Protection Forestall: Offshore Firms against Tariffs in their Own Industry

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Abstract

Firms that offshore final production should oppose trade barriers 'protecting' their own industry. This pits them against onshore firms, especially when comparative disadvantage is most pronounced, and so fundamentally alters trade policy coalitions. The US-China trade war's exclusion process, where US firms could request that tariffs not be applied to a product, provides a golden opportunity to test this contention. We show that coverage by a tariff in the trade war and firm characteristics associated with offshoring – size, multinationality, and heavy imports from China – interacted to generate firm requests for exclusion from the trade war's tariffs. This finding is robust to input-sourcing and fears of export retaliation as alternative explanations, and across multiple measures of firm size, tariff coverage, and exclusion requests. We therefore test a key piece of the firm-centered model of trade politics, and show its value in interpreting the US-China trade war.

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Introduction

Which firms oppose trade protection in their own home market? The trade politics literature offers three answers: exporting firms oppose domestic trade protection in fear of foreign retaliation;[1] input-sourcing firms because they depend on foreign-made parts and materials;[2] and offshoring firms because their business strategies rely on overseas production of final products.[3] While these ideas have been tested in various ways, assessing which among these mechanisms is operative, and under what circumstances, has proven challenging because scholars have most often examined sweeping packages of policy changes that implicate exports, imported inputs, and offshoring all at the same time. For example, trade agreement rounds involve broad forms of liberalization covering exports, imports, and inputs, alongside a vast array of trade-adjacent policy changes.

Examining whether offshoring firms oppose protection for their own final products is especially challenging. This is unfortunate, because offshoring of final production has big implications for the formation of trade coalitions and the politics of trade protection. If offshoring firms fight protection for their own industries, those industries are fundamentally unable to agree on trade policy. Securing, and then maintaining, trade protection becomes a significant challenge for onshore firms: they are fighting not only consumers and downstream firms but also offshore companies in their own industry. Even more striking, the benefits of offshoring, whether through foreign subsidiaries or by contracting out to foreign manufacturers, are greatest where comparative disadvantage is the most pronounced. So the motive to *resist protection* is largest among offshoring firms precisely when the motive to *secure protection* is most intense among onshore firms in an industry.[4]

In this paper, we identify a unique opportunity to test the idea that offshoring firms undermine the fight for protection in their own industry, supplied by the US-China trade war initiated by Donald Trump in 2018. The US government began the trade war with lists of covered products – imported goods from China that would face 25% tariffs. The lists of covered products subsequently expanded dramatically. Administering the program, the US Trade Representative (USTR) allowed companies to request 'exclusion' – relief from tariffs – for particular products. Companies did so by submitting public documentation to the USTR explaining the product they would like excluded, and the harm the tariff might cause their business.

If firms were participating in this process to exclude their own final products from tariff coverage

[1] Dür (2011); Milner (1988*a*); Gilligan (1997); Davis (2004); Dür (2011); Betz (2017); Baccini, Pinto and Weymouth (2017); Plouffe (2017); Osgood et al. (2017); Yildirim et al. (2018); Roosevelt (2021).

[2] Manger (2012); Jensen, Quinn and Weymouth (2015); Osgood (2018); Kim et al. (2019); Zeng, Lu and Li (2021); Anderer, Dür and Lechner (2020).

[3] Milner (1988*b*); Manger (2009); Yildirim (2018); Osgood (2017*a*); Zeng, Sebold and Lu (2020); Zeng and Li (2021); Zeng (2021).

[4] Milner (1988*a*).

– to free their own industries from protection – then we can show that by using data on exclusion-requesting firms' industries. Moreover, we should see requests for exclusion from particular types of firms. First are firms that are larger, and who have the ability to offshore production overseas.[5] Second are firms located in industries that import a great deal from China, who are particularly incentivized to take advantage of Chinese superiority by offshoring production to China.[6] Third are firms with foreign subsidiaries located in China.[7] If the simultaneous presence of one's industry being covered by tariffs and these firm-level features drives requests for exclusion, then that is strongly suggestive that offshoring firms oppose protection in their own industry, though alternative explanations are also active and must be accounted for.

To test this theory, we collect data on all requests for exclusion. We match that data to a sample of US firms from Orbis. We use the Orbis data to determine firms' size, multinationality, and exposure to trade from China, and, alongside the lists of covered products, to understand which firms had their own final products covered by tariffs. We expect that the interaction of these two types of factors – firm-level characteristics and coverage by the tariffs – will generate an especially strong likelihood of requesting exclusion. Alongside these factors, we collect complementary information to account for the two major alternative explanations for firms opposing tariffs: on the exposure of firms to tariffs through inputs imported from China; and on firms' export links to China.

We find strong evidence for the claim that offshoring firms demand liberalization of their own products, though input-sourcing is a very strong driver of exclusion-requesting, too. In line with the offshoring of final production argument, firm size, ownership of subsidiaries in China, and exposure to China-made imports each strongly interact with tariff coverage *in a firm's own industry* to generate exclusion requests. A small US manufacturing firm in an industry facing low imports from China and lacking a Chinese subsidiary has a less than .12% chance of requesting exclusion from a tariff. A large US firm in an industry with high imports and owning a Chinese subsidiary has a 2.01% chance. That number jumps to 10.81% if the firm's own product is actually covered by the tariffs. These findings are robust to controlling for input-sourcing and exporting and consistent across multiple definitions of tariff coverage and exclusion requests. We also collect supplementary information on firms' stated reasons for requesting exclusion which corroborate that offshoring of final production is an important driver of requesting exclusion alongside input-sourcing.

Our paper makes four contributions. First, we add to a burgeoning literature on the US-China trade war, and illuminate the important role that US firms have played in fighting back against the trade war.[8] The trade war, and other changes in the rapidly evolving US-China economic

[5] Helpman, Melitz and Yeaple (2004); Osgood (2020).

[6] Helpman (1985); Jensen, Quinn and Weymouth (2015).

[7] Manger (2012).

[8] See, for example, Kim and Margalit (2021); Hua et al. (2022); Lee and Osgood (2021); Liu and Woo (2018).

relationship, are among the most important developments in foreign economic relations of the past decade. Second, we collect important and original data on the exclusion request process, and explain the nature of firms' participation in exclusion-requesting for the first time. Recurring firm demands to reopen the exclusion process during the Biden administration are ample testament to its importance. More broadly, exclusion-seeking illustrates the ways that pro-trade firms beseech the bureaucracy for tariff relief (as with Miscellaneous Tariff Bills). Thus, seeking special treatment on trade is not just the preserve of protection-seeking firms. Third, we provide the most precise and targeted tests yet of the notion that firms resist protectionism in their own industries because of offshored final production. Previous literature has shown that this is one of several plausible mechanisms driving firms to oppose tariffs; we show definitively that this mechanism is present in this setting. A part of this contribution is the careful development of the theory and observable implications of final product offshoring as a driver of opposition to tariffs. Finally, we contribute to the literature on intra-industry divisions by illuminating perhaps the most pointed cause of those disagreements.[9] Firms that offshore production have the polar opposite preference over trade policy to firms that cannot. Showing that offshoring firms support free trade for their industry is therefore a key site for showing that firms within the same industry can have radically different views on trade.

Theory

In 2017, US makers of industrial machinery (NAICS code 333) exported $8.9 billion of equipment to China while the US imported $38.8 billion in industrial machinery from China, an import-export ratio of 4.35.[10] When the Trump administration levied a 25% tariff on industrial machinery at the beginning of its trade war against China, 48 American machinery companies asked the US Trade Representative to suspend the tariff *covering their own product*. Even more striking, 16 firms requested elimination of protection in their own industry in NAICS code 3339 ('Other General Purpose Machinery Manufacturing', where the import-export ratio is 5.1) and 4 of these firms were in NAICS code 333991 ('Power-Driven Handtools') with an import-export ratio of 88.2.

