2024),[32] or conversely, its perceptions of the threat of foreign retaliation or desire to hinder foreign industries ($\gamma_{\chi i} < 0$, as in Sturm Becko, 2024). We assume that the λ, β, and γ weights vary at the code level, as this is

[31] In line with this, exclusions were more likely to be granted if the applicant firm was located in a swing county, where the Trump vote share in 2016 was between 47-53% (see Column 3, Table 3, and also Lopatin et al., 2024).

[32] Note that in our setup, the only impact on the foreign government's welfare is via foreign profits, so that our objective function can exactly nest Grossman and Helpman (1995b).

the level of disaggregation at which there is data to pin down these parameters credibly.

Using the specifications for demand and supply from Section 4.1, the producer and consumer surplus terms are given explicitly by: $\pi_{gi} = \frac{\omega_\chi}{1+\omega_\chi}\frac{E_g s_{gi}}{1+\tau_{gi}}$ (for $i \in \{c, f\}$), and $CS_g = E_g\left(\ln(E_g/P_g) - 1\right)$. With these last expressions and some further algebraic work (see Appendix C.3), the government objective function in equation (12) can be rewritten as:

$$\Omega = Y_o + \sum_{\chi}\left(\Omega_\chi + \sum_{g\in\chi} E_g \Omega_g\right), \tag{13}$$

where:

$$\Omega_g \equiv \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi s_{gh} - \frac{\omega_\chi \sigma_\chi + 1}{(\omega_\chi+1)(\sigma_\chi - 1)}\beta_\chi \ln s_{gh} + \sum_{i\in\{f,c\}} \frac{\tau_{gi} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi i}}{1+\tau_{gi}} s_{gi}, \tag{14}$$

and $\mathit{\Omega}_\chi$ collects terms that are invariant to tariff policy (in particular, expenditures E_g are treated as given).[33] Thus, home-country tariffs on imports of good g – i.e., τ_{gc} and τ_{gf} – affect domestic welfare only through their impact on the subutility terms spelled out in Ω_g. These tariffs appear directly in equation (14), specifically in the terms associated with tariff revenues, and they also influence the shares of good-g expenditures, s_{gh}, s_{gc}, and s_{gf}, on the subvarieties from the US, China, and the rest of the world respectively.

Tariffs and the Tariff Setting Process:

In the course of characterizing optimal policy and calibrating the model, we will solve the decision problem of the government under three different scenarios. First, we solve for the optimal non-discriminatory tariff. We use this scenario when calibrating weights using observed MFN and Column 2 tariffs. Second, we solve for optimal discriminatory tariffs at the code level, without the ability to exclude any goods within a code. In his scenario, we assume the discriminatory tariff will only apply to imports from China; imports from the ROW face an (exogenous) MFN tariff. This second tariff scenario underlies our no-exclusion counterfactual. And third, we solve for optimal policy in a setting where the government may use exclusions in addition to a discriminatory tariff. In this scenario, the discriminatory tariff applies to imports from China which have not been excluded, with excluded goods and imports from the ROW facing an exogenous MFN tariff. In this section, we define each of these policy scenarios, and in the following sections we provide both intuition and formal solutions for the optimal policy choices.

In the first scenario, under non-discriminatory tariffs, for every code the government chooses a single tariff τ_χ to apply to all imports from China and the ROW, i.e. $\tau_{gc} = \tau_{gf} = \tau_\chi$ for all $g \in \chi$. The government will pick τ_χ for every χ to maximize its objective function.

In the second scenario, under discriminatory tariffs without exclusions, for every χ the government chooses a tariff $\tau_{\chi c}$ to apply to all imports from China, and imports from the ROW face

[33] Specifically, $\mathit{\Omega}_\chi \equiv \sum_{g\in\chi} E_g\left(\frac{1}{\omega_\chi+1}\ln E_g - \ln\left(a_{gh}^{\frac{1}{\omega_\chi+1}} b_{gh}^{-\frac{1}{\sigma_\chi-1}}\right) - 1\right)$.

τ_χ^{MFN} which is exogenous. Formally, $\tau_{gc} = \tau_{\chi c}$ and $\tau_{gf} = \tau_\chi^{MFN}$ for all $g \in \chi$. The government will pick $\tau_{\chi c}$ for every code to maximize its objective function.

And finally, under discriminatory tariffs with exclusions, the government chooses a tariff $\tau_{\chi c}$ to apply to imports from China of goods which are not excluded and the set of $g \in \chi$ to exclude. Imports from China in excluded goods and imports from the ROW face τ_χ^{MFN} which is exogenous. Formally, denote the set of goods which aren't excluded (i.e. are subject to the Section 301 tariff) by T_χ; then for $g \in T_\chi$, $\tau_{gc} = \tau_{\chi c}$, while for all $g \in \chi$, $g \notin T_\chi$ then $\tau_{gc} = \tau_\chi^{MFN}$ and for all $g \in \chi$, $\tau_{gf} = \tau_\chi^{MFN}$. Although we could treat the government as simultaneously picking T_χ and $\tau_{\chi c}$ for every code, we adopt a slightly richer policy-setting structure to better concord with exclusions process.

We model the government's policy setting problem with exclusions in three stages. In the first stage, the government announces the set of $\tau_{\chi c}$, anticipating the process that it will open up to allow firms to apply for exclusions. When choosing the set of tariff rates $\tau_{\chi c}$ to announce, the government takes into account the impact these tariffs will have on importers and recognizes that it will potentially grant exclusions to a subset of these importers (as described in the third stage below). The government also has knowledge of the underlying distributions of the expenditure share shifters, but not the actual good-level realizations of r_{gc} and r_{gf}; due to this latter informational constraint, the government cannot decide in advance which exact goods to grant an exclusion to. However, since there are a continuum of goods and the government knows the underlying distributions, the government is perfectly able to predict the set of goods which it will exclude in the third step.

In the second stage (following the announcement of the tariff rates), importers can apply for exclusions. Importers naturally have private information on the underlying characteristics associated with the goods they import, specifically, of the good-level expenditure share shifters r_{gc} and r_{gf}, and hence the share of the good they import from China and the ROW, s_{gc} and s_{gf}, under both the MFN and Trump Tariffs. Importers are also cognizant of the government's objective function and anticipate correctly that the government will choose to grant an exclusion to goods where applying the Trump Tariff would lower the government's objective relative to applying the MFN tariff Importers with the right r_{gc} and r_{gf} opt to apply for an exclusion, and in so doing, convey this information to the USTR. (Bear in mind though that this is a confidential disclosure between the firm and the USTR; this information on import shares for applicant firms is not revealed to the public, nor is the USTR feasibly able to observe import shares for firms that do not apply for an exclusion.)

In the third stage, the government takes on board this new information and decides on which goods g to exempt from the tariff. Specifically, it excludes goods g from the discretionary tariffs if granting the exclusion raises the government's objective function in equation (12) relative to maintaining the tariff.

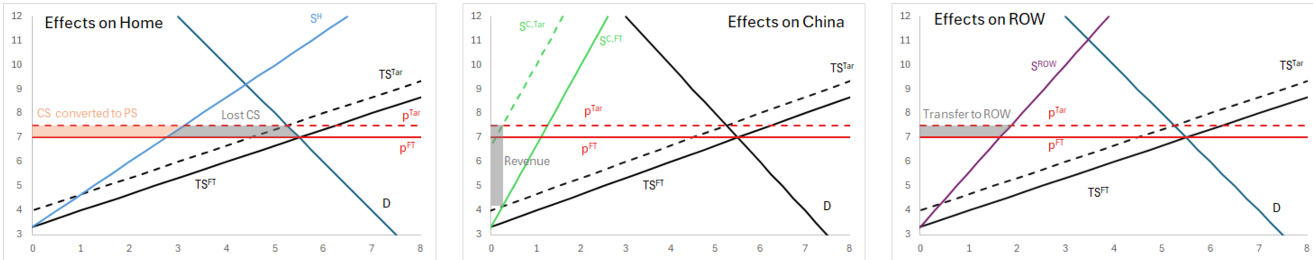


Figure 3: Distributional Consequences of a Discriminatory Tariff

4.3 Why Use Exclusions?

Before turning to formal statements about optimal policy, we first build intuition about the choice of optimal tariffs and exclusions. The intuition for the politically optimal non-discriminatory tariff is well known and we omit it here. Instead, we build intuition about the politically optimal discriminatory tariff by examining the distributional and welfare consequences of such a policy.

The home government can (depending on parameters) potentially gain from tariffs on Chinese imports via three channels: first, by redistributing to domestic producers; second, by manipulating the terms-of-trade; and third, by lowering foreign profits. However, the efficacy of a tariff for accomplishing any of these goals depends on the share of the good sources from China and the ROW. In consequence (and as we will show formally in 4.4), the optimal tariff will be related to the share from China and the ROW among goods which are not excluded. As in Grant (2024), heterogeneity in shares across goods within a code will lead to mistargetted policy. For goods which are sufficiently far from the code average, the government will do better by excluding them.

Figure 3 illustrates the distributional effects of an exogenous discriminatory tariff on Chinese imports when applied to a single good. The figure depicts a partial equilibrium setup which shares its main features with the general model: demand (labeled "D" in all three panels) is from home consumers, and is met by supply from home, China, and the ROW. The combined supply absent the tariff and with the tariff (labeled "$\mathrm{TS}^{\mathrm{FT}}$" and "$\mathrm{TS}^{\mathrm{Tar}}$" respectively) are also depicted on all three panels, along with the market clearing prices with and without the tariff (labeled "p^{FT}" and "$\mathrm{p}^{\mathrm{Tar}}$" respectively). The left panel depicts the consequences in the home market, along with the home supply curve (labeled "S^{H}"). Home producers benefit from the higher market clearing price; the gain in producer surplus is denoted in red. Home consumers lose; the loss of consumer surplus is the sum of regions in red and gray (with the gray region denoting lost CS which is not recouped as producer surplus – note that this is not equivalent to the welfare loss because it does not account for the revenue gain). The middle panel depicts the effects on Chinese supply; the Chinese supply curve with and without the tariff is labeled "$\mathrm{S}^{C,\mathrm{FT}}$" and "$\mathrm{S}^{\mathrm{C,Tar}}$" respectively. The depicted rectangle is the welfare generated by the tariff. Finally, the right panel depicts the effects on ROW supply; the ROW supply curve is labeled "S^{ROW}". The depicted quadrilateral is the gain in ROW welfare generated by the tariff. The quadrilateral corresponds to part of the loss of home consumer surplus which is not recouped via higher home producer surplus.

This figure also provides intuition about the form of optimal policy. Holding aggregate supply and supply from ROW fixed, a higher share of supply from China will worsen the payout for the home government. In summary, higher shares from either China or the ROW make discriminatory tariffs less efficient instruments for redistributing to home producers. And holding aggregate supply and supply from ROW fixed, a larger share from the ROW makes discriminatory tariffs less efficient instruments for manipulating the terms-of-trade and for reducing Chinese profits.

The principle effect of a larger share of supply from China is to make the discriminatory tariff a less efficient redistributive instrument. A larger share of supply from China must come with a lower share of supply from home (since we are holding total supply and ROW supply fixed). Thus. home producers gain less per dollar of home price increase, while the loss of welfare is the same. In effect, increasing the Chinese share means that for the same increase in equilibrium price, the tariff generates more revenue and less home profits.[34] Since the government values profits more than welfare, this makes the tariff less rewarding.[35] A higher Chinese share also has the potential to change the benefits of the terms-of-trade manipulation and reduction of Chinese profits following from the tariff. The effect will depend on whether the change makes supply more or less elastic. Our general model shuts down this channel by assuming constant supply elasticity; it is not possible to make a more general statement without imposing restrictions on the form of the supply curve.

A larger share of supply from the ROW tends to make the discriminatory tariff less effective at achieving any of the possible objectives. A larger share of supply from ROW must come with a lower share of supply from home (since we are holding total supply and Chinese supply fixed). A higher share from ROW increases the welfare cost of the tariff and lowers the increase in domestic producer surplus, making the tariff a less efficient redistributive instrument. And, a higher ROW share will increase the trade diversion created by a tariff intended to manipulate the terms-of-trade or reduce Chinese profits, which also makes the tariff less effective at accomplishing those objectives as well.[36]

To translate this into optimal policy, the government will set tariffs such that the marginal benefit arising from the weighted gain in producer surplus, the manipulation of the terms-of-

[34] With a larger Chinese share, the same tariff will also change the price in the home market by a larger amount. This is another reason that redistribution becomes less efficient with a larger Chinese share, since welfare costs are second order in the price change while redistribution is first-order in the price change.

If the tariff were truly exogenous and were below the politically optimal level (a possibility we explicitly assume away), then the government might gain more from taxing goods with higher Chinese share, even if the redistribution is less efficient on these goods, because the tariff is not set at the right level (in a sense giving this problem a second-best flavor). However, with an endogenous tariff this potential effect goes away, since the tariff must have been optimal on average for goods falling under the tariff. Note that either way, redistribution is less efficient with a higher Chinese share.

[35] Additionally, with a larger Chinese share the same tariff will induce a larger increase in the domestic price. While this could be preferred by the home government, with a fully endogenous tariff it cannot be. Put another way, the home government would be better off with a lower Chinese share and a higher tariff than higher Chinese share and a lower tariff – in the former case, the tariff will generate more producer surplus and in the latter case it will generate more revenue, and again for the tariff to be redistributive the government must prefer producer surplus to revenue.

[36] Our framework permits the home government to put a weight on ROW producer surplus. In this case, a larger ROW share could increase the political benefits (or costs) accruing to this channel as well. We argue in Section 5 that theoretically that the weight on ROW profits should be 0, in which case we can ignore this force.

trade, and the fall in Chinese profits is equal to the marginal loss of welfare among the set of goods under the tariff. And, given this level of tariff, goods for which the Chinese and ROW shares are sufficiently large will see a fall in the government objective from applying the prevailing tariff. The government will thus optimally exclude these goods. We formalize this intuition in the subsequent subsection.

4.4 Optimal policy

We characterize optimal policy under the three different regimes. In this subsection we present and discuss the simplified first order conditions for optimal policy, and relegate derivations to Appendix sections C.4, C.5, and C.6.

Tariffs on all exporters:

The first-order condition describing the shared τ_χ on both China and the ROW is

$$0 = \left[(\lambda_\chi - 1)(1+\tau_\chi) - \frac{\tau_\chi}{\omega_\chi} - (\gamma_\chi - 1)\right] \sum_{g \in \chi} E_g s_{gh} (1 - s_{gh}) \dots \\ - \frac{\omega_\chi \sigma_\chi + 1}{\omega_\chi (\sigma_\chi - 1)} \left(\omega_\chi (\gamma_\chi - 1) + \tau_\chi + (\beta_\chi - 1)(1+\tau_\chi)\right) \sum_{g \in \chi} E_g (1 - s_{gh}) \tag{15}$$

where implicitly we have set $\gamma_{\chi c} = \gamma_{\chi f} = \gamma_\chi$.[37] This expression does not distinguish between the share from China and the ROW, because there is no difference in weights or tariffs. In general, the optimal tariff in increasing in λ_χ and ω_χ, and decreasing in σ_χ and β_χ.