Several explanations for this behavior will leap to the mind of scholars of trade politics. Could the firms have been significant exporters who feared retaliatory tariffs? This is possible, though perhaps less likely given that firms were required to justify their request for exclusion with detailed information on their reliance on goods made in China (e.g., import volumes and availability of alternative suppliers). And reducing US tariffs on their specific product would not have provided a clear benefit before Chinese retaliation began. Could these firms have had significant input needs

[9] See Bombardini and Trebbi (2012); Madeira (2016); Osgood (2016, 2017*a*).

[10] https://www.census.gov/foreign-trade/Press-Release/related_party/rp_naics3_2016.csv.

from China? That is possible, although many firms explicitly stated in filings that their requests for reducing the tariffs were motivated by concerns over their "final products" and not "inputs." And their own products were in fact covered by Trump's tariffs. Instead, these firms were likely motivated to reduce US tariffs because they had moved production offshore to China, whether to their own facility or to a contract manufacturer. The offshoring of *final production* probably led these firms to support eliminating protection for their industry.

The purpose of this paper is to show that the above anecdote illustrates a much broader phenomenon. Offshore American firms systematically and in widespread fashion fight protection for their own industry. This exercise is made possible by several specific features of the US-China trade war. We develop our argument in three steps, covering: the extant literature on offshoring and a gap around examining offshoring of final production; background on the US-China trade war and the process of requesting 'exclusion' (i.e., relief) from Trump's tariffs; and our testable predictions.

When firms oppose protecting their own industry

The classic literature on trade policy and protectionism does not predict firms opposing trade barriers on their own products. In the 'producers versus consumers' model (Pareto, 1971; Grossman and Helpman, 1994), uncompetitive firms and industries are the demanders of trade protection to keep out foreign-made goods. The Ricardo-Viner model instead emphasizes the competition between competitive and uncompetitive industries (Frieden, 1991; Hiscox, 2001), but again, all firms in comparative disadvantage industries would benefit from trade protection. The literature on firms in trade politics, some long-standing and some much more recent, has a different vision (Milner, 1988*b*; Kim et al., 2019; Gulotty and Li, 2020). We focus on three parts: the rise of global production strategies, the utility of these strategies, and firm heterogeneity in the ability to take advantage of these opportunities.

Contemporary firms have developed a rich toolkit of strategies to globalize or 'offshore' production of their own products (Antras and Helpman, 2004; Grossman and Rossi-Hansberg, 2008; Eckhardt and Lee, 2018; Betz, Pond and Yin, 2021). They can produce their products overseas in their own foreign subsidiaries, branches, or plants. Keeping offshoring within the boundaries of the firm limits issues around incomplete contracts and monitoring, but at the expense of greater start-up costs (Markusen, 1995). As an alternative, firms can directly contract with foreign manufacturers. Though by no means easy, locating, training, hiring, and coordinating with foreign contract manufacturers may be cheaper than purchasing or creating a foreign subsidiary. Of course this strategy comes with risks of hold-up, theft of intellectual property (IP) or trade secrets, and run-of-the-mill misexecution. As a final alternative, some companies may indirectly source their final products overseas, choosing to purchase at arm's length from a wholesaler. This is the least likely of the three paths for manufacturers wanting control over their products' development and

specs, but it does happen.

Each of these strategies require an opportunity to take advantage of the resources, endowments, productivity, or other comparative advantage of a foreign trade partner. For example, offshoring won't make sense if labor is more expensive, managerial experience is lacking, or supply chains are underdeveloped in foreign markets. Thus, each of these strategies of foreign production are mostly restricted to cases where a firm's industry is at a comparative disadvantage, globally or in relation to a specific trade partner. It doesn't make sense for a firm to offshore production if it is located in the best market for producing that good, or even a marginally less competitive market. Only a large, fundamental, and multidimensional lack of competitiveness could plausibly motivate firms to pay the significant costs associated with offshoring production.

These costs are key to understanding the final aspect of offshoring production in the firm-centered trade politics literature: firm heterogeneity (Antras and Helpman, 2004; Plouffe, 2017). Moving production offshore, whether to a subsidiary or a foreign manufacturer, has large start-up costs. These fixed costs mean that only firms producing at sufficiently large scale find it profitable to move overseas. Thus offshoring is more likely to be concentrated among large firms. In a similar way, only firms that are sufficiently productive (with high enough margins per unit sold) will find the per-unit costs of offshoring bearable. Thus offshoring is concentrated among highly productive firms (Helpman, Melitz and Yeaple, 2004).

These three pieces – 1) offshoring of final production 2) by large, productive firms 3) in comparative disadvantage industries – fundamentally change the predictions from the classic literature, i.e., that firms in uncompetitive industries should be united in strong support for trade protection. Instead, firms that have offshored final production strongly oppose tariffs in their own industry (Yildirim, 2018; Kim and Spilker, 2019). Those tariffs will raise the landed price of their foreign-made goods, to the advantage of producers that are producing at home or in another foreign market not covered by tariffs. Note, moreover, that the greater the comparative disadvantage of the local industry, the higher the intensity of the preference against tariffs among producers that have gone offshore. This different vision of producers' preferences is important because it means that industries that otherwise might be united in the search for protection are undermined from within. This makes it harder to secure protection, because the industry doesn't speak with one voice.

It is important to contrast this argument with three other ideas about when firms will support trade liberalization, one of which is complementary but distinct, and two others which have different mechanisms.

First, support for trade liberalization among big firms also occurs due to the global sourcing of *inputs* (Manger, 2012; Jensen, Quinn and Weymouth, 2015; Eckhardt and Lee, 2018; Kim and Spilker, 2019; Park and Kim, 2020; Zeng, Lu and Li, 2021). Unlike final products, inputs, parts, and components are clearly upstream of the product a company produces. However, like final production, global sourcing of inputs generate frictions between the larger firms that can exploit

opportunities for input sourcing abroad, and smaller firms that can't (Osgood, 2017*b*). Note that firm support for reducing tariffs on inputs has distinct empirical implications. For example, firms should seek tariff reductions on clearly upstream goods (not their own product) and the intensity of the preferences is stronger where upstream foreign suppliers are more competitive (Yildirim, 2018; Osgood, 2018).

Second, firms in strongly export-competitive industries facing no import competition might support liberalization of their own industry (Dür, 2011). Certainly they have no motive to oppose liberalization, but they may actively support trade liberalization of their own industry if they view such policy move as part of a strategy to cut tariffs in global negotiations. Whether trade partners would fall for such an empty concession is a different question, but at least it provides an alternative explanation for why exporting firms or industries would support trade. Note that this explanation should be present among firms of all sizes in strongly export-competitive industries, and depends on a surrounding context of reciprocity.

Finally, big firms in industries with significant intra-industry trade might support reciprocal liberalization (Madeira, 2016; Osgood, 2016). As with offshoring and importing, economists have documented that exporting is often dominated by a small number of large firms (Baccini, Pinto and Weymouth, 2017; Osgood et al., 2017). Amidst intra-industry trade, small firms that don't export will oppose trade and strongly support protection; larger firms may support liberalization of their own home market as the price for gaining access to a foreign market. As in the case described above, reciprocity is key to unlocking large, exporting firms' support for liberalization in industries with intra-industry trade (Davis, 2004; Betz, 2017).

The state of the literature

The firm-centered model of trade politics has been tested in two ways. First, industries with certain characteristics are more divided over broadly liberalizing agreements. Industries where products are differentiated or intra-industry trade is high are more likely to have internal divisions over US trade agreements (Osgood, 2016; Madeira, 2016; Osgood, 2017*a*; Kim, 2017; Baccini, Pinto and Weymouth, 2017; Anderer, Dür and Lechner, 2020). Industries with greater related-party trade and input sourcing are also more divided (Zeng and Li, 2021; Osgood, 2017*b*). Second, scholarship has shown that large firms and firms with foreign subsidiaries are more supportive of trade liberalization (Drope and Hansen, 2006; Osgood, 2020; Manger, 2009; Kim, 2015; Plouffe, 2017; Kim and Milner, 2019; Zeng, Sebold and Lu, 2020; Baccini et al., 2022). But again, the focus has been on Preferential Trade Agreements (PTAs) and other broad forms of liberalization.

This literature is valuable but it has several gaps in precisely testing the argument that industrial opposition to trade is hollowed out by firm heterogeneity in the ability to offshore final production. First, comprehensive forms of trade liberalization, like PTAs or GATT rounds, cut tariffs across

huge arrays of products. So firms might come out to support a trade deal because they want to offshore their own final product, or because they source inputs from overseas, or because they are exporters. Second, comprehensive forms of trade liberalization, like PTAs or the creation of the WTO, have many implications across a wide variety of policy instruments, some of which are barely connected to trade (Postnikov and Bastiaens, 2020; Di Ubaldo and Gasiorek, 2022; Lechner, 2016; Kim, 2021). If we observe that large firms in uncompetitive industries support trade agreements, this activity is liable to multiple interpretations, including that they are benefiting from the myriad of policy changes involved in contemporary trade agreements. Finally, many PTAs may not make specific and meaningful adjustments to trade barriers, because trade is often quite free already under MFN rules. Firms may still come out to support the agreements to lock in tariff cuts or deals, but the stakes may be somewhat low.

So what do we need to effectively test the idea that offshoring of final production leads firms to oppose tariffs in their own industry? First, we want to unambiguously identify that firms support lowering tariffs on their own final products, and are not just motivated by domestic tariff cuts on inputs or foreign tariffs cuts that will improve their export access. Second, we would like to find a setting where firms are clearly motivated by tariffs or other forms of clear trade protection, and not other policies that are included as part of large package negotiations (Davis, 2004). Finally, we would like to find a setting where the stakes are high, and a demand for liberalization in one's own industry could seriously impact trade flows. We argue that the exclusion process associated with Section 301 tariffs meets all of these criteria.

The US-China trade dispute and the tariff exclusion process

The US's economic relationship with China is complex, interdependent and contentious. Trade volumes between the US and China expanded dramatically after China joined the WTO. Trade volumes peaked in 2017, with US imports of goods from China reaching $505 billion, 21.4% of total merchandise imports. US exports of goods to China peaked at $130 billion (8.6% of goods exports). Despite China's plans for technological catch-up, the two economies maintain significant complementaries in their comparative advantages, so that sharp industry-by-industry trade imbalances prevail.[11] As China became the world's manufacturing hub, American businesses took advantage of better production costs and manufacturing efficiencies in China. Many US companies shifted manufacturing to China, contracting for inputs or having final goods assembled and sourced back to the US (Baldwin and Okubo, 2014).

China's dominance in world manufacturing and supremacy in global supply chains also became a source of friction in US-China relations (Kuk, Seligsohn and Zhang, 2018; Tiberghien, Chu and

[11]US-China bilateral trade is highly inter-industry in nature, scoring only a .29 on the Grubel-Lloyd index (Grubel and Lloyd, 1971).

Zheng, 2020). Domestically, there have been growing concerns about job losses due to outsourcing and import competition with China (Kerner, Sumner and Richter, 2020; Owen and Johnston, 2017; Autor, Dorn and Hanson, 2016; Ebenstein, Harrison and McMillan, 2015). There have been multiple accusations of China improperly intervening in foreign exchange markets and manipulating its currency to boost exports. State-led industrial programs such as "Made in China" have been criticized as unfair competition due to the use of government subsidies, contested IP practices, and state ownership (Oh, 2021; Ahn and Lee, 2011).

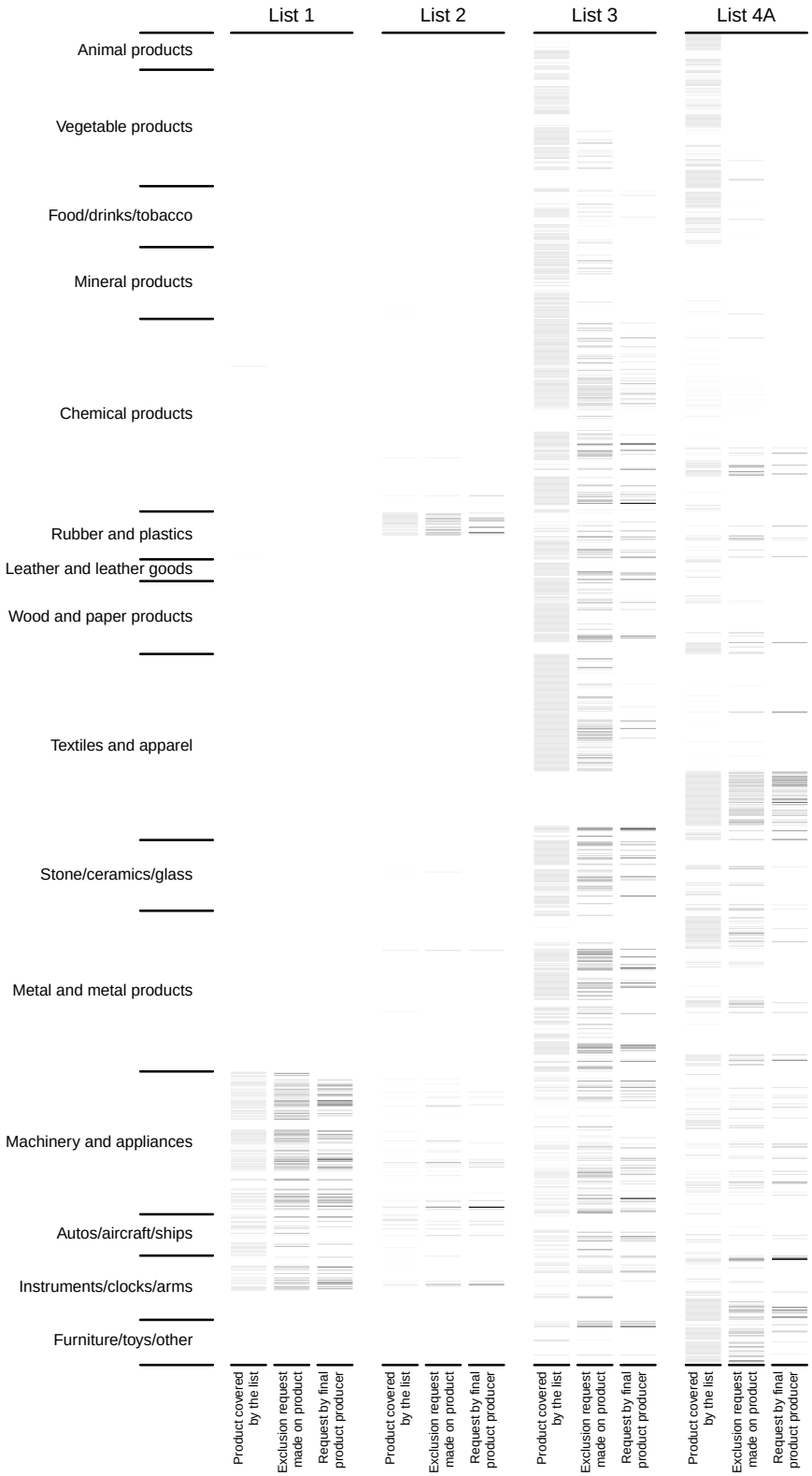
Trade relations with China became particularly salient during the 2016 Presidential elections, and dramatic changes were in store once Donald Trump was elected (Hua et al., 2022; Bulman, 2021). Under Trump's direction, the USTR initiated an investigation of China under Section 301 of the Trade Act of 1974. In a 215-page study of China's IP policies, the USTR determined China's practices are "unreasonable or discriminatory, and burden or restrict US commerce." Beginning in 2018, the Trump administration implemented successive rounds of tariffs.