Uniform discriminatory tariffs:

When the government cannot use exclusions, the first-order condition describing $\tau_{\chi c}$ is

$$0 = (1+\tau_{\chi c}) \sum_{g \in \chi} E_g s_{gc} \left(\frac{\omega_\chi}{1+\omega_\chi} \lambda_\chi s_{gh} - \beta_\chi \frac{\omega_\chi \sigma_\chi + 1}{(\omega_\chi + 1)(\sigma_\chi - 1)} + \frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi f}}{1 + \tau_\chi^{MFN}} s_{gf} \right) \dots \\ - \sum_{g \in \chi} E_g s_{gc} \left(\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c} \right) (1 - s_{gc}) + \frac{\omega_\chi \sigma_\chi + 1}{\sigma_\chi - 1} \left(1 - \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c} \right) \sum_{g \in \chi} E_g s_{gc} \tag{16}$$

In general, the optimal tariff in increasing in λ_χ, ω_χ, $\gamma_{\chi f}$, and the equilibrium home share under the tariff,[38] and decreasing in σ_χ, β_χ, and $\gamma_{\chi c}$.

[37] In the absence of discriminatory tariffs, there is no reason to expect that these weights would be different.

[38] Alternatively, the home share under the MFN tariff s_{gh}^{MFN} is a share shifter which is not an endogenous object.

Discriminatory tariffs with exclusions:

When the government can use exclusions, the first-order condition describing $\tau_{\chi c}$ is

$$0=(1+\tau_{\chi c})\sum_{g\in T_\chi}E_g s_{gc}\left(\frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi s_{gh}-\beta_\chi\frac{\omega_\chi\sigma_\chi+1}{(\omega_\chi+1)(\sigma_\chi-1)}+\frac{\tau_\chi^{MFN}+\frac{\omega_\chi}{1+\omega_\chi}\tau_\chi^{MFN}}{1+\tau_\chi^{MFN}}s_{gf}\right)\dots \quad (17)$$
$$-\sum_{g\in T_\chi}E_g s_{gc}\left(\tau_{\chi c}+\frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}\right)(1-s_{gc})+\frac{\omega_\chi\sigma_\chi+1}{\sigma_\chi-1}\left(1-\frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}\right)\sum_{g\in T_\chi}E_g s_{gc}$$

where T_χ denotes the set of g which are not excluded. Note that this expression is exactly the same as the uniform discriminatory tariffs, except that the the only shares which matter are those for goods which are not excluded.

The government will exclude good g if the government's payout from that good is greater under MFN tariffs than under $\tau_{\chi c}$, i.e. $\Omega_g^{MFN}>\Omega_g^T$ where Ω_g is defined as in equation (14).

Proposition 1: If $\gamma_{\chi c}\leq 1$, $\lambda_\chi\geq 1$, $\tau_\chi^{MFN}\leq\omega_\chi$, $\gamma_{\chi f}=0$, and in equilibrium $\frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi\geq\frac{\tau_{\chi c}+\frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_{\chi c}}$, then the optimal exclusions will follow a cutoff rule, such that goods with a sufficiently large combination of s_{gc}^{MFN} and s_{gf}^{MFN} are excluded.

Proof: See Appendix C.7

Proposition 1 says that goods with a sufficiently high sourcing share from China and the ROW will be optimally excluded from the Section 301 tariffs. This is important for two reasons. First, the empirical fact is that goods with a higher Chinese share in equilibrium are excluded; this proposition establishes that this theory can match that fact. And second, this makes the tariff setting scheme when the government can use exclusions more realistic. While we assume the affected firms are fully informed about the government's objective and can act accordingly, this proposition suggests that they need much less information than that to act (roughly) in accordance with the spirit of the scheme. In particular, all they need to know is whether the product that they source is heavily sourced from some combination of China and the ROW or not. If so, they should apply for an exclusion; if not, getting an exclusion is unlikely.

The conditions for Proposition 1 are minimal and concord with intuition, e.g. that Chinese profits get a weakly lower weight and that home profits a weakly higher weight in the government objective than home welfare. The condition placed on MFN tariffs is also minimal: US MFN tariffs are generally low, while the US is a large country and so $\tau_\chi^{MFN}\leq\omega_\chi$ is also not a very taxing restriction. The assumption that $\gamma_{\chi f}=0$ follows our calibration and is theoretically consistent with a setting in which the ROW is not negotiating with the US government over its discriminatory tariffs on China.[39] The last condition is in fact a statement about equilibrium (since $\tau_{\chi c}$ is an

[39]We provide more detail about this assumption in the calibration. In practice, all we need assume is that $\frac{\tau_\chi^{MFN}}{1+\tau_\chi^{MFN}}-\frac{\omega_\chi}{1+\omega_\chi}\left(\lambda_\chi-\frac{\gamma_{\chi f}}{1+\tau_\chi^{MFN}}\right)\leq 0$,i.e. MFN tariffs are sufficiently small and the weight on home profits is sufficiently large relative to the weight on ROW profits.

equilibrium object not a fundamental), but is one which is almost always satisfied in the data since we find most λ_χ are large, the $\gamma_{\chi c}$ are either small or more usually negative, and the $\tau_{\chi c}$ are not so large.[40]

One point to note is that Proposition 1 places no condition on E_g. Following our assumption on utility, E_g is invariant to the tariff. Furthermore, in the equation(13) E_g scales the payout from a given good up or down, but (conditional on shares) it will do so by scaling all components of the objective proportionally. Thus, E_g will not affect the exclusion rule.

The proof of Proposition 1 supposes that there is some good with MFN shares (denoted as such with a superscript) $\left(\hat{s}_c^{MFN}, \hat{s}_f^{MFN}\right)$ which is excluded, which means that applying $\tau_{\chi c}$ to this good would lower the government's objective. We then show that under the provided conditions, any good with $s_{gc}^{MFN} \geq \hat{s}_c^{MFN}$ and $s_{gf}^{MFN} \geq \hat{s}_f^{MFN}$ will lower the government's objective even more. This suffices to show that there will be a single frontier in $\left(s_{gc}^{MFN}, s_{gf}^{MFN}\right)$ space separating goods which are not excluded from those which are excluded.

To wrap up this section, since the government will be excluding goods with high s_{gc} and s_{gh}, the home-country government will be inclined to set a higher $\tau_{\chi c}$. This is unambiguously good for the government, but ambiguous for welfare. From a welfare perspective, the exclusions on selected goods tend to remove distortions to consumer surplus. This needs to be weighed though against the higher equilibrium tariff rate which will increase the distortion of unexcluded goods, as well as the foregone tariff revenue from excluded goods. The net effect on welfare is thus in principle indeterminate, hence the need for a quantitative evaluation which we turn to next.

5 Quantification and Welfare Implications

Our next step is to calibrate our theory to the model and conduct counterfactuals; however, calibrating this model presents several challenges. First, we need to characterize the distribution of shares at the good level when all we observe in the data are outcomes at the code level. And second, the calibration for even a single code is potentially a computationally intensive problem, since the optimal policies for each code are a function of many parameters and so the calibration is a high-dimensional problem. Worse, we wish to calibrate the model for 229 tradeable industries, and for some parameter values the objective functions can have nonconvexities, so that we must expend additional computational effort by searching for global solutions and not just local ones. In Section 5.1, we explain how we adopt a distributional assumption which is both flexible but parsimonious, so that we can calibrate it with the aggregate moments we observe. In Section 5.2, we describe our calibration method, which allows us to solve for the parameters sequentially following from the conjecture of a single parameter. This transforms a six-dimensional optimization problem into a one-dimensional one. With this approach in hand, we are able to fully calibrate the model in Section 5.3 and compute counterfactual policies in Section 5.4.

[40] Although the conditions of Proposition 1 hold for almost all codes, they do not hold for every code. Nevertheless, numerical simulations show that the cutoff rule holds for all codes because the conditions for Proposition 1 are extremely conservative.

5.1 Distribution of Shares

In order to pin down optimal tariff policy, we will take a stance on the distributions of the distributions of r_{gc} and r_{gf} (as defined in equations (10)-(11)). This approach imposes structure on the nature of the supply and demand shifters, but it is a necessary modeling cost given that we cannot feasibly observe outcomes directly for specific goods at the sub-product code level. Recall from equations (7)-(9) that given a set of prevailing tariff rates, one can exactly recover the expenditure shares s_{gh}, s_{gc}, and s_{gf} with knowledge of the realizations of r_{gc} and r_{gf}; conversely, one can recover the values of r_{gc} and r_{gf} from equations (10)-(11) that will rationalize any observed set of expenditures shares s_{gh}, s_{gc}, and s_{gf}. With this mapping in mind, it will turn out to be more convenient to implement the model quantitatively by simulating draws of the expenditure shares.

Specifically, we assume that s_{gh}, s_{gc}, and s_{gf} under MFN tariffs are distributed Dirichlet with the following joint probability distribution function (pdf):

$$g\left(s_{gh}, s_{gc}, s_{gf}\right) = \frac{\Gamma\left(\alpha_{\chi 0}\right) s_{gh}^{\alpha_{\chi h}-1} s_{gc}^{\alpha_{\chi c}-1} s_{gf}^{\alpha_{\chi f}-1}}{\Gamma\left(\alpha_{\chi h}\right) \Gamma\left(\alpha_{\chi c}\right) \Gamma\left(\alpha_{\chi f}\right)}, \tag{18}$$

where: $\alpha_{\chi 0} \equiv \alpha_{\chi h} + \alpha_{\chi c} + \alpha_{\chi f}$ is the scale parameter of the distribution; this is therefore a three parameter distribution, with the key parameters specified at the product code level. The Dirichlet distribution has some useful properties that make it a natural choice in our setting. First, equation (18) is flexible and accommodates many familiar distributions – including the Bernoulli, uniform, and point mass distributions – as special cases. And the code-level average shares are given analytically by $s_{\chi i} = \alpha_{\chi i}/\alpha_{\chi 0}$ for $i \in \{h, c, f\}$, which means two of the moments of this distribution are immediately pinned down by the observed aggregate source-country shares at the code level.

When working with a particular parameterization of this distribution in our calibration and counterfactuals, we simulate the distribution using 8 million grid points evenly covering the percentiles of the joint CDF; each grid point acts as a hypothetical good in our simulation. We do not need to simulate the expenditure due to an isomorphism between expenditure and variety in our framework. Put another way, we can treat each dollar of expenditure as a unique good; a million dollars of expenditure on a good with a particular combination of sourcing shares is equivalent to a million such goods with one dollar of expenditure each. Thus we can treat $g\left(s_{gh}, s_{gc}, s_{gf}\right)$ as a measure of the expenditure share on goods with a particular $\left(s_{gh}, s_{gc}, s_{gf}\right)$, regardless of how many goods this is divided between.

5.2 Calibration Method

Having settled on a distribution, we next turn to our calibration method. We calibrate the model using the 229 tradable industries in the 2017 US Input-Output Tables as the codes χ. This is the finest level at which we can compute consumption shares using publicly available data, and we cannot calibrate the model without these shares. Our assumptions on the economic framework mean that each code can be calibrated separately.

For each code, we start with a number of parameters which we can calibrate outside the routine. In particular, we estimate the supply and demand elasticities, ω_χ and σ_χ, using the method of Grant (2024) to data aggregated at the code level. This estimates the elasticities based on the Feenstra (1994) method, but allows for within-code heterogeneity across goods. And for our baseline, we will assume that $\gamma_{\chi f} = 0$, namely that the home country does not place weight on surplus that accrues to the third country. We adopt this assumption for theoretical reasons: generally, a government objective function puts a weight on the welfare of trade partners as a consequence of negotiations (see Grossman and Helpman (1995b) and Bagwell and Staiger (1999)). Since the US government is not negotiating with the ROW over the Section 301 tariffs, there is no theoretical reason for this weight to be anything other than 0. That said, we have found that our quantitative results are not particularly sensitive to placing a small positive weight on producer surplus in the rest of the world, such as $\gamma_{\chi f} = 0.81$ as estimated by Adão et al. (2024).

Next, we conjecture a value of the scale of the Dirichlet distribution $\alpha_{\chi 0}$. Given this conjecture, we pick $\alpha_{\chi c}$ and $\alpha_{\chi f}$ to match the observed code-level import shares from China and the ROW using the expressions for the averages of the Dirichlet distribution, i.e. $s_{\chi i} = \alpha_{\chi i}/\alpha_{\chi 0}$ for $i \in \{c, f\}$. For this purpose, we draw information on the US absorption share of domestically-produced goods from the US Input-Output Tables. We combine this data with information about imports to construct the relevant shares from China and the ROW.

With our conjectured value of $\alpha_{\chi 0}$ and the implied $\alpha_{\chi c}$ and $\alpha_{\chi f}$, we then have the full distribution of shares and we are able to calibrate the political weights on domestic producer surplus, λ_χ, and domestic consumer surplus, β_χ. We calibrate these moments jointly using the MFN and Column 2 tariffs. Following Ossa (2014), we treat the Column 2 tariffs as those which would prevail under a trade war scenario in which $\gamma_{\chi c} = \gamma_{\chi f} = 0$. We treat the MFN tariffs as those which would prevail under a cooperative trading scenario in which $\gamma_{\chi c} = \gamma_{\chi f} = 1$. (We show in the Appendix D.3 that our results are robust to setting $\gamma_{\chi c}$ and $\gamma_{\chi f}$ following Adão et al. (2024).) Given these weights on China and the ROW, the FOC for a uniform tariff (15) gives us two different equations in λ_χ and β_χ; in fact, there is an analytical solution for both parameters; we present the equation and its derivation in Appendix D.1.

We next turn to the weight on Chinese profits, $\gamma_{\chi c}$, which we pick to match the Section 301 tariff announced at the code level. In doing this, we must take into account endogenous exclusions. In practice, we search over $\gamma_{\chi c}$; for a given value of $\gamma_{\chi c}$ and the known Section 301 tariff, we are able to find the set of excluded goods (by comparing government payouts under both the Section 301 and MFN tariff levels for each good), and then evaluate the FOC for a tariff with exclusions (17). We adjust $\gamma_{\chi c}$ until this FOC is satisfied.

At this point, we have a full set of parameters given our initial conjecture of the scale parameter of the Dirichlet distribution $\alpha_{\chi 0}$. This permits us to find the set of excluded goods (by comparing government payouts under both the Section 301 and MFN tariff levels for each good), and hence the exclusion share. We choose the $\alpha_{\chi 0}$ which best matches the excluded share at the code level in the data.

5.3 Results: Tariffs with vs without Exclusions

Table 6 summarizes the calibrated parameter values. The mean demand elasticity of 4.26 and inverse supply elasticity of 0.11 fall within conventional ranges, though there is substantial heterogeneity in these key parameters across codes χ. Through the lens of our model, the US government appears to place extra weight on domestic producer interests, with the λ_χ political weight being positive and sizeable across the vast majority of codes. Note that these are political weights attached to domestic producer profits; when suitably rescaled by our model-implied profit share $(\omega_\chi/(1+\omega_\chi))$, this yields weights on domestic firm sales – with a mean weight of 29.7 – comparable to those estimated by Ossa (2014). At the same time, we find too that the US government appears to place positive weight on domestic consumer interests: β_χ is positive across virtually all codes with a mean value of 15.5, although there is less dispersion in these weights than in the λ_χ's for domestic producer interests. On the flip side, the weight on Chinese producer surplus that we infer is decidedly negative in sign with a lot of left skew, which aligns with the stated goal of the Section 301 tariffs to address unfair trade and industrial practices within China that favor their domestic producers in particular industries.