The initial phase consisted of 'List 1' tariffs of 25% placed on $34 billion worth of Chinese goods in July 2018. 'List 2' tariffs, also at 25%, were placed on a further $16 billion worth of Chinese goods in August 2018. 'List 3' tariffs of 10% (later increased to 25%) were placed on $200 billion worth of Chinese imports. Then, 'List 4A' tariffs of 15% were placed on $120 billion worth of Chinese goods. Plans for 'List 4B' tariffs on a final $160 billion worth of Chinese goods were called off and the 4A tariffs were reduced to 7.5% in February 2020, as a result of the Phase One trade deal. Considering that the simple average MFN applied tariffs of the US against the world was 3.4% in 2018, these additional tariffs on Chinese imports were substantial in terms of level and breadth.

The scope of the Section 301 tariffs is seen in Figure 1. Each horizontal line in the figure represents one of 1222 4-digit HTS (Harmonized Tariff System) industries. For example, 0409 (in Animal products) is Honey while 5905 is textile wall coverings. Each of the 4 columns represents one of the tariff lists; the first sub-column in each (colored in light gray and labeled "Product covered by the list") represents the share of 8-digit HTS codes that is covered by a tariff within the 4-digit industry. For example, no rubber or plastic products were covered by List 1, but subsequent lists (especially List 2) covered most of those products. The figure illustrates the evolution of the trade war, from the advanced manufactured goods and rubber/plastics of the first two lists, to the much broader and eventually comprehensive coverage of Lists 3 and 4A.

For each new round of tariff adjustments, the USTR solicited comments from stakeholders. The volume of submissions was unprecedented. Producers, mainly pro-trade firms and associations, raised concerns about harm to their businesses and broader US interests. In their submissions, producers predominantly mentioned disturbance to global supply chains (87%) as their primary reason for taking a position on Section 301 tariffs. Import competition from China (7.9%), threat of Chinese retaliation on exports (4.9%), and Chinese intellectual property and technology transfer

Figure 1: Tariff coverage and exclusion requests across industries



practices (2.2%) were mentioned only sparingly (Lee and Osgood, 2021).

In response, the USTR created a process for interested parties to petition for specific products to be *excluded* from the Section 301 tariff increases (CBO, 2020; GAO, 2022). Through the *Federal Register*, the USTR announced the procedures for tariff exclusions, and began accepting exclusion requests for List 1 tariffs in July 2018, and List 2 tariffs in September 2018. Lists 1 and 2 exclusion requests were received through Regulations.gov. Later, the USTR developed a separate online portal to accept exclusion requests for Lists 3 and 4A.[12] Through these platforms, the USTR asked requestors to provide a detailed product description along with the applicable 10-digit HTSUS product category, and a rationale for the exclusion.

Figure 1 illustrates the breadth of the response from firms seeking exclusion. Recall that in the figure each line represents a four-digit HTS industry, and each main column describes one of the four lists of tariffs. The middle subcolumn in each of these (colored in medium gray and labeled "Exclusion request made on product") is filled in according to the share of 8-digit tariffs in each 4-digit industry that had at least one request for exclusion filed with the USTR. In other words, the medium gray of the middle subcolumns displays the extent to which firms opposed the Section 301 tariffs. For example, requests for exclusion were submitted for virtually all of the tariffs applied to Machinery and appliances industries covered under List 1; but relatively few of the Animal and Vegetable products covered in List 4A. The figure illustrates that at least one request for exclusion was registered across a wide array of tariffs.

Figure 2 shows the depth of firms' requests for exclusion. For each list, the distribution of the number of exclusion requests falling under any given 8-digit tariff code is represented in gray. For example, 41% of 8-digit tariffs in List 1 had 0 exclusion requests filed; while about 7% had 50 or more exclusion requests filed. The coverage of exclusion requests looks strikingly more comprehensive when we weigh exclusion requests by total US imports from China in the 8-digit HTS industry. For example, 20-30% of US imports on Lists 1, 2, and 3 had more than 50 exclusion requests.

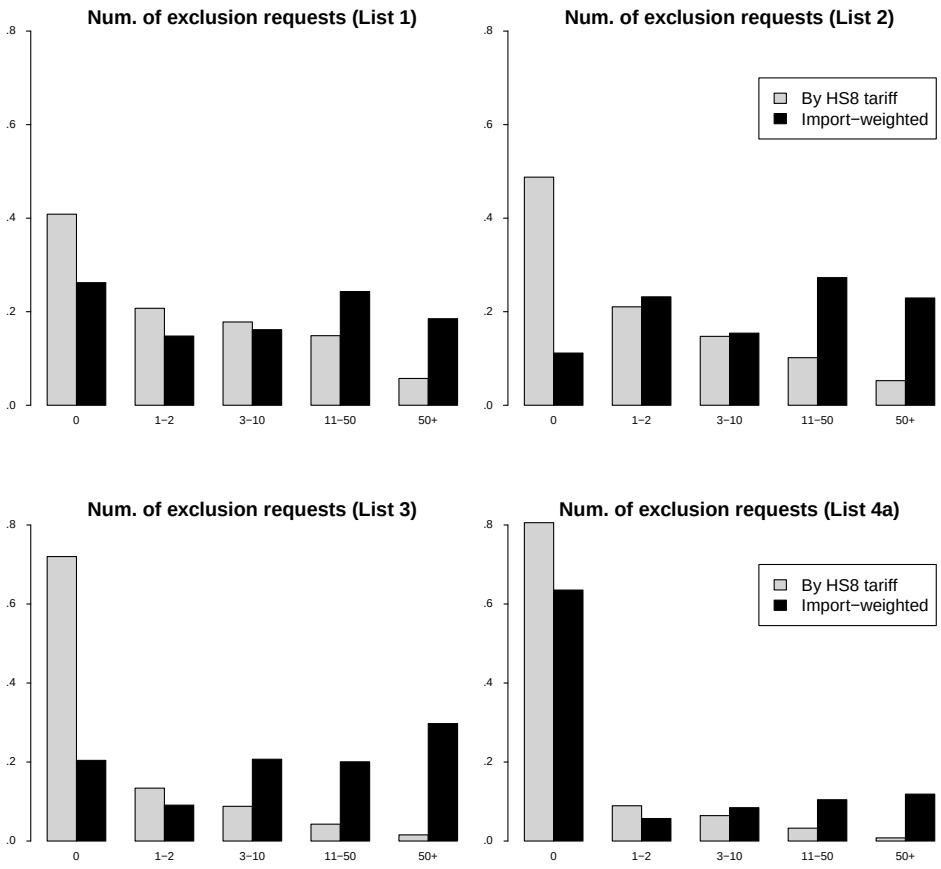
We conclude by noting that each request ultimately resulted in a ruling by the USTR on whether to exclude the tariff. These rulings were based on a detailed set of criteria and information supplied by the requestors. We leave investigation of the rulings to future research, and focus here on firms' decisions on whether to request exclusion.

Testable theoretical implications

The exclusion request process provides a unique opportunity to precisely test the idea that offshoring firms oppose protection for their own industry. Firms requesting that products be excluded from the Section 301 tariffs have to request a specific 10-digit HTS code for exclusion. We can then trace back whether that code relates to a product that the firm produces, or if it is more likely to be an

[12]https://comments.ustr.gov/s/?tabset-a7e8a=2.

Figure 2: Depth of requests for exclusions across tariffs and lists



input. Moreover, the exclusion process is clearly focused on one issue: a US tariff being placed on a product. Requests for exclusions therefore focus on a clear and well-defined policy end, and support for that exclusion cannot be conflated with other policy issues or other trade barrier reductions. Finally, the tariffs – especially in Lists 1, 2, and 3 – were big. A 25% tariff is a significant cost, especially on a final product, so the stakes in the tariff war were high.

So what do we expect to see if offshoring firms are coming out to support reductions in tariffs in their own industries? Particular types of firms will request exclusions. They should be larger, and so able to undertake the significant costs of offshoring production. They should be in industries where the US imports a great deal from China. And some of these firms will own subsidiaries in China. Importantly, we expect these firm-level characteristics to especially drive requests for exclusion among firms whose *own product or products* are covered by a tariff. This interaction provides the crucial evidence that offshoring firms are seeking to end protection for their own

products. To see this, consider if we found an association between owning a Chinese subsidiary and making an exclusion request. That might be consistent with a firm seeking exclusion for their own product but it could also be that the firm offshored input production or just doesn't like the trade war because of the frictions with a key host market. Showing that firms which own subsidiaries *and* whose final products are covered by a US tariff are especially likely to request exclusion is therefore key.

We operationalize our theory with three testable hypotheses. First, firms that are larger and whose final products are covered by a Section 301 tariff are more likely to file an exclusion request (H1). Second, firms that own subsidiaries in China and whose final products are covered by a Section 301 tariff are more likely to file an exclusion request (H2). Third, firms in industries that face more imports from China and whose final products are covered by a Section 301 tariff are more likely to file an exclusion request (H3). Put another way, if firms offshoring production are requesting tariff relief, any positive association between exclusion-requesting and firm size (or ownership of Chinese subsidiaries or imports from China) should be particularly strong for firms whose final product industry is covered by a tariff.

We highlight three points on these hypotheses. First, each of these hypotheses focuses on the interaction between a firm-level characteristic and whether the firm is covered by a Section 301 tariff for its own final product. Focusing on the interaction terms' coefficients is therefore critical for testing the hypotheses. For example, we expect that the coefficient on the interaction term between a firm size measure and a Section 301 tariff coverage measure will be positive. Of course, the theory also predicts that the net effect of firm size (and coverage by tariffs) on exclusion-requesting will be positive as well, so we must also be mindful of the size and sign of lower-order terms relative to the interaction term. Second, each of the hypotheses helps to distinguish the idea of firms offshoring final production opposing tariffs from alternative explanations focused on input-sourcing and exporting. For example, input-sourcing firms would have no concern if their final product is covered by a tariff, and should not be swayed by own-industry imports, bur rather imported inputs. Exporters fearing retaliation should also not be (positively) influenced by imports from China and ownership of subsidiaries should not drive requests for exclusion.[13] We highlight however that support for the final product offshoring mechanism does not preclude that other mechanisms are simultaneously active. Finally, and relatedly, it is important that the

[13]The interaction between firm size and tariff coverage is perhaps the least discriminating of the empirical implications. For example, larger firms might be offshoring final production or exporting to China – and both types of firms might oppose the trade war. Therefore, it is valuable that the interaction of tariff coverage with imports and ownership of a foreign subsidiary does provide a sharper empirical test. We discuss how the nature of the exclusion request process might also inform discriminating among the competing explanations below. Finally, it is also true that firm size might interact with coverage because larger firms are more politically active.

above predictions hold conditional on firms' interests in input-sourcing from China and exporting to China, the leading alternative explanations for when firms oppose tariffs. This is because it is plausible that input-sourcing, importing, and exporting might be correlated, because they occur in similar industries or among the same firms.

Exclusion Requests: Data and Descriptive Investigation

Collection of the exclusion requests data

As described above, the USTR established a process by which US stakeholders could request that products be excluded from Section 301 duties as they unfolded across the four lists. Because firms' requests for exclusion lie at the center of our analysis, we supply technical details and statistics on the lists and the exclusion process in Table 1. Each list began with an announcement in the Federal Register providing notice of the tariffs. The volume, issue, page number, and date in the Federal Register are given in the rows of the table labeled 'Notice of action' and 'Notice date'. Each notice had an associated docket, and stakeholders and the public were offered the opportunity to provide comments on the proposed action at the Federal eRulemaking portal `www.regulations.gov`. These comments were a lively site of feedback though we do not investigate them in this paper.

The notices in the Federal Register included the most pertinent information on the tariff actions. The proposed additional ad valorem tariff was listed for each action. For example, Lists 1-2 goods were to be subject to a 25% additional tariff on all goods covered under the action, while List 3 goods were initially slated for a 10% tariff but then ultimately raised to 25%, following a setback in US-China trade negotiations.[14] Each notice included an Annex or Annexes setting out the 8-digit HTS codes to be covered by a tariff, and any good falling within one of those codes would be required to pay the additional tariff if imported from China to the US. We record in the table the number of 8-digit codes for each list and the approximate amount of imports from China covered by the proposed tariffs, as well as the level of the final tariff and its starting date.

Procedures for exclusion requests were set out in subsequent notices. Exclusion requestors were asked to provide their organization name, a 10-digit HTS code and description of the product, and answers to a variety of questions including whether they use the product as a final product

[14]List 4A had an even more convoluted history. Annexes A and C of the Federal Register announcement (August 20, 2019 notice) were both initially slated for a 10% tariff. These two separate lists of tariff subheadings had two different effective dates: 9/1/19 for Annex A and 12/15/19 for Annex C. On August 30, 2019, the USTR, at the discretion of the President, increased the rate of additional duties from 10% to 15%. But after the Phase One trade deal, Annex A was knocked down to a 7.5% tariff while the additional tariff on Annex C was suspended entirely. Because the exclusion process began well before these decisions, we consider both Annexes A and C as being covered for purposes of defining covered HTSUS codes below.

Table 1: Technical information and statistics on tariff lists and exclusion process

	List 1	List 2	List 3	List 4A
Notice of trade action:				
Notice of action:	83 (67) 14906	83 (119) 28710	83 (137) 33608	84 (161) 43304
Notice date:	4/6/18	6/20/2018	7/17/2018	8/20/19
Notice docket:	USTR-2018-0005	USTR-2018-0018	USTR-2018-0026	USTR-2019-0004
List tariffs and trade statistics:				
Proposed tariff:	25%	25%	10%	10%
8-digit HTS codes:	818	279	5,733	3,207
Import amounts:	$34b.	$16b.	$200b.	$120b.
Ultimate tariff:	25%	25%	10%, 25%	15%, 7.5%
Tariffs in force:	7/6/18	8/23/18	9/24/18, 6/15/19	9/1/19, 2/14/20
Notice of exclusion process and exclusion request statistics:				
Excl. procedures:	83 (133) 32181	83 (181) 47236	84 (121) 29576	84 (206) 57144
Excl. req. docket:	USTR-2018-0025	USTR-2018-0032	USTR-2019-0005	USTR-2019-0017
Excl. site	regulations.gov	regulations.gov	USTR portal	USTR portal
Num. of requests:	10,814	2,956	30,283	8,780
Unique HTS codes (10):	836	210	2,243	1,226
Unique HTS codes (8):	511	148	1,690	756
Unique requestors:	1221	467	2,591	1,241

or input. These requests were made public under a separate docket (listed in the table as 'Excl. req. docket'). The first two lists' dockets were made available through `www.regulations.gov`; the second two lists' dockets were provided at a newly created USTR Comments Portal `https://comments.ustr.gov/s/`. We scraped the sites in order to collect all requests for exclusion.

We record the number of exclusion requests available on the websites for each list, and describe the number of unique 10-digit HTSUS codes as well as the number of unique organizations (almost all firms) requesting exclusion. As can be seen, the number of requests were significant. Because single companies in some cases filed numerous requests it is also useful to look at the number of HTS codes covered and the number of unique requestors.[15] Looking at the number of unique 8-digit HTS codes filed in exclusion requests in the row 'Unique HTS codes (8)' is especially illuminating in comparison to the number of 8-digit HTS codes covered by the tariffs (row '8-digit HTS codes').

[15]AEP Holdings Inc., a holding company for an aftermarket autopart supplier, filed over 10,200 of the List 3 requests covering only 87 unique HTS codes, a uniquely large filing in our data. Across all of our lists, two other companies filed just over 1000 requests (1397 and 1042) on a single list, and a further 80 filed over 100 requests on a single list. In general, requestors could file multiple filings for a single HTS 10 code if the products imported under that code differed, and could also file multiple requests across different codes.