Table 6: Calibrated Parameters

Parameter	Informative moment	Mean	SD	5th pctile	Median	95th pctile
$\alpha_{\chi 0}$	Variance in shares	1.11e5	9.02e5	0.659	335	1.11e5
$\alpha_{\chi c}$	Average Chinese share	6,250	44,600	0.0229	13.2	12,300
$\alpha_{\chi f}$	Average ROW share	30,000	2.67e5	0.100	56.5	18,400
σ_χ	Elasticity of substitution	4.26	3.34	1.01	2.53	9.55
ω_χ	Inverse elasticity supply	0.110	0.139	8.6e-5	0.0355	0.394
λ_χ	Pol. weight home profits	2.79e5	3.09e6	1.05	259	50,500
β_χ	Pol. weight home CS	15.5	45.2	0.972	5.34	57.7
$\gamma_{\chi c}$	Pol. weight Chinese profits	-9,430	80,500	-2,490	-3.52	0.570
$\frac{\lambda_\chi \omega_\chi}{1+\omega_\chi}$	Pol. weight home sales	29.7	102	0.09	2.83	127
$-\beta_\chi \frac{1+\omega_\chi \sigma_\chi}{(1+\omega_\chi)(\sigma_\chi - 1)}$	Pol. weight ln(home sales)	-33.2	-76.6	-0.389	-4.29	-110
$\frac{\gamma_{\chi c} \omega_\chi}{1+\omega_\chi}$	Pol. weight Chinese sales	-0.0842	0.120	-0.242	-0.110	0.133

Notes: Alphas are only summarized for the 68.6

Table 7 confirms that these estimated parameter values help us to achieve a good fit between the model and key data moments. The model reproduces almost exactly the average code-level import share from China and the rest of the world. Likewise the political weights we back out help us to fit well the code-level Column 1 (i.e., MFN), Column 2 and Section 301 tariff rates. Notice that the model slightly under-predicts the share of imports from China granted an exclusion, due largely to the fact that there are many codes χ in the data for which the excluded share is zero.[41]

[41] Note that the difference between the average excluded share here (0.0558) and the figure presented in Section 2 of the paper is due to weighting – the figure presented here is an unweighted average across codes, while the figure in Section 2 is weighted by Chinese import value.

Table 7: Model Fit

Measure	Data mean	Model mean
Chinese share	0.0731	0.731
Row share	0.186	0.186
Column 1 tariff	0.0219	0.0219
Column 2 tariff	0.303	0.304
Trump Tariff (addt'l)	0.214	0.216
Exempted Share	0.0558	0.0552

Notes: Means across codes χ are reported.

5.4 Results: Tariffs with vs without Exclusions

We now use the calibrated model to perform a series of exercises, to compare tariff rates and welfare under different trade policy setting scenarios. We first compute the model-implied tariff rates, code-by-code; Table 8 summarizes the results from this exercise. The first row considers the prevailing tariff policy regime, namely one in which tariff rates are announced at the code level, and a process through which firms can apply for an exclusion is also put in place. The mean tariff rate across codes we obtain is 21.6% (which we report throughout this table as the additional tariff above the MFN rate). This 21.6% is essentially the observed average Section 301 tariff rate that the US announced on imports from China, which we have targeted as part of our calibration procedure.

Table 8: Tariff Effect of Exclusions

Measure	Statutory average	Applied average	Statutory SD
Addt'l exclusion tariff	0.216	0.213	0.0692
Addt'l uniform tariff	0.206	0.206	0.0594
Welfare max. uniform tariff (addt'l)	0.0771	0.0771	0.110

Notes: All tariffs are in addition to MFN tariffs.

The second row of Table 8 reports on the key counterfactual policy scenario of interest, namely where a uniform tariff is set across all goods within a code, without any provision for exclusions. The results here confirm that the average tariff would be slightly lower at 20.6%: the home-country government introduces a smaller tariff distortion under this case where it has committed not to consider any requests from domestic importers for exclusions. Put otherwise, under the factual policy of tariffs with exclusions, the higher tariff rate of 21.6% implies a larger distortion on non-excluded goods. By way of comparison, the final row reports the mean additional tariff (above MFN) that would be set under a social welfare-maximizing planner. When summed with the underlying MFN tariff rate, this would yield the tariff rate set under the classical optimal tariff formula, in which the planner maximizes an unweighted sum of domestic producer surplus, consumer surplus, and tariff revenue. When optimizing an objective function that is not politically-weighted, the mean additional tariff rate is much lower at 7.7%, underscoring the substantial welfare distortion that is created by the Section 301 tariffs on China (regardless of whether or not the government makes provisions for exclusions).

What are the ensuing implications for welfare from adopting a policy of tariffs with exclusions? In what follows, we will evaluate welfare from the perspective of a dispassionate social planner who does not place extra weight on domestic producer or consumer interests; in other words, we will compute welfare using equation (12) sans political weights (i.e., setting $\lambda_\chi = \beta_\chi = 1$ and $\gamma_{\chi f} = \gamma_{\chi c} = 0$ for all codes). Recall that exclusions are relevant in this setting due to heterogeneity across goods within a code, specifically in the extent of importers' reliance on goods from China; this is private information that the importer would reveal to the government if it chooses to submit an application for an exclusion. The first column in Table 9 reports our model-based welfare evaluation of this policy of tariffs with exclusions, compared to a baseline world with just MFN tariffs in place (note that all of our figures are annualized). The additional welfare cost of a policy setup of tariffs with exclusions amounts to \$2.00 billion.[42] On the other hand, a uniform tariff policy without scope for exclusions (second column) yields a welfare cost relative to MFN of \$1.68 billion. The system with exclusions thus raises the welfare loss of the additional tariffs by about 19%. Even though excluded goods are spared from the additional tariff burden, we find that this effect is quantitatively dominated by the higher tariff distortion on non-excluded goods and the tariff revenue foregone on excluded goods. This then represents a "hidden" welfare cost of a system of tariffs with exclusions. While it might initially appear that having an additional policy instrument (i.e., exclusions) that lowers tariff distortions would be welfare-improving, this turns out not to be true in the context of the US' Section 301 tariffs on China once one takes into account that the tariffs announced by a strategic home government would be endogenously higher (or would be applied to more HTS 10-digit product codes). There is thus ample room to be concerned about the welfare effects of tariffs with exclusions from a pure policy design perspective, even without appealing to other considerations related to the potential for rent-seeking or institutionalized favoritism.

A natural question arises when comparing Table 9 and Table 8: why is the change in welfare costs (19% in relative terms) so much larger than the change in tariff levels (3% in relative terms) when the government is able to use exclusions? We show in Appendix D.2 that the reason for the apparent discrepancy is that the welfare maximizing tariff is far from zero (as shown in Table 8). Therefore, constructing Harberger Triangles based on the distance between the tariff and 0 does not give an accurate measure of the welfare distortion, and so the proportional change in the tariff is not revealing about the proportional change in welfare. Instead, Harberger Triangles should be constructed relative to the welfare maximizing tariff. In terms of distance away from the welfare maximizing tariff, the change in the tariff is substantially larger than it appears, while

[42] This number is somewhat lower than some estimates in the literature such as Amiti et al. (2019b), who found the tariffs costs the US roughly \$1.4 billion each month, for an annualized cost of \$16.8 billion. The difference is that Amiti et al. (2019b) find that the full incidence was born by consumers (perhaps due to the short-run nature of their empirical exercise). If we calibrate our model but set all of our ω_χ to (nearly) zero, we obtain a similar aggregate annual welfare cost of the tariffs (\$12.24 billion) and a similar absolute welfare effect of exclusions to our baseline (\$160 million). This is a substantially smaller change in the welfare cost of the tariffs due to the larger denominator. Full details are provided in Appendix D.4.

the impact on the welfare cost relative to the welfare maximizing tariff is smaller than the welfare cost relative to the MFN cost.

Table 9: Welfare with vs without Exclusions

Measure	MFN - w/ Exclusions ($bn)	MFN - Uniform ($bn)	(MFN-Exclusions) /(MFN-Uniform)
Welfare cost	2.00	1.68	1.19
Fall in π_c	9.40	9.66	0.974

Notes: Based on the social welfare function without political weights, i.e., equation (12) with $\lambda_\chi = 1$ and $\gamma_{\chi c} = \gamma_{\chi f} = 0$.

A caveat to the above analysis is that it does not consider possible adjustments on China's end in its retaliatory tariff actions. It is possible, for example, that the exclusions might soften the impact on Chinese firms and hence on China's retaliatory response to the Section 301 tariffs. Toward this end, Table 9 further evaluates the impact that the two tariff policy regimes have on aggregate Chinese producer profits, $\pi_c = \sum_\chi \sum_{g \in \chi} \pi_{gc}$ (see second row). The hit to these Chinese producer profits is cushioned slightly when the US government permits some Chinese goods to be excluded from the Section 301 tariffs (π_c falls by \$9.40 billion), compared to the counterfactual policy with no exclusions (π_c falls \$9.66 billion). However, this difference is relatively small – the policy with exclusions mitigates just 2.6% of the loss in Chinese profits (relative to the MFN world) – which suggests that any changes in China's retaliatory tariff actions are likely too to be muted.

Table 10 simulates a series of counterfactuals that shed light on the role played by the political weights in the government's objective function in shaping the average tariff that would be announced and the subsequent welfare costs incurred. The first row reproduces the baseline policy scenario of tariffs with exclusions, using the political weights that have been calibrated code-by-code as reported earlier in Table 6. (Note that the average tariff of 23.8% reported here now includes the underlying MFN tariff.) The second row considers a scenario with no lobbying for either producers or consumers (setting $\lambda_\chi = \beta_\chi = 1$ for all codes). However, tariffs, still reflect a terms-of-trade manipulation and a desire to hurt Chinese suppliers. This yields a fall in the tariff rate and a dramatic decrease in the excluded share. The tariffs actually raise US welfare, but consistent with the tiny exclusion share the presence of exclusions does not change the welfare effects. The third row then considers a scenario in which we take out any extra political motivation to favor the interests of domestic users and consumers (setting $\beta_\chi = 1$ for all codes). Not surprisingly, the Section 301 tariffs against China would now be set at a much higher rate, which significantly magnifies the associated welfare costs relative to a world with just MFN tariffs. Absent considerations related to the welfare accruing to domestic consumers, the incentive to protect domestic producers while curtailing Chinese firms is so strong that it would result in a much higher tariff distortion and welfare loss. However, the excluded share is similarly tiny, and the ability to use exclusions or not has little effect on the welfare cost of the tariffs. These results suggest that the weight placed on domestic consumer surplus is key to the government's use of the exclusion process..

Table 10: Counterfactual welfare effect of exclusions

Counterfactual	Avg. tariff w/ exclusions	Avg. tariff w/out exclusions	Excluded share	Welf. w/exclusions - welf. MFN ($bn)	Welf. w/out exclusions - welf. MFN ($bn)
Baseline tariffs w/exclusions	0.238	0.228	0.0552	2.00	1.68
No lobbying tariffs w/exclusions	0.182	0.182	0.0019	-1.00	-1.00
No counter lobbying tariffs w/exclusions	0.820	0.820	0.0017	55.9	55.9

Notes: These counterfactuals do not account for possible retaliatory tariffs.

6 Conclusion

At the time of their announcement, the Section 301 tariffs levied by the first Trump administration were unprecedented in the scope with which they targeted a broad swathe of imports originating from a single country. We have documented in this paper how a substantial share (15.8%) of these imports from China were ultimately excluded from this tariff action; these exclusions thus merit close analysis for a full accounting of the impact of the US-China trade war.

These Section 301 exclusions were the outcome of an extensive application and review process, through which the USTR elicited key information from affected companies – on their dependence on China for key goods, and on the material impact from the tariff burden – before granting selective carveouts on detailed goods within tariff codes. While these exclusions *de facto* fine tuned the tariffs, we have advanced the case in this paper that their overall welfare impact is much more subtle: Under a system of "tariffs with exclusions", a policymaker would optimally announce a higher tariff anticipating that it will then exempt some goods after reviewing the information submitted; this higher initial tariff distortion and the tariff revenue foregone would then have to be weighed against the benefit of exempting some importing firms from facing the tariff. In order to fully appraise the welfare consequences of this trade policy design, we developed a model of "exclusions for sale" with heterogeneous goods within tariff codes, that can nevertheless be calibrated with code-level data moments. We implement such a calibration in the setting of the Section 301 tariffs, and show quantitatively that the higher initial tariff distortion under a policy of "tariffs with exclusions" indeed exacerbates the welfare cost relative to a counterfactual policy of "tariffs without exclusions". This points to a hidden welfare cost of a policy design that was ostensibly intended to mitigate the economic harm for users of imported goods that would be most exposed to the announced tariffs. It moreover raises concerns with the welfare costs of what appears (to this point) to be the trade policy approach of the second Trump administration, to announce high tariffs on a broad brush of products and origin countries, while opening the possibility of discretionary exemptions ex post.

Beyond the context of the Section 301 tariffs, this intuition that "more policy instruments does not mean better outcomes" has potential relevance in other public policy domains, such as environmental policy, where governments often have multiple instruments to choose from. Even though each policy instrument may be welfare-enhancing when used individually, the joint determination of the policies in equilibrium can generate interactions with unintended consequences: this may create incentives to use one instrument so intensively, that it creates a sufficiently large initial distortion that other policy instruments cannot undo.

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Appendix

A Exclusions to the Trump Tariffs

A.1 Additional Details of USTR Tariff Exclusion Data

USTR accepted exclusion requests for Lists 1 and 2 through Regulations.gov. As officials noted that using Regulations.gov posed challenges since staff had to manually post each exclusion request and enter the submitter's data into USTR's internal platform, an online portal is later developed to accept and process exclusion requests electronically for Lists 3 and 4. The online portal contained an electronic filing system to receive exclusion requests and public comments, and automated the posting of requests to an internal database. (GAO, 2021) We webscrape data on tariff exclusion requests from these two sources.

For Lists 3 and 4, on USTR online portal, several pieces of information are readily available: (i) requester's name, (ii) the date when the USTR received the application, (iii) 10 digit HTSUS code and product description for the product under request, (iv) request outcome; (v) type of product (final product or input); (vi) whether the product or a comparable product is available from sources in the US; (vii) whether the product or a comparable product is available from third countries; (viii) whether the request is filed by a representative; and (ix) public comments related to different exclusion requests, as well as commenter position (support or oppose) and commenter relationship (such as state or local official). For Lists 1 and 2, there is no digitized data for items (v)-(viii). We therefore downloaded all application files and public comments (either in PDF or in text format) from Regulations.gov. From these files, we first scraped the information (v)-(viii) by a computer, which is then manually cross-checked by a research assistant.[43] For information (ix), two research assistants read the text of each comment and inferred whether the commenter support or oppose the request, and whether the comment is another firm, or a Member of Congress, or a state/local official. For all lists, we exclude the applicants' own comments.[44]

In the USTR dataset, there are firms that submit a large number of requests for tariff exclusions. The top five firms are *AEP Holdings, Inc.* (10,221 requests), *Milwaukee Electric Tool Corporation* (1,400 requests) *Prime-Line Products, LLC* (1,397 requests), *Romaine Electric Corp*

[43] Occasionally, for some requesters, there is no application form posted on Regulations.gov. For these cases, we read through other application materials and extract the relevant information whenever possible. Most application forms for List 1 contains no information on (v) type of product (final product or input). We therefore don't include this variable for the baseline analysis. In the end, we extract the relevant information for 99.2 percent of requests in Lists 1 and 2.

[44] Applicants submit own comments usually for the purpose of furnishing additional information in support of the request or rebutting the comments made by other parties.

(1,042 requests), and *ECM Industries LLC* (654 requests). Our findings remain robust to the exclusion of these firms from the sample.

We also downloaded the reply letter (in PDF) from the USTR for each application.[45] For the application for which the tariff exclusion request was denied, we scraped the information of reasons for request denials, which include: (i) request failed to show that the particular product is available only from China; (ii) the request failed to show that the imposition of additional duties on the particular product would cause severe economic harm to the requester or other US interests; (iii) the request concerns a product strategically important or related to "Made in China 2025" or other Chinese industrial program; (iv) the request would undermine the objective of the Section 301 investigation, and (v) the request did not contain a sufficient product identification or was determined to be non-administrable. These reasons of denial are not mutually exclusive. Table 4 reports the share of requests that are denied due to different reasons. The most common reason is (ii), followed by (i). We also gather information on the date of rely from the letters. Alongside the information regarding the date of application received by the USTR, we compute the length of processing time for each request. As shown in Table A.1, for an average request, the USTR took 230 days to reach a tariff exclusion decision. Additionally, granted requests had a longer processing time than denied ones (287 days versus 222 days).

A.2 Linking Data from LobbyView.org, OpenSecrets.org, and Orbis

We link lobbying records (from LobbyView.org) to firms that submitted requests to USTR. Since there is no common firm ID codes that link firms across datasets, we conducted fuzzy merges based on firm names based on the following procedure. (a) We conduct fuzzy merge between USTR and LobbyView datasets based on firm names. This is done by two different Stata commands *reclink* and *matchit*. For each matching method, we pick two potential matches with the highest matching scores. For each firm in USTR dataset, there are up to 4 potential matches. (b) One author and two research assistants separately scan through the potential matches for each firm and flag the correct matches. The matches done manually are then cross-checked to ensure the matching quality. Around 10% of the firms in USTR dataset have a least one lobbying record, which is consistent with the findings in the literature. For example, Huneeus and Kim (2021) show that 766 of 7,646 US public firms engaged in lobbying in 2017. We identify a firm engaging in lobbying for trade-related issues during given period if any of its lobbying records are associated with issue codes TRD (i.e., Trade - Domestic & Foreign) or TAR (i.e., Miscellaneous Tariff Bills).

We then match contribution records of the 2017-18 and 2019-20 election cycles (from OpenSe-

[45] The USTR reply letters are unavailable for 63 applications, comprising 48 for List 1, 2 for List 2, and 13 for List 3.

crets.org) to firms in our dataset. Each contribution record at the individual level details the donation date, donor name, type, amount, recipient (candidates or PACs), donor's address, employer, and occupation. We aggregate the individual donations to the firm level based on the donor's disclosed employer from electronic filing.[46] For each election cycle, we then construct a crosswalk across firms in USTR and campaign contribution data based on the same matching procedure described above. The crosswalks later allow us to link various measures of political donations (such as total campaign contributions, campaign contributions to Democrats, and campaign contributions to Republicans) to firms in the USTR dataset.[47] For the purpose of analysis, the campaign contribution data is aggregated to the quarterly level.

Over the period of Q1/2018-Q2/2020, the total expenditure on lobbying by the firms in our sample is $592 millions. On average, the expenditure per firm is around $124,000.[48] For campaign contributions, employees/owners of the firms in our sample gave $24.9 million over the period Q1/2018-Q2/2020. On average, each firm donated $5,300. Consistent with the findings in the extant literature, the campaign contribution is dwarfed by the lobbying expenditure. (See Bombardini and Trebbi (2020).)

A.3 A Surge in Lobbying for Trade Issues During the US-China Trade War

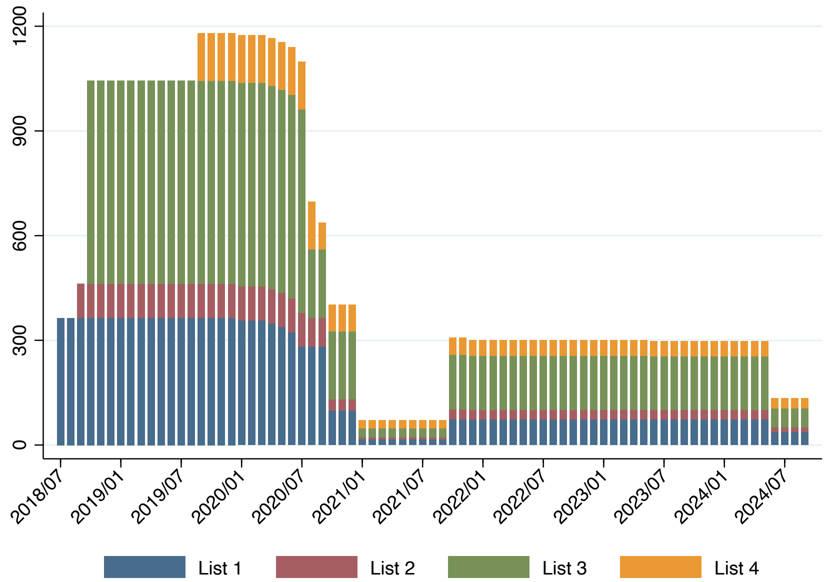
As is revealed by the blue line in Panel A of Figure A.2, starting in the early 2018, the number of reports related to the trade issues rises steadily. This is not simply driven by the growth of the lobbying activities across the board. Specifically, the number of trade-related lobbying reports surged by 436 over 2018:Q1 to 2019:Q4, which contributes to 93% of the increase in the total number of reports over the same period. The blue line in Panel B shows the number of firms and associations lobbying for trade related issues over time. It indicates that there are more firms engaging in lobbying activities during the trade war.

[46]The contribution records of the retired, self-employed, unemployed, and students are therefore excluded from the data.

[47]Specifically, we trace the donations by an individual to different parties based on the information of recipient. It is straightforward to identify the party of recipient if the donation is directly to a candidate. For the donations given to PACs, we count them as given to Democrats (respectively, Republicans) if the PAC has a positive donation to Democratic (respectively, Republican) candidates during the election cycle.

[48]The total federal lobbying spending is $3.42, $3.47, and $3.53 billion in 2018, 2019 and 2020, respectively.

Figure A.1: Count of HS10 Codes with Tariff Exclusion



Notes: For each exclusion, we identify the starting month as the nearest full month to the actual exclusion date, using the 15th of the month as the cutoff. If there are varying starting months for different products within a specific HS10 code, we consider the earliest month as the starting month for the HS10 code. Analogously, for each exclusion, we identify the expiration month as the nearest full month to the actual exclusion date, using the 15th of the month as the cutoff. In the case of varying expiration months for different products within a specific HS10 code, we consider the latest month as the expiration month for the HS10 code. This figure illustrates the monthly count of HS10 codes with tariff exclusions.

Figure A.2: Trends of Lobbying Activities Over Time

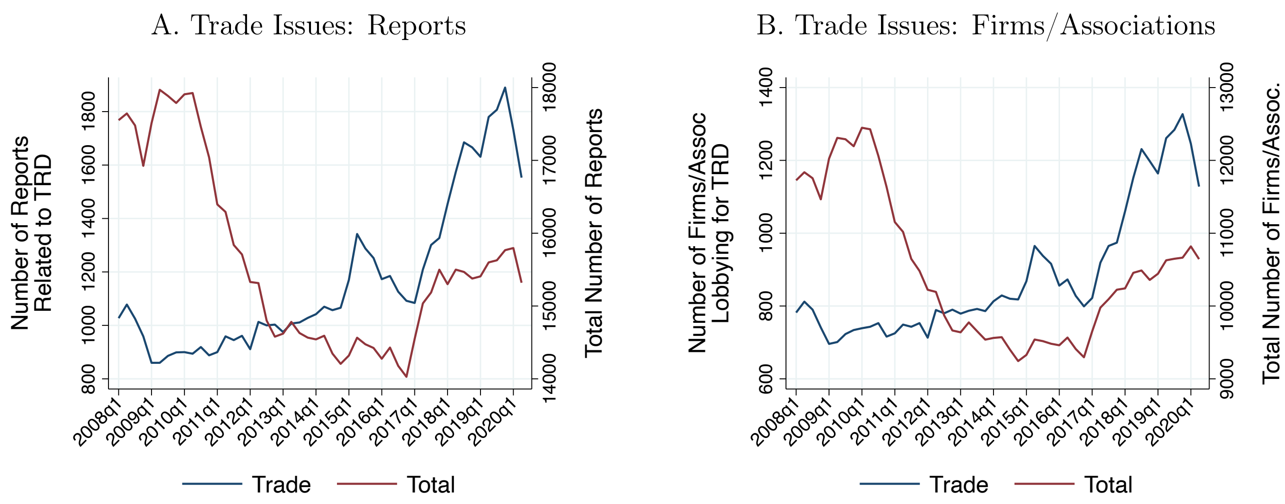


Table A.1: Processing Time for Tariff Exclusion Request

	All	List 1	List 2	List 3	List 4
Application Outcome: All	230.302	255.050	299.992	210.771	244.532
	(67.356)	(94.883)	(63.169)	(55.414)	(20.993)
Application Outcome: Granted= 0	221.960	231.936	269.490	209.650	246.132
	(58.713)	(85.383)	(57.219)	(54.222)	(15.155)
Application Outcome: Granted= 1	286.708	300.489	350.088	232.325	221.703
	(90.851)	(96.209)	(33.606)	(71.399)	(53.846)

Notes: The USTR reply letters are unavailable for 63 applications, comprising 48 for List 1, 2 for List 2, and 13 for List 3.

B Additional Empirical Results

B.1 Effects of Tariff Exclusion on Imports

Using the Monthly International Trade Datasets (MITD) published in the US Census, we visualize the effects of the tariff exclusion based on an event-study at the HS 10-digit level. The exclusion granted and the extension status at the product level are publicized in the Federal Register available from USTR.gov. More specifically, we compare the trends of excluded HS 10-digit products with the products in the same HS 6-digit categories (i.e., control group) that are not exempted by estimating the following specification:

$$\ln(1 + Imp_{kt}^{CHN}) = \sum_{\tau=-4}^{\tau=4} \alpha_\tau \mathbf{1}(event_{kt} = \tau) + \sum_{\tau=-4}^{\tau=4} \beta_\tau \mathbf{1}(event_{kt} = \tau) \times excl_k + D_k + D_{Kt} + \varepsilon_{kt}, \tag{B.1}$$

where Imp_{kt}^{CHN} measures imports of product k from China in month t. This specification includes HS 10-digit product fixed effects (D_k) and HS section-time fixed effects (D_{Kt}). As the exclusions granted are often more specific than the corresponding HS 10-digit code, we define the dummy variable $excl_k$ equalling to one if the 10-digit product receives at least a partial exclusion and zero otherwise.

We conduct two event studies. The time windows of the first event study center around the publication dates of the notice of tariff exclusions for different products. Hence, the event date of excluded products is the nearest full month following the corresponding publication date of the notice.[49] For all other non-excluded products, we assign the event date to be the earliest event date of an excluded product within the same HS 8-digit code. If an non-excluded product does not share the same HS 8-digit code as any excluded products, we sequentially use HS 6-digit codes. So the control group consists of the non-excluded products in the same HS 6-digit categories with the

[49] We use the mid of the month as the cutoff date.

excluded products. Note that the tariff exclusion if granted is retroactively applied—importers may seek refunds for tariffs paid on imports that entered the country after the date when the punitive tariff was imposed. The detected effects on imports reflect the extent to which the tariff exclusions are expected. If importers foresee the request outcomes, imports of the treated products should increase before the exclusion is granted.

For the second event study, we focus on the responses around the expiration date of tariff exclusion. For the excluded products, the event date is the nearest month of the corresponding expiration date. For all other non-excluded products, we assign the event date to be the lastet event date of an excluded product within the same HS 8-digit code. If an non-excluded product does not share the same HS 8-digit code as any excluded products, we sequentially use HS 6-digit codes. The effective duty rate should immediately reverts to the pre-exclusion level when the tariff exclusion expire, and imports would respond accordingly.

Figure B.1 reports the results for the two event studies. The analysis is conducted around a 9-month window surrounding the event. As is shown in Panel A, imports from China surged after the tariff exclusion is granted, and there is no discernible anticipatory effect. As is revealed by Panels B, the reaction of imports after the expiration of tariff exclusion is in the opposite direction. It is also notable the responses to the two events are of similar magnitude.

Table B.1 reports the estimation results for the more concise specification:

$$\ln(1 + Imp_{kt}^{CHN}) = \alpha PostEvent_{kt} + \beta PostEvent_{kt} \times excl_k + D_k + D_{Kt} + \varepsilon_{kt},$$

where $PostEvent_{kt}$ is an indicator variable equalling to 1 if t is larger or equal to the event date of product k. We find that the imports from China increased by 17.9% on average after the product receiving tariff exclusion (column 1), while declines by 13.4% after the exclusion is expired (column 3). The even columns in the table confirms the robustness of the findings when the dependent variable is replaced by the inverse hyperbolic sine transformation of Imp_{kt}^{CHN}.

B.2 Event Study: Lobbying Activities around the Announcement of Tariff Actions

Using an event study framework, we explore whether the firms that request for tariff exclusion are more likely to engage in lobbying when tariff actions against China are announced by the Trump administration. Specifically, we use the lobbying data at the quarterly level and estimate the following equation:

$$y_{ft} = \sum_{\tau=-5}^{\tau=5} \delta_\tau FirstTariffExposure_{f,t-\tau} + D_f + D_t + \varepsilon_{it}, \tag{B.2}$$

where y_{ft} denotes different measures of firm f's lobbying activities in quarter t. For each firm f, we identify the timing of its first exposure to the US tariff actions. Specifically, we have information on the Tariff List (i.e., List 1, List 2, List 3, or List 4) that covers the particular product of a firm's first tariff exclusion request. $FirstTariffExposure_{i,t-\tau}$ is an indicator variable equals to 1 if firm f in time t is τ quarters away from the announcement date of proposed tariff actions corresponding to this Tariff List.[50] The specification also includes firm fixed effects D_i and year-quarter fixed effects D_t. The latter controls for the common factors that influence lobbying participation, such as the time distance to the 2018 midterm election. Standard errors are clustered at the firm level.

Figure B.2 reports the event time coefficients for lobbying activities. The coefficient β_{-1} is normalized to be zero, so that δ_τ captures the change in lobbying intensity in quarter τ relative to the quarter just before the firms' first exposure to the US tariff actions. We find significant increases in lobbying activities for trade-related issues (Panel A) after firms learning their exposure. The response gets more pronounced during the first four quarters after the tariff announcement, and becomes stable afterwards. The coefficients for periods $\tau < -1$ are economically and statistically insignificant, which lends support to causal interpretation of our findings. As a placebo test, Panel B shows that there is no discernible response for lobbying activities on issues unrelated to trade.