Descriptive findings on requesting exclusion

Before we move to our formal hypothesis testing, we provide some descriptive information on the role of final products offshoring in seeking exclusion. These descriptive results illustrate in various ways the importance of final product producers in opposing tariffs in their own industries.

We first examine what share of the requested exclusions were made by firms actually producing the good on which they requested exclusion. First consider the exclusion requests for List 1. The docket had 10814 unique requests for exclusion; out of these, 1721 of the requests were for tariffs that map back to one of the 6-digit industries of the firm making the request. That is an overall rate of 15.9%. Using a less stringent approach, 35.0% of requests were for tariffs that map to one of the 3-digit industries of the firm making the request. Since many products do not involve significant sourcing of parts/inputs from within the 3-digit industry, this larger figure may be closer to the truth. The figures are similar for List 2. 13.3% and 27.3% of requests map to a 6- or 3-digit NAICS code of the requestor, respectively. For lists 3 and 4A, the equivalent figures were 8.7% and 17.3% of requests mapping to one of the requestor's 6-digit industries, and 16.0% and 34.8% mapping to a 3-digit industry. In other words, for a typical list, at least 9-17% of requests came from a firm who almost certainly produce the product that they requested exclusion for, and perhaps as many as 16-35% were likely producers of the product.

The exclusion request data afford us a second, independent chance to illustrate the importance of final products. On the exclusion request forms, requestors were asked to report whether the request concerned primarily a "final product" or an "input". Of course, not all firms stating "final product" are producers of that product (as with wholesalers and retailers). So we then consider firms that are themselves producers of goods (i.e., in NAICS industries beginning with 11, 21, or 31-33). For example, on List 1, 13.6% of requestors report that the firm is requesting exclusion of a "final product" and are themselves producers of goods. It is likely that most of these firms were therefore requesting exclusion of their own product. The same figures for the other dockets are even higher: 29.3%, 18.8%, and 34.7%.

The figures from these two approaches are strikingly similar across the dockets, though one is based on tariff coverage and detailed industry codings from Orbis and the other is based on firms' self-reports. It seems that for most of the lists, a sizable minority of firms varying between 14-35% came to request exclusion for their own products. Thus, requesting exclusion on one's own final product was not the majority of exclusion-requesting, but it was a significant minority of the exclusion requests.

We further illustrate this point by showing the breadth of exclusion-requesting in Figure 1. In the figure, the third subcolumn in each major column (colored in dark gray and labeled "Request by final product producer") represents the share of tariff codes that had an exclusion request by at least one firm with a 6-digit NAICS industry related to that tariff. Thus the third subcolumns

are a subset of the exclusion requests that are represented in the second subcolumns, and represent only those requests that were made by firms that actually produce the product that was covered by tariffs. As can be seen, coverage of the tariffs with exclusion requests from 'final producers' is extensive, particularly across the first two dockets and in the industries where it is more plausible that US firms would offshore final production to China. These data therefore again illustrate that exclusion requests by producers of final products were a significant feature of the exclusion request process. Of course, these are not formal hypothesis tests and they neither permit us to explore the mechanisms underlying offshore producers' opposition to tariffs nor to control for alternative explanations. For these tasks, we must turn to our regression-based tests.

Regression-Based Tests: Data and Findings

Sample of firms and covariates

In order to formally test our theory of what leads firms to request exclusion of their product from Section 301 tariffs, we need a representative sample of US firms including firms that never requested an exclusion. We turn to the Orbis dataset supplied by Bureau Van Dijk. From Orbis, we downloaded the names, identifying information, and other covariates of all American firms in goods-producing industries (NAICS codes 11, 21, and 31-33) that Orbis classifies as medium, large, or very large (these are 195,911 firms). We also downloaded a random sample of 100,000 US goods firms that Orbis classifies as small. We use weights in all of our regression models to upweight the smaller firms in our subpopulation so that our weighted sample correctly reflects the population of firms in Orbis. Note two further points. First, we focus on goods-producing firms, because these are the only firms whose products are covered by tariffs. Of course, wholesalers, retailers, and other services firms might request exclusion of products because they are intermediaries or buy inputs. Second, we include all goods firms that requested an exclusion within our sample; weights are adjusted to account for this. We match exclusion-requesting firms to firms in Orbis by name.

The unit of analysis for our panel data is the firm-list. We represent firms in our sample with the subscript i and represent the lists with the subscript l. Our main outcome is a dichotomous variable equal to 1 if a firm requested 1+ exclusion on a given list. We call this $Exclusion\ requested_{il}$. This is constructed from the exclusion request data described in the previous subsection and using our matching of exclusion-requesting firms to Orbis records.

Orbis provides us a host of additional information on firms. Most important of these are codings of firms' industries (i.e., codings of the final products that are produced by firms) which are supplied at the 6-digit NAICS level. We used these codings to construct a variable called $Covered_{il}$, which is equal to 1 if any one of a firm's final products was covered by a particular list of tariffs. To construct this measure, we start with all of the 6-digit NAICS industries for a firm supplied by

Orbis. We map these 6-digit NAICS industries to a corresponding set of 8-digit HTS codes using the 2019 imports concordance from the US Census Bureau.[16] We then determine if any of those HTS codes was covered by a tariff for a given list l. If so, then we say that a firm was "covered" by the list's tariffs, and we set $Covered_{il} = 1$. We examine below alternative measures of coverage to show that our findings our robust to alternative approaches.

We also coded a similar variable for whether the inputs used by firms are covered by Section 301 tariffs, which is a continuous measure called $Input\ coverage_{il}$. This measure is proportional to the share of the inputs that a firm uses to make its final products that are covered by a tariff. To construct this measure, we start with all of the 6-digit NAICS industries for a firm supplied by Orbis and map those back to NAICS input vectors using input-output tables.[17] The input vectors describe the share of a product's value that originates in various inputs described at the 6-digit NAICS level. We map the input industries to a corresponding set of 8-digit HTS codes using the 2019 imports concordance from the US Census Bureau, and then determine if any of the HTS codes have a tariff for a given list.[18]

In most models we include measures of firm size, foreign subsidiaries/branches, and trade data with China. Orbis supplies roughly coded firm sizes of small, medium, large, and very large. For simplicity of presentation, we recode this into a variable called $Large_i$ which equals 1 if a firm is large or very large. We subset our data to examine only large and very large, or only very large firms, at a few points. Additionally, we describe below using revenues to measure firm size in a subsample of publicly traded firms where revenue data are available. To measure firms' foreign operations in China, we count the number of China-located subsidiaries owned by a firm according to Orbis. We use a dichotomous version of this variable, which is equal to 1 if a firm has any subsidiaries in China, called $China\ subsidiary_i$.

To measure firms' trade exposure to China, we use data from the US Census Bureau's "NAICS Related Party Database" at the 6-digit NAICS level. We examine US trade with China summed across all years from 2010-14 to average over year-to-year variation. We use these data to measure

[16] https://www.census.gov/foreign-trade/reference/codes/index.html.

[17] We use the Bureau of Economic Analysis's benchmark Input-Output "Direct Requirement Detail" table from 2002 from https://www.bea.gov/industry/benchmark-input-output-data#2002data. We convert the table into a matrix defined using 2017 6-digit NAICS nomenclature.

[18] As a simplified example, suppose that the input-output table says that a firm uses 20% corrugated cardboard boxes; 20% steel beams; and 60% labor as inputs. If a given list placed a tariff on only cardboard boxes, then the Input coverage measure would be .2. But if the list placed a tariff on boxes and beams, then the Input coverage measure would be .4. If a firm has multiple 6-digit NAICS industries, then we average this measure across all of its industries. Note that we rescale the Input coverage measure in the empirical models such that its median is equal to 1 in the empirical testing, which makes its distribution more similar to that of the Covered measure.