B.3 Robustness: Lobbying and Information Provision

B.3.1 Controlling for Campaign Contributions

Table B.2 augments the empirical model in Column (4) of Table 3 with controls of campaign contributions. In Column (1), $CampaignContribution_{f,17Q1-20Q2} > 0$ represents a binary variable that equals to 1 if firm f made any campaign contribution over the 2017-18 and 2019-20 election cycles. The estimate indicates that making to a campaign donation is negatively associated with the likelihood of approval. We further break down $CampaignContribution_{f,17Q1-20Q2} > 0$ into two components—whether the firm made any campaign contribution to Republican (respectively, Democratic) candidates, $CampaignContribution_{f,17Q1-20Q2} : GOP > 0$ (respectively, $CampaignContribution_{f,17Q1-20Q2} : DEM > 0$). As is revealed in Column (2), the negative coefficient for $CampaignContribution_{f,17Q1-20Q2} > 0$ detected in Column (1) is driven by donations

[50] The announcement dates of proposed tariff actions made by USTR for List 1, List 2, List 3 and List 4 are, respectively, 3/Apr/2018, 3/Apr/2018, 10/Jul/2018 and 17/May/2019. (https://www.china-briefing.com/news/the-us-china-trade-war-a-timeline/) We assign the event date of the announcements to be the nearest full quarter to the actual event date, using the mid of the quarter as the cutoff date.

to Democrats, whereas donations to Republicans exhibit a positive correlation with the likelihood of a request being granted. Columns (3) and (4) replace the binary measures of campaign contributions with the corresponding continuous measures: $\ln(1 + CampaignContribution)_{f,17Q1-20Q2}$, $\ln(1 + CampaignContribution)_{f,17Q1-20Q2} : GOP$ and $\ln(1 + CampaignContribution)_{f,17Q1-20Q2} : DEM$. Aligned with Column (2), Column (4) also finds contrasting effects of campaign contributions to the party in power (i.e., GOP) compared to contributions to the opposition party (i.e., DEM). More importantly, the estimated effects of informational variables remain stable after accounting for the quid pro quo aspects of political spending.

B.3.2 Alternative Specifications and Measurements

Table B.3 performs a series of robustness checks. In Columns (1) and (2), we explore alternative specifications by replacing the 6-digit HS fixed effects with 4-digit and 10-digit fixed effects, respectively. Despite leveraging different underlying data variations for identification purposes, the obtained estimates remain largely unchanged. In Column (3), fixed effects for each firm's state of location are included to account for state-specific factors simultaneously affecting lobbying returns and request outcomes. Again, the estimation results remain similar.

Our baseline analysis relates the request outcomes to firms' lobbying records from Q1/2018 to Q2/2022. There is a concern that this wide time window may contain lobbying activities that are not pertinent to a particular tariff exclusion request, despite being related to trade issues. To tackle this issue, we consider an alternative measure of lobbying activities that focuses on a narrower time frame around the tariff exclusion request action, which is constructed as follows. Firstly, for each application, we identify the Tariff List to which the product under request belongs and the date of the Federal Register notice of action for tariff exclusion specific to this list. [51] Secondly, we measure the lobbying activities within a four-quarter time window $q = -1, 0, 1, 2$, where q denotes the number of quarters from the date of the notice of action. Lastly, the measure $LobbyTRD_{f,q=-1,0,1,2}$ is a binary variable indicating whether firm f lobbied for trade related issues within this time window. As is shown in Column (4), this alternative measure has little bearing on our results. Column (5) employs a refined measure that captures the lobbying activities targeting issues related to the Section 301 tariffs, and finds a statistically similar effect of lobbying.[52] In Column (6), we adopt a more continuous measure of lobbying activities and find consistent results.

Columns (7) and (8) conduct the analysis separately for the requests in Lists 1 and 2, and those in Lists 3 and 4. The estimated effects of the informational variables are larger in magnitude for

[51] The dates of Federal Register notice of action for List 1, List 2, List 3 and List 4 are, respectively, 11/Jul/2018, 18/Sep/2018, 24/Jun/2019 and 24/Oct/2019.

[52] Specifically, we label a lobbying record as related to Section 301 tariffs, if there is any mention of them in the issue text of the lobbying report.

the first two lists. For instance, lobbying for trade-related issue is associated with a 15.4% increase in the likelihood of approval for Lists 1 and 2, compared to a 7.5% increase for Lists 3 and 4. This finding aligns with the expansion of USTR staffing and the enhanced review process for Lists 3 and 4, potentially reducing its reliance on information channels such as lobbying for decision-making.[53] In Column (9), we exclude the top 5 firms with the highest number of tariff exclusion requests, and ensure that our baseline findings are not driven by these outliers.

B.4 IV for Lobbying

The OLS estimates of the lobbying effects may be biased in specification (2) due to the various endogeneity problems. For example, firms might be more likely to participate in lobbying if the ex-ante probability of the tariff exclusion request being granted is low. This issue of reversed causality leads to a downward bias in the estimation of the lobbying coefficient β_1. To address the concern, we adopt an instrumental variables (IV) strategy. Specifically, we propose two distinct IVs with variations deriving from different exogenous factors.

The first instrument $LobbyOtherFirms_f$ is constructed as follows:

$$LobbyOtherFirms_f = \frac{1}{N_f} \sum_{i \in \Omega_f} \sum_{\kappa} \mathbf{1}(k(i) \in \kappa) ShareLobbyTRD_{\kappa,-f},$$

where Ω_f denotes the set of requests submitted by firm f, and N_f is total number of requests from the firm; $\mathbf{1}(k(i) \in \kappa)$ is an indicator variable if the product involved in request i, $k(i)$ belongs to the 6-digit HS product κ; $ShareLobbyTRD_{\kappa,-f}$ is the share of other requests (i.e., excluding ones submitted by f) associated with κ that are filed by firms lobbying for trade related issues over the period 2018/Q1-2020/Q2. $LobbyOtherFirms_f$ takes a larger value if the firm's requests involve more products that are the potential lobbying targets of other firms.

The idea underlying the instrument is that firms may free ride other firms' lobbying efforts on tariff exclusions of similar products. Therefore, it is expected that a larger value of LobbyOtherFirms$_f$ is associated with a lower probability of lobbying for trade related issues. One potential concern is that lobbying efforts from other firms seeking tariff exclusions of products within the same 6-digit HS code κ may provide information on tariff distortions that are also relevant for the particular product $k(i) \in \kappa$. In such a scenario, the instrument could directly influence the request outcome for $k(i)$, thereby violating the exclusion restriction. It is important

[53] For Lists 1 and 2, five or six attorneys from the Office of General Counsel conducted the substantive review of over 14,000 exclusion requests and provided the initial recommendation for each request's approval or denial. For Lists 3 and 4, USTR increased its staffing and further developed its review process which involved two initial reviewers who exam the case files, up to three tariff classification experts to draft a product carveout, and the the Office of General Counsel to review recommendations. **?**

to note, however, that our baseline specification incorporates 6-digit HS fixed effects, which effectively account for the information provision from lobbying activities specific to κ. Therefore, the residual variation of $LobbyOtherFirms_f$ for each request ifk arises from the lobbying intensities of other firms linked to products outside the scope of κ.[54] Our identification assumption is that lobbying activities by other firms on unrelated products only affect the approval probability for $k(i)$ through the channel of lobbying that provides ifk-specific information on tariff distortions.

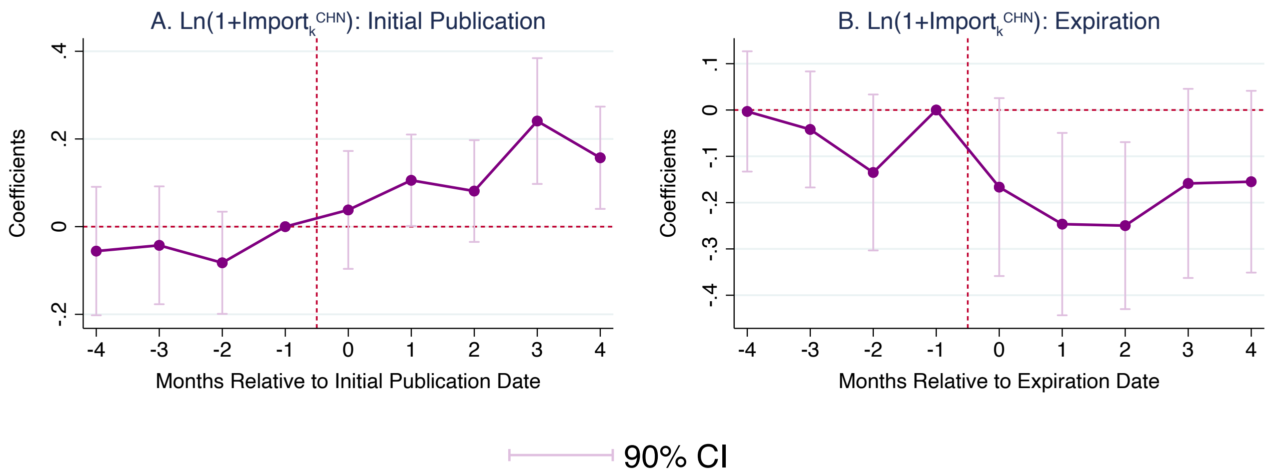
The second instrument $Lobbied\ NonTRD_f$ is a dummy variable equals to 1 if the firm ever engaged in lobbying for non-trade issues in the pre-trade war period, i.e., 1999-2017. As is shown in Kerr et al. (2014), the existence of fixed cost of entry to lobbying affects how firms respond to policy changes in a political environment. It is arguable that pre-determined lobbying experiences on non-trade issues may reduce the upfront costs such as initial costs of hiring a lobbyist which makes firms more likely to participate in lobbying during the USTR tariff exclusion process, while it may not have a direct effect on the request outcome.

In the data, the correlation between $LobbyOtherFirms_f$ and $Lobbied\ NonTRD_f$ is only 0.035. Given that the two instruments leverage different sources of variation, one would expect that if the exclusion restrictions do not hold, these two IV strategies would produce different estimates. This intuition can also be formalized by performing a standard Hansen-J overidentification test.

Panel A of Table B.4 presents the IV estimates. In Column (1), we employ $LobbyOtherFirms_f$ as an instrument for $LobbyTRD_{f,18Q1-20Q2}$ and find that lobbying for trade-related matters during the USTR tariff exclusion process enhances the approval probability by 16%. In Column (2), we replace the instrumental variable with $Lobbied\ NonTRD_f$ and obtain a statistically similar estimate of 14.1%. Compared to the corresponding specification in Column (4) of Table 3, the IV estimates are larger in magnitude than their OLS counterparts, although the differences are statistically insignificant. Panel B reports the corresponding first-stage estimation results. In line with our hypotheses, $LobbyTRD_{f,18Q1-20Q2}$ exhibits a negative impact on the likelihood of lobbying, whereas the effect of $Lobbied\ NonTRD_f$ is positive. The bottom panel of the table shows the overall strength of the first-stage as indicated by the Kleibergen-Paap F-statistics; these are in excess of the 10% Stock-Yogo critical value, confirming the relevance of both instruments. We instrument $LobbyTRD_{f,18Q1-20Q2}$ with both IVs. Unsurprisingly, given the similarity of in the estimates in Columns (1) and (2), the overidentification test passes easily, with a p-value of 0.812. This finding lends supports to the credibility of our IV strategy.

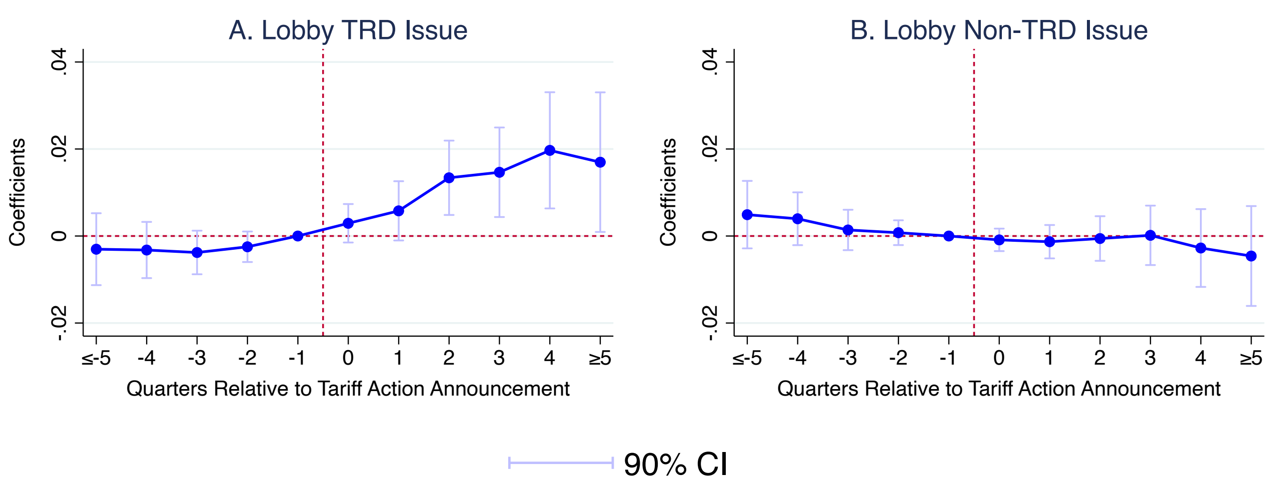
[54]For example, consider a firm that seeks tariff exclusions for products that belong to κ_1 and κ_2. The lobbying intensity of other firms regarding κ_2 is high, while it is zero for κ_1. If κ_2 takes large weight in the firm's product portfolio, the firm is less likely to engage lobbying itself due to the free-riding incentive. From the perspective of requests pertaining to κ_1, this could be an exogenous factor influencing lobbying and information transmission.

Figure B.1: Event Study: Effective Duty and Imports from China



Notes: The figure plots the estimated coefficients $\hat{\beta}_{\tau}$ in equation (B.1). The time window of the event studies in Panel A centers around the publication dates of the notice of production exclusions. The time window of the event studies in Panel B is around the expiration dates of production exclusions. Standard errors are clustered at the 2-digit HS level. Error bars show 90% confidence intervals.

Figure B.2: Event Study: Tariff Exclusion Request and Lobbying Activities



Notes: The figure plots the coefficients in equation (B.2), with the dependent variable being a dummy variable indicating whether the firm lobby for trade issues in Panel A, and a dummy variable indicating whether the firm lobby for other issues in Panel B. Standard errors are clustered at the firm level. For each firm, we identify the Tariff List of its first tariff exclusion request, and the X-axis variable is the number of quarters away from the quarter corresponding to the announcement date of tariff actions specific to this Tariff List. Event periods ≤ -5 are binned, and event periods ≥ 5 are binned. Error bars show 90% confidence intervals. Sample period is 2017:Q1 to 2020:Q2.

Table B.1: The Impacts of Tariff Exclusion on Imports from China

	(1) OLS	(2) OLS	(3) OLS	(4) OLS
During Exclusion$_{kt}$	-0.0066	-0.0106		
	(0.0588)	(0.0620)		
During Exclusion$_{kt}$×Excl$_k$	0.1790***	0.1873***		
	(0.0479)	(0.0506)		
After Expiration$_{kt}$			-0.0229	-0.0223
			(0.0593)	(0.0624)
After Expiration$_{kt}$×Excl$_k$			-0.1338*	-0.1373*
			(0.0698)	(0.0728)
Event	int. pub.	int. pub.	expiration	expiration
Time window	[-4,4]	[-4,4]	[-4,4]	[-4,4]
HS 10-digit dummies	Y	Y	Y	Y
HS Section×Time dummies	Y	Y	Y	Y
Observations	31,488	31,488	31,108	31,108
R^2	0.8409	0.8351	0.8479	0.8421

Notes: The dependent variable in the odd columns is $\ln(1 + Imp_{kt}^{CHN})$, and that in the even columns is the inverse hyperbolic sine transformation of Imp_{kt}^{CHN}. Robust standard errors are clustered at the 2-digit HS level. *** p<0.01, ** p<0.05, * p<0.1

Table B.2: The Informational Role of the Exclusions Process: Controlling for Campaign Contributions

Dep. Var.: Granted_{ifk}	(1)	(2)	(3)	(4)
Submission by a $\text{Representative}_{if}$	0.054***	0.052***	0.054***	0.051***
	(0.013)	(0.013)	(0.012)	(0.013)
Num. Comments: $\text{Support}_{if} > 0$	0.034***	0.035***	0.034***	0.035***
	(0.012)	(0.013)	(0.012)	(0.013)
Num. Comments: $\text{Oppose}_{if} > 0$	0.013	0.014	0.013	0.014
	(0.024)	(0.024)	(0.024)	(0.024)
$\text{LobbyTRD}_{f,18Q1-20Q2}$	0.094***	0.090***	0.092***	0.088***
	(0.014)	(0.014)	(0.014)	(0.014)
Share Shipment from $\text{CHN}_{k,17}$	0.098**	0.100*	0.097**	0.099*
	(0.048)	(0.051)	(0.048)	(0.050)
Share Shipment from $\text{ROW}_{k,17}$	-0.033	-0.031	-0.035	-0.033
	(0.102)	(0.101)	(0.102)	(0.101)
$\text{CampaignContribution}_{f,17Q1-20Q2}$: > 0	-0.012*			
	(0.007)			
$\text{CampaignContribution}_{f,17Q1-20Q2}$: GOP$> 0$		0.030**		
		(0.015)		
$\text{CampaignContribution}_{f,17Q1-20Q2}$: DEM$> 0$		-0.024**		
		(0.010)		
$\ln(1+\text{CampaignContribution})_{f,17Q1-20Q2}$			-0.001	
			(0.001)	
$\ln(1+\text{CampaignContribution})_{f,17Q1-20Q2}$: GOP				0.005**
				(0.002)
$\ln(1+\text{CampaignContribution})_{f,17Q1-20Q2}$: DEM				-0.003**
				(0.001)
6-digit HS FEs	Y	Y	Y	Y
List FEs	Y	Y	Y	Y
4-digit NAICS FEs	Y	Y	Y	Y
Size Group FEs	Y	Y	Y	Y
Additional Controls	Y	Y	Y	Y
Observations	41,252	41,252	41,252	41,252
R^2	0.529	0.529	0.529	0.529

Notes: Additional controls include those used in Column 4 of Table 3, namely: the logarithm of imports from China for product k in 2017, the logarithm of the total requests filed by firm f, whether the firm has previously submitted a request, the logarithm of employment in the affiliated industry j and county c, and dummy variables reflecting various ranges of the GOP presidential vote share in county c. Robust standard errors are clustered at the 2-digit HS level. *** p<0.01, ** p<0.05, * p<0.1

Table B.3: The Informational Role of the Exclusions Process: Alternative Specifications and Measures

Sample:	All	All	All	All	All	All	Lists 1&2	Lists 3&4	Excl. Top 5
Dep. Var.: Granted_{ifk}	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Submission by a $\text{Representative}_{if}$	0.059***	0.061***	0.060***	0.053***	0.053***	0.053***	0.068**	0.028***	0.062***
	(0.022)	(0.011)	(0.014)	(0.013)	(0.014)	(0.012)	(0.029)	(0.010)	(0.012)
Num. Comments: $\text{Support}_{if} > 0$	0.014	0.035***	0.041***	0.037**	0.036***	0.032**	0.126*	0.005	0.039***
	(0.015)	(0.012)	(0.015)	(0.014)	(0.013)	(0.013)	(0.056)	(0.009)	(0.013)
Num. Comments: $\text{Oppose}_{if} > 0$	0.033	0.023	0.009	0.012	0.013	0.008	0.072	-0.003	0.012
	(0.038)	(0.027)	(0.020)	(0.025)	(0.025)	(0.024)	(0.040)	(0.021)	(0.026)
$\text{LobbyTRD}_{f,18Q1-20Q2}$	0.110***	0.102***	0.090***				0.154**	0.075***	0.084***
	(0.020)	(0.018)	(0.011)				(0.046)	(0.018)	(0.019)
$\text{LobbyTRD}_{f,q=-1,0,1,2}$				0.106***					
				(0.021)					
$\text{LobbySec301}_{f,18Q1-20Q2}$					0.107***				
					(0.019)				
$\ln(1+\text{LobbyExpense}_{f,18Q1-20Q2})$						0.009***			
						(0.001)			
Share Shipment from $\text{CHN}_{k,17}$	0.025		0.103**	0.106**	0.110**	0.120**	0.688***	0.068	0.137**
	(0.054)		(0.046)	(0.048)	(0.049)	(0.047)	(0.145)	(0.045)	(0.068)
Share Shipment from $\text{ROW}_{k,17}$	-0.182**		-0.039	-0.030	-0.024	-0.018	-0.343	0.038	-0.031
	(0.080)		(0.094)	(0.100)	(0.098)	(0.098)	(0.480)	(0.044)	(0.110)
4-digit HS FEs	Y	N	N	N	N	N	N	N	N
6-digit HS FEs	N	N	Y	Y	Y	Y	Y	Y	Y
10-digit HS FEs	N	Y	N	N	N	N	N	N	N
List FEs	Y	Y	Y	Y	Y	Y	Y	Y	Y
4-digit NAICS FEs	Y	Y	Y	Y	Y	Y	Y	Y	Y
Size Group FEs	Y	Y	Y	Y	Y	Y	Y	Y	Y
State FEs	N	N	Y	N	N	N	N	N	N
Additional Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	41,606	40,329	41,251	41,252	41,252	41,252	10,344	,873	26,591
R^2	0.403	0.629	0.547	0.529	0.529	0.530	0.537	0.380	0.496

Notes: Column (8) excludes the top 5 firms with the most exclusion requests. Additional controls include those used in Column 4 of Table 3, namely: the logarithm of imports from China for product k in 2017, the logarithm of the total requests filed by firm f, whether the firm has previously submitted a request, the logarithm of employment in the affiliated industry j and county c, and dummy variables reflecting various ranges of the GOP presidential vote share in county c. Robust standard errors are clustered at the 2-digit HS level. *** p<0.01, ** p<0.05, * p<0.1

Table B.4: Tariff Exclusion and Lobbying Status: IV Results

Dep. Var.: Granted_{ifk}	(1)	(2)	(3)
Panel A: 2SLS estimates			
$\text{LobbyTRD}_{f,18Q1-20Q2}$	0.160**	0.141**	0.147**
	(0.078)	(0.070)	(0.062)
Share Shipment from $\text{CHN}_{k,17}$	0.084*	0.087	0.086
	(0.048)	(0.054)	(0.052)
Share Shipment from $\text{ROW}_{k,17}$	-0.051	-0.047	-0.048
	(0.115)	(0.115)	(0.115)
Submission by a $\text{Representative}_{if}$	0.051***	0.052***	0.051***
	(0.014)	(0.013)	(0.013)
Num. Comments: $\text{Support}_{if} > 0$	0.032**	0.032**	0.032**
	(0.013)	(0.014)	(0.014)
Num. Comments: $\text{Oppose}_{if} > 0$	0.014	0.014	0.014
	(0.025)	(0.025)	(0.025)
Panel B: First-stage estimates			
LobbyOtherFirms_f	-0.681***		-0.635***
	(0.071)		(0.076)
Lobbied Non-TRD_f		0.378***	0.367***
		(0.047)	(0.044)
Share Shipment from $\text{CHN}_{k,17}$	0.153	0.198*	0.173
	(0.128)	(0.119)	(0.116)
Share Shipment from $\text{ROW}_{k,17}$	0.215**	0.226**	0.211**
	(0.088)	(0.087)	(0.087)
Submission by a $\text{Representative}_{if}$	0.039***	0.031***	0.028**
	(0.014)	(0.011)	(0.012)
Num. Comments: $\text{Support}_{if} > 0$	0.025	0.017	0.019
	(0.027)	(0.027)	(0.026)
Num. Comments: $\text{Oppose}_{if} > 0$	-0.023	-0.015	-0.018
	(0.021)	(0.018)	(0.018)
6-digit HS FEs	Y	Y	Y
List FEs	Y	Y	Y
4-digit NAICS FEs	Y	Y	Y
Size Group FEs	Y	Y	Y
Additional Controls	Y	Y	Y
Kleibergen-Paap F statistic	92.75	64.98	92.70
Over-identification test p-value			0.812
Observations	41,252	41,252	41,252

Notes: Additional controls include those used in Column 4 of Table 3, namely: the logarithm of imports from China for product k in 2017, the logarithm of the total requests filed by firm f, whether the firm has previously submitted a request, the logarithm of employment in the affiliated industry j and county c, and dummy variables reflecting various ranges of the GOP presidential vote share in county c. Robust standard errors are clustered at the 2-digit HS level. *** p<0.01, ** p<0.05, * p<0.1

C Model Derivations

C.1 Supply

In this subsection of the appendix, we use the assumed production function to derive the expressions for the supply curve and profits presented in the text.

As explained in the main text, we assume a production function takes the form

$$q_{gi} = \frac{A_{gi}^{\frac{\omega_\chi}{1+\omega_\chi}}}{\left(\frac{1}{1+\omega_\chi}\right)^{\frac{1}{1+\omega_\chi}}} L_{gi}^{\frac{1}{1+\omega_\chi}} K_{gi}^{\frac{\omega_\chi}{1+\omega_\chi}}$$

and make assumptions such that the wage is always 1 in all countries.

The usual profit maximization problem with competitive pricing implies that the optimal use of labor implies $L_{gi}^{*} = \frac{1}{1+\omega_\chi} p_{ig} q_{ig}$. Thus, the output will be

$$q_{gi} = a_{gi}^{-\frac{1}{\omega_\chi}} p_{gi}^{\frac{1}{\omega_\chi}}$$

where a_{gi} is defined by $a_{gi} \equiv (A_{gi} K_{gi})^{-\omega_\chi}$. Since consumer expenditure on the country i variety of good g is $(1+\tau_{gi})\, p_{gi} q_{gi}$, we obtain the expression for supply presented in the text

$$s_{gi} = (1+\tau_{gi}) \frac{a_{gi}^{-\frac{1}{\omega_\chi}}}{E_g} p_{gi}^{\frac{\omega_\chi+1}{\omega_\chi}}$$

C.2 Equilibrium shares

In this subsection of the appendix, we combine the supply and demand equations and the definition of the price index to find the equilibrium share of each variety of good g as a function of the fundamental supply and demand shifters for each variety.

We start by combining the supply and demand equations for a given variety i and re-arranging to obtain an expression for prices as a function of the price index

$$p_{gi} = a_{gi}^{\frac{1}{\omega_\chi \sigma_\chi + 1}} b_{gi}^{\frac{\omega_\chi}{\omega_\chi \sigma_\chi + 1}} (1+\tau_{gi})^{-\frac{\omega_\chi \sigma_\chi}{\omega_\chi \sigma_\chi + 1}} P_g^{\frac{(\sigma_\chi - 1)\omega_\chi}{\omega_\chi \sigma_\chi + 1}} E_g^{\frac{\omega_\chi}{\omega_\chi \sigma_\chi + 1}}$$

Then we substitute these prices into the definition of the price index and re-arrange to obtain an expression for the price index in terms of fundamentals

$$P_g = a_{gh}^{\frac{1}{\omega_\chi+1}} b_{gh}^{-\frac{1}{\sigma_\chi-1}} E_g^{\frac{\omega_\chi}{1+\omega_\chi}} \dots$$
$$\cdot \left(1 + (1+\tau_{gc})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gc}}{a_{gh}}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gc}}{b_{gh}}\right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} + (1+\tau_{gf})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gf}}{a_{gh}}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gf}}{b_{gh}}\right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}}\right)^{-\frac{\omega_\chi\sigma_\chi+1}{(\omega_\chi+1)(\sigma_\chi-1)}}$$

Which can be inserted into the expression for prices as a function of the price index and rearranged to obtain an expression for prices as a function of fundamentals

$$\begin{aligned}
p_{gi} &= a_{gi}^{\frac{1}{\omega_\chi\sigma_\chi+1}} b_{gi}^{\frac{\omega_\chi}{\omega_\chi\sigma_\chi+1}} (1+\tau_{gi})^{-\frac{\omega_\chi\sigma_\chi}{\omega_\chi\sigma_\chi+1}} P_g^{\frac{(\sigma_\chi-1)\omega_\chi}{\omega_\chi\sigma_\chi+1}} E_g^{\frac{\omega_\chi}{\omega_\chi\sigma_\chi+1}} \\
&= a_{gh}^{\frac{1}{\omega_\chi+1}} \left(\frac{a_{gi}}{a_{gh}}\right)^{\frac{1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gi}}{b_{gh}}\right)^{\frac{\omega_\chi}{\omega_\chi\sigma_\chi+1}} (1+\tau_{gi})^{-\frac{\omega_\chi\sigma_\chi}{\omega_\chi\sigma_\chi+1}} E_g^{\frac{\omega_\chi}{1+\omega_\chi}} \dots \\
&\cdot \left(1 + (1+\tau_{gc})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gc}}{a_{gh}}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gc}}{b_{gh}}\right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} + (1+\tau_{gf})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gf}}{a_{gh}}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gf}}{b_{gh}}\right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}}\right)^{-\frac{\omega_\chi}{\omega_\chi+1}}
\end{aligned}$$

And finally, we can put this expression into the supply equation (or this expression plus the expression for the price index into the demand equation) to get an expression for shares as a function of fundamentals

$$s_{gi} = \frac{\left(\frac{a_{gi}}{a_{gh}}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gi}}{b_{gh}}\right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} (1+\tau_{gi})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}}{1 + (1+\tau_{gc})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gc}}{a_{gh}}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gc}}{b_{gh}}\right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} + (1+\tau_{gf})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gf}}{a_{gh}}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gf}}{b_{gh}}\right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}}}$$

Combining this expression for each variety i with the definitions of r_{gc} and r_{gf} (as provided in the main text)

$$\begin{aligned}
r_{gc} &\equiv (a_{gc}/a_{gh})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} (b_{gc}/b_{gh})^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} \\
r_{gf} &\equiv (a_{gf}/a_{gh})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} (b_{gf}/b_{gh})^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} .
\end{aligned}$$

Yields (with some straightforward algebra) the expressions for shares provided in the text

$$\begin{aligned}
\frac{s_{gc}}{s_{gh}} &= r_{gc} (1+\tau_{gc})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \\
\frac{s_{gf}}{s_{gh}} &= r_{gf} (1+\tau_{gf})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \\
1 &= s_{gh} + s_{gc} + s_{gf}
\end{aligned}$$

C.3 Simplification of the government objective

In this subsection of the appendix, we derive the simplification of the objective function presented in the main text.