US imports from China; US exports to China; and inputs imported to the US from China for each NAICS industry, which are calculated using the approach described in Osgood (2018).[19] For each of these trade flows, we sum the total trade flows across all of a firm's 6-digit NAICS industries. We call the resulting variables *Imports*$_i$, *Exports*$_i$, and *Imported inputs*$_i$.

We control for firms' general profile in global production with dummy variables for whether the firm owns a non-Chinese foreign subsidiary or foreign branch, both constructed using data from Orbis. We include a dummy variable for whether a firm is currently public, which is taken from Orbis. We also include separate intercepts for each list. In addition to these measured covariates, we include in our main models 3-digit NAICS industry fixed effects. These fixed effects partial out all unmeasured industry-level factors that might conduce towards filing an exclusion request.

We use in all instances a weighted linear probability model, that is, weighted OLS with a dichotomous outcome. We do so because generalized linear models are biased in the presence of fixed effects due to the incidental parameters problem. Linear models also make interpretation of the interaction terms on which our hypothesis testing relies much more straightforward. Non-linear models imply interactions even in the absence of interaction terms; linear models do not.

Our three hypotheses focus on the interaction of firm-level characteristics (relating to size, trade exposure, and multinationality) and whether the firm's final product was covered by the tariffs on a particular list. We test these ideas with a linear predictor called F_{il} because it refers to offshoring of final production:

$$\begin{aligned} F_{il} \;=\; & \beta_1 \cdot \text{Covered}_{il} \;+\; \beta_2 \cdot \text{Large}_i \;+\; \beta_3 \cdot \text{Large}_i \cdot \text{Covered}_{il} \;+ \\ & \beta_4 \cdot \text{China subsidiary}_i \;+\; \beta_5 \cdot \text{China subsidiary}_i \cdot \text{Covered}_{il} \;+ \\ & \beta_6 \cdot \ln \text{Imports}_i \;+\; \beta_7 \cdot \ln \text{Imports}_i \cdot \text{Covered}_{il} \end{aligned}$$

We expect that interaction term coefficients β_3, β_5, and β_7 will all be positive. If so, the effect of the respective firm-level variable will be larger for a covered firm; and the effect of coverage will be greater among larger, more multinational firms in import-competing industries. Secondarily, we also expect that the lower-order β coefficients numbered 2, 4, and 6, will be positive or, if negative, noticeably smaller in absolute value than their corresponding interaction coefficient, i.e., $\beta_2 + \beta_3 > 0$, $\beta_4 + \beta_5 > 0$, and $\beta_6 + \beta_7 > 0$.[20] If these inequalities hold, then the effect of the

[19]Note further that we examine all trade, and not just trade among related parties which is a common proxy for intra-firm trade by vertical multinationals. We examine all imports, and not just related-party imports, for example, because many US firms offshore final production to Chinese manufacturers. Such trade is not related-party trade.

[20]These statements are made with a model without conditioning on alternative explanations in mind, e.g., Table 2 model 1. The first two inequalities would also include the coefficients γ_2 and γ_3, multiplied by a reasonable value of Input coverage, in models where the alternative explanations are included as controls.

firm-level feature on exclusion-requesting is positive among covered firms.

It is valuable to show that our main tests are robust to controlling for the two prime alternative explanations for firm opposition to tariffs: the sourcing of inputs from overseas and fears of retaliation among exporters. We operationalize those alternatives in a linear term called A_{il}:

$$\begin{aligned} A_{il} \;=\; & \gamma_1 \cdot \text{Input coverage}_{il} \;+\; \gamma_2 \cdot \text{Large}_i \cdot \text{Input coverage}_{il} \;+\; \gamma_3 \cdot \text{China sub.}_i \cdot \text{Input coverage}_{il} \;+ \\ & \gamma_4 \cdot \ln \text{Imported inputs}_i \;+\; \gamma_5 \cdot \ln \text{Imported inputs}_i \cdot \text{Input coverage}_{il} \\ & \gamma_6 \cdot \ln \text{Exports}_i \;+\; \gamma_7 \cdot \ln \text{Exports}_i \cdot \text{Covered}_{il} \end{aligned}$$

The first two lines of A_{il} tests the input-sourcing explanation for firms' opposition to Section 301 tariffs, while the third line of A_{il} tests the notion that exporters will oppose the tariffs.[21]

Finally, we also include a supplemental matrix of controls in all models called X:

$$X_{il} \;=\; \delta_1 \cdot \text{Foreign subsidiary}_i \;+\; \delta_2 \cdot \text{Foreign branch}_i \;+\; \delta_3 \cdot \text{Publicly traded}_i \;+\; \mu_l \;+\; \mu_{\text{Industry}}$$

where μ_{Industry} refers to 3-digit industry fixed effects. Ultimately, our most comprehensive model (which corresponds to model 2 in Table 2) is the following:

$$\text{Exclusion requested}_{il} \;=\; F_{il} + A_{il} + X_{il} + \epsilon_{il}$$

where e_{il} represents the error term. Note that we suppress the estimates for variables that do not directly relate to our hypotheses to facilitate presentation.

Results of hypothesis testing

We begin by examining the sign and significance of the regression coefficients associated with our three hypotheses, then we interpret the models substantively. Our hypotheses predict that firm size, MNC presence in China, and industry imports from China should each positively interact with coverage by a Section 301 tariff to generate exclusion requests. Model 1 of Table 2 shows exactly this pattern, as the coefficients on *Large·Covered*, *China sub.·Covered*, and ln *Imports·Covered*, are each positive and significant. This same pattern is observed when the input-related variables are introduced as controls in model 2, though the size of the interactions terms is somewhat attenuated.

While the size and significance of the interaction term described above is the sharpest test of our

Note that our theory also implies that the net effect of Covered should be positive among large firms, firms with subsidiaries in China, or firms with a great amount of imports.

[21] Note also that the lower order terms for Large_i, $\text{China subsidiary}_i$, and $\ln \text{Imports}_i$ are contained in F_{il}. As discussed above, a positive sign for β_2 and $\beta_2 + \beta_3$ might also be consistent with the idea of exporting firms opposing protection.

theory, it is important to examine the lower order terms in relation to the interaction terms. For example, a positive interaction between Large and Covered might still admit the possibility that firm size has a negative effect even among covered firms (if there were a large negative coefficient on Large). Such an effect would not be consistent with our theory. We therefore checked confidence intervals for each of the interaction terms plus their corresponding firm-level lower order terms, and found that they are all positive and easily exclude zero.[22] Thus the effects of the firm-level features are positive among firms covered by a tariff. Also consistent with our argument, the effect of Covered is positive for large firms, firms with Chinese subsidiaries, and in industries with even moderate volumes of imports from China.[23]

We see very similar patterns within two subsamples of the data, one consisting only of large or very large firms (models 3-4) and one consisting of very large firms only (models 5-6). These analyses are useful because trade flows might be most significant among large firms, i.e., the firms that are more likely to benefit from offshore-outsourcing production to foreign contract manufacturers. In fact, we do see a pattern consistent with that idea, as the coefficient on the interaction between $\ln Imports$ and $Covered$ increases significantly in models 3-6.

In Table 3, we translate our findings into meaningful and interpretable statements about the chances that a firm will file an exclusion request. All of the numerical figures in the table represent percentage chances (out of 100) rather than probabilities. We do this only to make comparing the differences easier, because probabilities require more significant digits. Note furthermore that all of the estimates in the top third of Table 3 are based off of model 1 from Table 2.

To start, consider a small firm in an industry with low imports from China and without a Chinese subsidiary. Whether the firm's product is covered or not, its percentage chance of filing an exclusion request is tiny (around .12% or 1 in 830). This is represented in the top row of Table 3. If we change this firm into a large firm, its chance of filing an exclusion request jumps substantially (to 1.13) as long as its final product is covered by a tariff. While the predicted effect of an increase from low imports (25th percentile across the data) to high imports (75th percentile) is modest, adding in a Chinese subsidiary makes a significant difference. We highlight again the importance of the firm's own product being covered by a tariff. Absent that coverage, a large firm, in a high import industry, and owning a Chinese subsidiary has a 2.01% chance of filing for exclusion if its final product is uncovered. Once the product is covered, that number is 10.81%. This is a large figure considering how many firms there are in the US.