In the main text, the objective function is defined as

$$\Omega = Y_0 + \sum_{\chi} \sum_{g \in \chi} \left(\lambda_\chi \pi_g + \beta_\chi CS_g + \sum_{i \in \{c,f\}} \left(\tau_{gi} p_{gi} q_{gi} + \gamma_{\chi i} \pi_{gi} \right) \right)$$

As presented in the main text, $\pi_{gi} = \frac{\omega_\chi}{1+\omega_\chi} \frac{E_g s_{gi}}{1+\tau_{gi}}$ which follows immediately from the capital share in the Cobb-Douglas production function (tariffs are included because E_g measures consumer expenditure not producer revenue). And $CS_g = E_g \left(\ln(E_g/P_g) - 1 \right)$ which arises because consumers optimally spend E_g on variety g, so that they consumer quantity $\frac{E_g}{P_g}$, and utility is quasi-linear.

The last piece involves obtaining an expression for the price index. As shown in Appendix $C.2$

$$P_g = a_{gh}^{\frac{1}{\omega_\chi+1}} b_{gh}^{-\frac{1}{\sigma_\chi-1}} E_g^{\frac{\omega_\chi}{1+\omega_\chi}} \dots$$

$$\cdot \left(1 + (1+\tau_{gc})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gc}}{a_{gh}} \right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gc}}{b_{gh}} \right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} + (1+\tau_{gf})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gf}}{a_{gh}} \right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gf}}{b_{gh}} \right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} \right)^{-\frac{\omega_\chi\sigma_\chi+1}{(\omega_\chi+1)(\sigma_\chi-1)}}$$

and

$$s_{gi} = \frac{\left(\frac{a_{gi}}{a_{gh}} \right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gi}}{b_{gh}} \right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} (1+\tau_{gi})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}}{1 + (1+\tau_{gc})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gc}}{a_{gh}} \right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gc}}{b_{gh}} \right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} + (1+\tau_{gf})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gf}}{a_{gh}} \right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gf}}{b_{gh}} \right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}}}$$

so that by applying this expression to home goods

$$s_{gh} = \frac{1}{1 + (1+\tau_{gc})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gc}}{a_{gh}} \right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gc}}{b_{gh}} \right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}} + (1+\tau_{gf})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{a_{gf}}{a_{gh}} \right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}} \left(\frac{b_{gf}}{b_{gh}} \right)^{\frac{\omega_\chi+1}{\omega_\chi\sigma_\chi+1}}}$$

and thus

$$P_g = a_{gh}^{\frac{1}{\omega_\chi+1}} b_{gh}^{-\frac{}{\sigma_\chi-1}} E_g^{\frac{\omega_\chi}{1+\omega_\chi}} s_{gh}^{\frac{\omega_\chi\sigma_\chi+1}{(\omega_\chi+1)(\sigma_\chi-1)}}$$

By substituting this into the expression for CS_g we obtain

$$CS_g = E_g \left(\frac{1}{\omega_\chi+1} \ln E_g - \ln \left(a_{gh}^{\frac{1}{\omega_\chi+1}} b_{gh}^{-\frac{1}{\sigma_\chi-1}} \right) - \frac{\omega_\chi\sigma_\chi+1}{(\omega_\chi+1)(\sigma_\chi-1)} \ln(s_{gh}) - 1 \right)$$

Combining the above expression for consumer surplus and the expression for profits with the original expression for the objective (plus a bit of rearrangement) yields

$$\Omega = Y_o + \sum_{\chi} \left(\Omega_\chi + \sum_{g\in\chi} E_g \Omega_g \right)$$

where we define Ω_χ and Ω_g as

$$\Omega_g \equiv \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi s_{gh} - \frac{\omega_\chi\sigma_\chi + 1}{(\omega_\chi+1)(\sigma_\chi - 1)}\beta_\chi \ln s_{gh} + \sum_{i\in\{f,c\}} \frac{\tau_{gi} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi i}}{1+\tau_{gi}} s_{gi}$$

$$\Omega_\chi \equiv \sum_{g\in\chi} E_g \left(\frac{1}{\omega_\chi + 1} \ln E_g - \ln\left(a_{gh}^{\frac{1}{\omega_\chi+1}} b_{gh}^{-\frac{1}{\sigma_\chi - 1}} \right) - 1 \right)$$

which is the simplified expression presented in the text.

C.4 FOC for non-discriminatory tariffs

In this subsection of the appendix, we derive the expression for the FOC with respect to the non-discriminatory tariff presented in the main text.

We start with an expression for the derivative of the home share with respect to the tariff, since this will be useful later in the derivation. Using the expression for the home share from Appendix $C.2$ and imposing the constraint that $\tau_{gc} = \tau_{gf} = \tau_\chi$, we obtain

$$s_{gh} = \frac{1}{1 + (1+\tau_\chi)^{-\frac{\sigma_\chi - 1}{\omega_\chi\sigma_\chi + 1}} (r_{gc} + r_{gf})}$$

so that

$$\frac{\partial s_{gh}}{\partial \tau_\chi} = \frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1} \frac{s_{gh}(1 - s_{gh})}{1+\tau_\chi}$$

We next turn to deriving the FOC itself. The jumping off point is the simplified objective function presented in the main text

$$\Omega = Y_o + \sum_{\chi} \left(\Omega_\chi + \sum_{g\in\chi} E_g \Omega_g \right)$$

and when $\tau_{gc} = \tau_{gf} = \tau_\chi$ and $\gamma_{\chi c} = \gamma_{\chi f} = \gamma_\chi$, then we can simplify

$$\sum_{g\in\chi} E_g\Omega_g = \Omega_\chi + \sum_{g\in\chi} E_g \left(\frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi s_{gh} - \beta_\chi \frac{\omega_\chi\sigma_\chi + 1}{(\omega_\chi+1)(\sigma_\chi-1)} \ln s_{gh} + \frac{\tau_\chi + \frac{\omega_\chi}{1+\omega_\chi}\gamma_\chi}{1+\tau_\chi}(1 - s_{gh}) \right)$$

Further, due to the economic structure, $\frac{\partial \Omega}{\partial \tau_\chi} = \frac{\partial}{\partial \tau_\chi}\left(\sum_{g\in\chi} E_g \Omega_g \right)$, since a tariff on χ will have no effect on labor income (due to the outside good) or on goods outside of code χ. Thus, taking the

FOC we obtain

$$0=\sum_{g\in\chi}E_g\left(\frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi-\beta_\chi\frac{\omega_\chi\sigma_\chi+1}{(\omega_\chi+1)(\sigma_\chi-1)}\frac{1}{s_{gh}}\right)\frac{ds_{\chi h}}{d\tau}\dots$$
$$+\sum_{g\in\chi}E_g\left(\frac{\left(1-\frac{\omega_\chi}{1+\omega_\chi}\gamma_\chi\right)(1-s_{gh})}{(1+\tau_\chi)^2}-\frac{\tau_\chi+\frac{\omega_\chi}{1+\omega_\chi}\gamma_\chi}{1+\tau_\chi}\frac{ds_{gh}}{d\tau}\right)$$

and using the expression for $\frac{\partial s_{gh}}{\partial\tau_\chi}$ derived earlier in this subsection of the Appendix (and multiplying both sides by $\frac{\omega_\chi\sigma_\chi+1}{\sigma_\chi-1}(1+\tau_\chi)$)

$$0=\left[\left(\frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi\right)(1+\tau_\chi)-\left(\tau_\chi+\frac{\omega_\chi}{1+\omega_\chi}\gamma_\chi\right)\right]\sum_{g\in\chi}E_g s_{gh}(1-s_{gh})\dots$$
$$+\frac{\omega_\chi\sigma_\chi+1}{(\omega_\chi+1)(\sigma_\chi-1)}\left((1+\omega_\chi-\omega_\chi\gamma_\chi)-\beta_\chi(1+\tau_\chi)\right)\sum_{g\in\chi}E_g(1-s_{gh})$$

A small amount of further rearrangement (and multiplying both sides by $\frac{1+\omega_\chi}{\omega_\chi}$) yields the FOC presented in the main text

$$0=\left[(\lambda_\chi-1)(1+\tau_\chi)-\frac{\tau_\chi}{\omega_\chi}-(\gamma_\chi-1)\right]\sum_{g\in\chi}E_g s_{gh}(1-s_{gh})\dots$$
$$-\frac{\omega_\chi\sigma_\chi+1}{\omega_\chi(\sigma_\chi-1)}\left(\omega_\chi(\gamma_\chi-1)+\tau_\chi+(\beta_\chi-1)(1+\tau_\chi)\right)\sum_{g\in\chi}E_g(1-s_{gh})$$

C.5 FOC for discriminatory tariffs with no exclusions

In this subsection of the appendix, we derive the expression for the FOC with respect to the discriminatory tariff with no exclusions presented in the main text.

We start with expressions for the derivatives of the home, Chinese, and ROW shares with respect to the tariff, since these will be needed later in the derivation. Using the expression for the shares from Appendix $C.2$ and imposing the constraints that $\tau_{gc}=\tau_{\chi c}$ and $\tau_{gf}=\tau_\chi^{MFN}$, we obtain

$$s_{gh}=\frac{1}{1+(1+\tau_{\chi c})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}r_{gc}+\left(1+\tau_\chi^{MFN}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}r_{gf}}$$
$$s_{gc}=\frac{(1+\tau_{\chi c})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}r_{gc}}{1+(1+\tau_{\chi c})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}r_{gc}+\left(1+\tau_\chi^{MFN}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}r_{gf}}$$
$$s_{gf}=\frac{\left(1+\tau_\chi^{MFN}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}r_{gf}}{1+(1+\tau_{\chi c})^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}r_{gc}+\left(1+\tau_\chi^{MFN}\right)^{-\frac{\sigma_\chi-1}{\omega_\chi\sigma_\chi+1}}r_{gf}}$$

so that we obtain for derivatives

$$\begin{aligned}
\frac{\partial s_{gh}}{\partial \tau_{\chi c}} &= \frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1} \frac{s_{gc}}{1+\tau_{\chi c}} s_{gh} \\
\frac{\partial s_{gc}}{\partial \tau_{\chi c}} &= \frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1} \frac{s_{gc}}{1+\tau_{\chi c}} \left(s_{gc} - 1\right) \\
\frac{\partial s_{gf}}{\partial \tau_{\chi c}} &= \frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1} \frac{s_{gc}}{1+\tau_{\chi c}} s_{gf}
\end{aligned}$$

We next turn to deriving the FOC itself. The jumping off point is the simplified objective function presented in the main text

$$\Omega = Y_o + \sum_\chi \left(\Omega_\chi + \sum_{g \in \chi} E_g \Omega_g \right)$$

Further, due to the economic structure, $\frac{\partial \Omega}{\partial \tau_\chi} = \frac{\partial}{\partial \tau_\chi} \left(\sum_{g \in \chi} E_g \Omega_g \right)$, since a tariff on χ will have no effect on labor income (due to the outside good) or on goods outside of code χ. Thus, taking the FOC we obtain

$$\begin{aligned}
0 = & \sum_{g \in \chi} E_g \left(\frac{\omega_\chi}{1+\omega_\chi} \lambda_\chi - \beta_\chi \frac{\omega_\chi \sigma_\chi + 1}{\left(\omega_\chi + 1\right)\left(\sigma_\chi - 1\right)} \frac{1}{s_{gh}} \right) \frac{\partial s_{gh}}{\partial \tau_{\chi c}} \dots \\
& + \sum_{g \in \chi} E_g \left(\frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{1+\tau_{\chi c}} \frac{\partial s_{gc}}{\partial \tau_{\chi c}} + \frac{1 - \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{\left(1+\tau_{\chi c}\right)^2} s_{gc} \right) \dots \\
& + \sum_{g \in \chi} E_g \frac{\tau_{\chi f} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi f}}{1+\tau_{\chi f}} \frac{\partial s_{gf}}{\partial \tau_{\chi c}}
\end{aligned}$$

Grouping terms and using the expressions for the derivatives of the shares with respect to $\tau_{\chi c}$ we obtain

$$\begin{aligned}
0 = & \frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1} \sum_{g \in \chi} E_g s_{gc} \left(\frac{\omega_\chi}{1+\omega_\chi} \lambda_\chi - \beta_\chi \frac{\omega_\chi \sigma_\chi + 1}{\left(\omega_\chi + 1\right)\left(\sigma_\chi - 1\right)} \frac{1}{s_{gh}} \right) \frac{s_{gh}}{1+\tau_{\chi c}} + \frac{1 - \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{\left(1+\tau_{\chi c}\right)^2} E_\chi s_{\chi c} \dots \\
& + \frac{\sigma_\chi - 1}{\omega_\chi \sigma_\chi + 1} \sum_{g \in \chi} E_g s_{gc} \left(\frac{\tau_{\chi f} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi f}}{1+\tau_{\chi f}} \frac{s_{gf}}{1+\tau_{\chi c}} - \frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{1+\tau_{\chi c}} \frac{1 - s_{gc}}{1+\tau_{\chi c}} \right)
\end{aligned}$$

which with some manipulation yields the expression from the main text

$$\begin{aligned}
0 = & \left(1+\tau_{\chi c}\right) \sum_{g \in \chi} E_g s_{gc} \left(\frac{\omega_\chi}{1+\omega_\chi} \lambda_\chi s_{gh} - \beta_\chi \frac{\omega_\chi \sigma_\chi + 1}{\left(\omega_\chi + 1\right)\left(\sigma_\chi - 1\right)} + \frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi} \tau_\chi^{MFN}}{1+\tau_\chi^{MFN}} s_{gf} \right) \dots \\
& - \sum_{g \in \chi} E_g s_{gc} \left(\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c} \right) \left(1 - s_{gc}\right) + \frac{\omega_\chi \sigma_\chi + 1}{\sigma_\chi - 1} \left(1 - \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c} \right) \sum_{g \in T_\chi} E_g s_{gc}
\end{aligned}$$

C.6 FOC for discriminatory tariffs with exclusions

In this subsection of the appendix, we derive the expression for the FOC with respect to the discriminatory tariff with exclusions presented in the main text.

The tariff does not affect any good which has been excluded, but otherwise has identical effects as a discriminatory tariff without exclusions. Define the set of goods which has not been excluded as T_χ, and then follow exactly the same steps as in Appendix $C.5$ by only summing across $g \in T_\chi$ to obtain the FOC rpesented in the main text.

$$0 = (1+\tau_{\chi c}) \sum_{g \in T_\chi} E_g s_{gc} \left(\frac{\omega_\chi}{1+\omega_\chi} \lambda_\chi s_{gh} - \beta_\chi \frac{\omega_\chi \sigma_\chi + 1}{(\omega_\chi + 1)(\sigma_\chi - 1)} + \frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi} \tau_\chi^{MFN}}{1+\tau_\chi^{MFN}} s_{gf} \right) \dots$$
$$- \sum_{g \in T_\chi} E_g s_{gc} \left(\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c} \right) (1 - s_{gc}) + \frac{\omega_\chi \sigma_\chi + 1}{\sigma_\chi - 1} \left(1 - \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c} \right) \sum_{g \in T_\chi} E_g s_{gc}$$

C.7 Proof of Proposition 1

Proposition 1: If $\gamma_{\chi c} \leq 1$, $\lambda_\chi \geq 1$, $\tau_\chi^{MFN} \leq \omega_\chi$, $\gamma_{\chi f} = 0$, and in equilibrium $\frac{\omega_\chi}{1+\omega_\chi} \lambda_\chi \geq \frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{1+\tau_{\chi c}}$, then the optimal exclusions will follow a cutoff rule, such that goods with a sufficiently large combination of s_{gc}^{MFN} and s_{gf}^{MFN} are excluded.

Proof: Good g will be excluded if the government objective is higher when setting τ_χ^{MFN} on imports of g from China then when setting $\tau_{\chi c}$. Define the difference in payout between under $\tau_{\chi c}$ and under τ_χ^{MFN} by $\Delta \Omega_g$; it is straightforward to use the simplified expression for the government objective presented in the main text to find

$$\begin{aligned}
\Delta \Omega_g &= \frac{\omega_\chi}{1+\omega_\chi} \lambda_\chi \Delta s_{gh} - \frac{\omega_\chi \sigma_\chi + 1}{(\omega_\chi + 1)(\sigma_\chi - 1)} \beta_\chi \Delta \ln s_{gh} + \frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi f}}{1+\tau_\chi^{MFN}} \Delta s_{gf} \dots \\
&+ \frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{1+\tau_{\chi c}} s_{gc}^T - \frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{1+\tau_\chi^{MFN}} s_{gc}^{MFN} \\
&= \frac{\omega_\chi}{1+\omega_\chi} \lambda_\chi \Delta s_{gh} - \frac{\omega_\chi \sigma_\chi + 1}{(\omega_\chi + 1)(\sigma_\chi - 1)} \beta_\chi \Delta \ln s_{gh} + \frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi f}}{1+\tau_\chi^{MFN}} \Delta s_{gf} \dots \\
&+ \frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{1+\tau_{\chi c}} \Delta s_{gc} - \left(\frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{1+\tau_\chi^{MFN}} - \frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi} \gamma_{\chi c}}{1+\tau_{\chi c}} \right) s_{gc}^{MFN}
\end{aligned}$$

where a T superscript denotes the value of a variable in an equilibrium in which Chinese imports of good g are subject to $\tau_{\chi c}$, a MFN superscript denotes the value of a variable in an equilibrium in which Chinese imports of good g are subject to τ_χ^{MFN}, and a Δ denotes the difference between an equilibrium in which Chinese imports of good g are subject to $\tau_{\chi c}$ and an equilibrium in which Chinese imports of good g are subject to τ_χ^{MFN}. Note that $s_{gh} = 1 - s_{gc} - s_{gf}$ so that

$\Delta s_{gh} = -\left(\Delta s_{gf} + \Delta s_{gc}\right)$. Thus,

$$\Delta\Omega_g = -\frac{\omega_\chi\sigma_\chi + 1}{(\omega_\chi + 1)(\sigma_\chi - 1)}\beta_\chi \Delta \ln s_{gh} + \left(\frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi f}}{1+\tau_\chi^{MFN}} - \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi\right)\Delta s_{gf} \ldots$$
$$+ \left(\frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_{\chi c}} - \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi\right)\Delta s_{gc} - \left(\frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_\chi^{MFN}} - \frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_{\chi c}}\right) s_{gc}^{MFN}$$

Suppose that there is some good in code χ with Chinese share $\hat{s}_c^{MFN}$ and ROW share $\hat{s}_f^{MFN}$ under MFN tariffs which is excluded (we denote the home share of this good under MFN tariffs by $\hat{s}_h^{MFN}$ for convenience); we will show that any good g in code χ such that $s_{gc}^{MFN} \geq \hat{s}_c^{MFN}$ and $s_{gf}^{MFN} \geq \hat{s}_f^{MFN}$ is also excluded, which requires a single cutoff rule for exclusions in $\left(s_{gc}^{MFN}, s_{gf}^{MFN}\right)$ space. We show that under the provided conditions, the consequences of applying $\tau_{\chi c}$ to any good with $s_{gc}^{MFN} \geq \hat{s}_c^{MFN}$ and $s_{gf}^{MFN} \geq \hat{s}_f^{MFN}$ will be at least as unrewarding for the government as applying $\tau_{\chi c}$ to the excluded good.

First, since the good in code χ with Chinese share $\hat{s}_c$ and ROW share $\hat{s}_f$ is excluded it must be

$$\Delta\hat{\Omega}_g = -\frac{\omega_\chi\sigma_\chi + 1}{(\omega_\chi + 1)(\sigma_\chi - 1)}\beta_\chi \Delta \ln\left(\hat{s}_h\right) + \left(\frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi f}}{1+\tau_\chi^{MFN}} - \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi\right)\Delta \hat{s}_f \ldots$$
$$+ \left(\frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_{\chi c}} - \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi\right)\Delta \hat{s}_c - \left(\frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_\chi^{MFN}} - \frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_{\chi c}}\right) \hat{s}_c^{MFN}$$
$$\leq 0$$

Second, for some other good g in code χ we calculate

$$\Delta\Omega_g - \Delta\hat{\Omega}_g = -\frac{\omega_\chi\sigma_\chi + 1}{(\omega_\chi + 1)(\sigma_\chi - 1)}\beta_\chi \Delta \ln\left(\frac{s_{gh}}{\hat{s}_h}\right) + \left(\frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi f}}{1+\tau_\chi^{MFN}} - \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi\right)\left(\Delta s_{gf} - \Delta\hat{s}_f\right) \ldots$$
$$+ \left(\frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_{\chi c}} - \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi\right)\left(\Delta s_{gc} - \Delta\hat{s}_c\right) - \left(\frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_\chi^{MFN}} - \frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_{\chi c}}\right)\left(s_{gc}^{MFN} - \hat{s}_c^{MFN}\right)$$

Third, using the expressions for shares provided in Appendix $C.2$, it follows that if $s_{gc}^{MFN} \geq \hat{s}_c^{MFN}$ and $s_{gf}^{MFN} \geq \hat{s}_f^{MFN}$, then $\Delta \ln\left(\frac{s_{gh}}{\hat{s}_h}\right) \geq 0$, $\left(\Delta s_{gf} - \Delta\hat{s}_f\right) \geq 0$, $\left(\Delta s_{gc} - \Delta\hat{s}_c\right) \geq 0$, and $\left(s_{gc}^{MFN} - \hat{s}_c^{MFN}\right) \geq 0$. Under the parameter restrictions on ω_χ and σ_χ, $-\frac{\omega_\chi\sigma_\chi+1}{(\omega_\chi+1)(\sigma_\chi-1)}\beta_\chi \leq 0$. If $\gamma_{\chi f} = 0$, $\lambda_\chi \geq 1$, and $\tau_\chi^{MFN} \leq \omega_\chi$ as assumed in the statement of the proof, then $\frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi f}}{1+\tau_\chi^{MFN}} - \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi \leq 0$. Since $\tau_{\chi c} \geq \tau_\chi^{MFN}$, as long as $\gamma_{\chi c} \leq 1$ as assumed in the statement of the proof, $\frac{\tau_\chi^{MFN} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_\chi^{MFN}} - \frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_{\chi c}} \geq 0$. And finally, we have assumed $\frac{\tau_{\chi c} + \frac{\omega_\chi}{1+\omega_\chi}\gamma_{\chi c}}{1+\tau_{\chi c}} - \frac{\omega_\chi}{1+\omega_\chi}\lambda_\chi \leq 0$.This suffices to show

$$\Delta\Omega_g - \Delta\hat{\Omega}_g \le 0$$
$$\Delta\Omega_g \le \Delta\hat{\Omega}_g \le 0$$

and so good g is also excluded.

D Calibration and robustness

D.1 Analytical solution for λ_χ and β_χ using MFN and Column 2 tariffs

In this subsection of the appendix, we show how to use the FOC for the non-discriminatory tariff in Equation 15 and observed MFN and Column 2 tariffs to obtain closed-form expressions for λ_χ and β_χ.

Note that under Column 2 tariffs (denoted τ_χ^{C2}), and $\gamma_\chi = 0$, so the FOC is

$$0 = \left[(\lambda_\chi - 1)\left(1 + \tau_\chi^{C2}\right) - \frac{\tau_\chi^{C2}}{\omega_\chi} + 1\right] \sum_{g\in\chi} E_g s_{gh}^{C2}\left(1 - s_{gh}^{C2}\right) \dots$$
$$+ \frac{\omega_\chi\sigma_\chi + 1}{\omega_\chi(\sigma_\chi - 1)}\left(\omega_\chi - \tau_\chi^{C2} - (\beta_\chi - 1)\left(1 + \tau_\chi^{C2}\right)\right) \sum_{g\in\chi} E_g\left(1 - s_{gh}^{C2}\right)$$

while under MFN tariffs (denoted τ_χ^{C2}), $\gamma_\chi = \gamma_\chi^{MFN}$, so the FOC is

$$0 = \left[(\lambda_\chi - 1)\left(1 + \tau_\chi^{MFN}\right) - \frac{\tau_\chi^{MFN}}{\omega_\chi} - \left(\gamma_\chi^{MFN} - 1\right)\right] \sum_{g\in\chi} E_g s_{gh}^{MFN}\left(1 - s_{gh}^{MFN}\right) \dots$$
$$- \frac{\omega_\chi\sigma_\chi + 1}{\omega_\chi(\sigma_\chi - 1)}\left(\omega_\chi\left(\gamma_\chi^{MFN} - 1\right) + \tau_\chi^{MFN} + (\beta_\chi - 1)\left(1 + \tau_\chi^{MFN}\right)\right) \sum_{g\in\chi} E_g\left(1 - s_{gh}^{MFN}\right)$$

and we can jointly solve both expressions for λ_χ and β_χ with a bit of algebra

$$\beta_\chi = \frac{\omega_\chi + 1}{1 + \tau_\chi^{C2}} + \left(\frac{\tau_\chi^{MFN} + \omega_\chi(\gamma_\chi - 1)}{1 + \tau_\chi^{MFN}} - \frac{\tau_\chi^{C2} - \omega_\chi}{1 + \tau_\chi^{C2}}\right) \frac{\frac{\sigma_\chi - 1}{\omega_\chi\sigma_\chi + 1} + \frac{\sum_{g\in\chi} E_g\left(1 - s_{gh}^{MFN}\right)}{\sum_{g\in\chi} E_g s_{gh}^{MFN}\left(1 - s_{gh}^{MFN}\right)}}{\frac{\sum_{g\in\chi} E_g\left(1 - s_{gh}^{C2}\right)}{\sum_{g\in\chi} E_g s_{gh}^{C2}\left(1 - s_{gh}^{C2}\right)} - \frac{\sum_{g\in\chi} E_g\left(1 - s_{gh}^{MFN}\right)}{\sum_{g\in\chi} E_g s_{gh}^{MFN}\left(1 - s_{gh}^{MFN}\right)}}$$

$$\lambda_\chi = 1 + \frac{\tau_\chi^{MFN} + \omega_\chi\left(\gamma_\chi^{MFN} - 1\right)}{\omega_\chi\left(1 + \tau_\chi^{MFN}\right)}\left(1 + \frac{\omega_\chi\sigma_\chi + 1}{\sigma_\chi - 1} \frac{\sum_{g\in\chi} E_g\left(1 - s_{gh}^{MFN}\right)}{\sum_{g\in\chi} E_g s_{gh}^{MFN}\left(1 - s_{gh}^{MFN}\right)}\right) \dots$$
$$+ \frac{\omega_\chi\sigma_\chi + 1}{\omega_\chi(\sigma_\chi - 1)}(\beta_\chi - 1) \frac{\sum_{g\in\chi} E_g\left(1 - s_{gh}^{MFN}\right)}{\sum_{g\in\chi} E_g s_{gh}^{MFN}\left(1 - s_{gh}^{MFN}\right)}$$

D.2 Intuition for welfare impact

In this subsection of the appendix, we explain the apparent discrepancy between the change in tariffs and change in welfare costs when the government is able to use exclusions arises because the welfare maximizing tariff is greater than zero.

The standard intuition about welfare costs comes from Harberger Triangles. Importantly, DWL arises due to the deviation of a tax from its welfare maximizing level. In most contexts, the welfare maximizing level is 0. However, the US is a large country and has terms-of-trade power; it's welfare maximizing tariffs are greater than 0 if we neglect foreign retaliation. This is captured by the set of ω_χ we estimate. Given that, the optimal discriminatory tariff on China is also greater than 0, as shown in Table 8 in the main text. (Notably, however, this tariff is less than the average $\omega_\chi$because of discriminatory tariff which arises with a discriminatory tariff).

In Table D.1, we compare both tariff levels and welfare with an without exclusions to the welfare maximizing level. We observe both a larger change in relative tariffs with and without exclusions, and a smaller relative change in welfare with and without exclusions. Comparing the two numbers, the proportional welfare change is less than the square of the tariff change, which is expected because welfare with exclusions is greater than would be expected from the statutory tariff level alone (as some goods are excluded).

Table D.1: Intuition – effect of exemptions relative to welfare maximizing uniform tariffs

Measure	Uniform welfare max. - 301 tariff w/ Exclusions	Uniform welfare max. - Uniform 301 tariff	(Uniform welfare max.-301 w/ Exclusions) /(Uniform welfare max-Uniform 301)
Tariff level (%)	13.7	12.9	1.06
Welfare cost ($bn)	7.96	8.28	1.04

Notes: This table ignores any consequences of Chinese retaliation.

D.3 Calibration under alternative weights on ROW

In this subsection of the appendix, we show that our results are robust to calibrating domestic political weights using the weight on foreign trading partners under MFN tariffs following Adão et al. (2024). Results (with a comparison to the baseline) are provided in Table D.2.

Table D.2: Robustness – welfare effect of exemptions under alternate MFN weights

Counterfactual	MFN - w/ Exclusions ($bn)	MFN - Uniform ($bn)	(MFN-Exclusions) /(MFN-Uniform)
Baseline welfare cost	2.00	1.68	1.19
Baseline fall in π_c	9.40	9.66	0.974
ACDS weights for MFN welfare cost	1.95	1.59	1.23
ACDS weights for MFN fall in π_c	10.0	10.3	0.974

Notes: This table ignores any consequences of Chinese retaliation.

D.4 Calibration with full passthrough

In this subsection of the appendix, we show that we can roughly replicate the welfare costs of the Trump Tariffs from Amiti et al. (2019b) if we assume complete passthrough by setting $\omega_\chi = 10^{-4}$ for all codes χ, and if we do so we obtain a similar magnitude of the absolute value of welfare costs as in our baseline. Results are provided in Table D.3.

Table D.3: Robustness – welfare effect of exemptions under complete passthrough

Counterfactual	MFN - w/ Exclusions ($bn)	MFN - Uniform ($bn)	(MFN-Exclusions) /(MFN-Uniform)
Baseline welfare cost	2.00	1.68	1.19
Baseline fall in π_c	9.40	9.66	0.974
No omega welfare cost	12.24	12.08	1.01
No omega fall in π_c	0.0124	0.0127	0.977

Notes: This table ignores any consequences of Chinese retaliation. For the no omega scenario, omegas were set to 10^-4 for all goods (which is why there is some – very small – effect on Chinese profits).

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