[22]The 95% confidence interval for the effect of firm size among covered firms, i.e., $\beta_2 + \beta_3$, is $[0.95, 1.06]$. The 95% confidence interval for the effect of owning a Chinese subsidiary among covered firms is $[8.99, 10.31]$. The 95% confidence interval for the effect of ln Imports among covered firms is $[0.01, 0.02]$.

[23]The effect of Covered for a large firm with a subsidiary and with ln Imports set at their 75th quantile is $[8.32, 9.28]$. Any two of these variables can be set to zero and this positive effect is still observed.

Table 2: Own-industry tariff coverage and firms' exclusion requests

	%-age chance of requesting exclusion					
	1	2	3	4	5	6
Coverage of Own Industry by Section 301 tariffs:						
Covered	−0.11***	−0.12***	−2.73***	−1.90***	−6.03***	−2.76^{+}
	(0.02)	(0.03)	(0.33)	(0.40)	(1.13)	(1.54)
Firm size (H1):						
Large	−0.03	−0.20***				
	(0.03)	(0.03)				
Large·Covered	1.04***	0.79***				
	(0.04)	(0.05)				
Ownership of subsidiaries in China (H2):						
China subsidiary	1.93***	−0.78**	1.79***	−0.47	1.56*	−0.39
	(0.22)	(0.24)	(0.38)	(0.42)	(0.65)	(0.72)
China sub.·Covered	7.72***	4.71***	7.44***	4.63***	6.30***	3.70***
	(0.25)	(0.28)	(0.43)	(0.48)	(0.73)	(0.83)
Imports from China (H3):						
ln Imports	0.00	−0.00	0.00	−0.01	0.03	0.00
	(0.00)	(0.00)	(0.01)	(0.01)	(0.04)	(0.05)
ln Imports·Covered	0.01***	0.01***	0.17***	0.23***	0.34***	0.45***
	(0.00)	(0.00)	(0.02)	(0.02)	(0.06)	(0.07)
N	958896	942976	124964	122980	26716	25704
Firm-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Alternative explanations	No	Yes	No	Yes	No	Yes
List FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm sample	All	All	L/VL	L/VL	Very large	Very large

Notes: All models are weighted OLS with weighted OLS standard errors. $^{***}p < 0.001$,$^{**}p < 0.01$,$^{*}p < 0.05$, $^{+}p < 0.1$.

As with our regression models, we also present versions of these results using subsamples of large and very large, and then of just very large, firms. These are presented in the second and third panels in Table 3. While the results on owning a Chinese subsidiary are similar (and still large), we highlight that within these subsamples the effects of being in a high-import industry are substantively significant. This is consistent with the idea that large firms in industries that face a lot of import flows from China are coming out to oppose tariffs covering their own industries. Presumably this is because larger firms are more able to offshore production or contract with China-based manufacturers. Having done so, they aren't happy with Trump's tariffs.

What of the other leading explanations for firm opposition to tariffs in their own industry? In the online appendix, we provide results of the complete models 2, 4, and 6 from Table 2. We find that our input coverage measure does interact in a positive and significant fashion with firm size and ownership of a Chinese subsidiary; it also interacts positively with US imports of inputs from China though it does not reach statistical significance. These findings are therefore supportive that input-sourcing was an important motivation for firms' exclusion requests that operated alongside offshoring of final production as a motive. This is also backed up by the plurality of firms that cited input-sourcing as their concern in filing an exclusion request. So while we see the exclusion request

Table 3: Exclusion requests by firm characteristics and coverage of final product

	%-age chance of requesting exclusion	
	Final product coverage:	
	Uncovered	Covered
Small firm	0.11	0.12
Large firm	0.08	1.13
...with high imports	0.08	1.16
...has a Chinese subsidiary	2.01	10.81
L/VL firm	0.72	1.03
...with high imports	0.74	1.61
...has a Chinese subsidiary	2.53	10.85
Very large firm	2.06	2.27
...with high imports	2.16	3.46
...has a Chinese subsidiary	3.72	11.33

Notes: All simulations are conducted using all covariate vectors from the data and coefficients from models 2, 4, and 5 of Table 2, respectively. Estimates are averages across all predicted outcomes. Firm size, imports, and ownership of a Chinese subsidiary are reassigned for all observations as described in the table. Low imports means 25th percentile in the data; high imports is 75th percentile. The middle panel include only large and very large firms; the bottom panel includes only very large firms.

process as an important site to unequivocally test the notion that offshorers of final production oppose tariffs in their own industry, this occurred alongside an equal or greater number of firms that came out to oppose tariffs on their upstream inputs. The two mechanisms are simultaneously operative, but can be distinguished thanks to the nature of the exclusion request process.

As for exporting firms requesting exclusion, we see inconsistent evidence that US exports interact with coverage to generate request for exclusion (see Table A4). When our complete set of explanations are controlled for, as in model 2 from Table 2, exports are not linked with exclusion-requesting. Among larger firms, exports actually decrease exclusion-requesting among covered firms. On the other hand, when we drop the interaction effects from the other models, we see some evidence that exporting increase exclusion request among covered firms. While the notion that exporters resist protectionism has been observed in many settings, our inconsistent findings may be occurring because the formal procedures of the exclusion request process were designed to consider only requests from firms with clear import interests. While they might have tried to sneak in, the process was designed to exclude firms with export-rooted motivations from the get go. Exporters (and horizontal MNCs) fearing retaliation therefore likely turned to other mechanisms to vent their opposition to the trade war. We highlight that our inconsistent findings are not a general critique of the notion that exporters support trade order. Rather we think that the institutional set-up here was designed to strongly discourage exporters' participation, and so the exclusion process is not a good site to test the notion that exporters opposed the trade war.

One key question for robustness is whether we have operationalized the idea of tariff coverage appropriately and whether our particular operationalization might be driving our findings. In Table

Table 4: Revenues and exclusion requests among publicly traded firms

	%-age chance of requesting exclusion	
	1	2
Coverage of Own Industry by Section 301 tariffs:		
Covered	-8.98^{***}	-4.99^{+}
	(1.78)	(2.82)
Firm size (H1):		
ln Revenue	0.05	0.00
	(0.05)	(0.07)
ln Revenue·Covered	0.47^{***}	0.37^{***}
	(0.07)	(0.09)
Ownership of subsidiaries in China (H2):		
China subsidiary	4.14^{***}	2.49^{*}
	(0.90)	(1.02)
China sub.·Covered	4.52^{***}	1.80
	(1.06)	(1.23)
Imports from China (H3):		
ln Imports	0.11^{+}	0.10
	(0.06)	(0.08)
ln Imports·Covered	0.24^{**}	0.35^{***}
	(0.09)	(0.11)
N	12008	11400
Firm-level controls	Yes	Yes
Alternative explanations	No	Yes
List FE	Yes	Yes
Industry FE	Yes	Yes
Firm sample	Public	Public

Notes: All models are weighted OLS with weighted OLS standard errors. $^{***}p < 0.001, ^{**}p < 0.01, ^{*}p < 0.05, ^{+}p < 0.1$.

A3 (top half), we examine four alternative operationalizations, and find remarkably consistent results across each of those measures of tariff coverage. A second key question is whether we have operationalized requests for tariff exclusion appropriately. As we described above, firms could request exclusion for only one HTS code or for dozens of unique HTS codes covered by a list. To investigate whether the varying intensity of exclusion requests might affect our findings, we examine in Table A3 (bottom half) the logged number of unique 10-digit HTS codes for which a firm requested exclusion as the main dependent variable. We see very similar findings across the models using this alternative outcome variable.

Finally, we use data on firm revenues in place of the dichotomous *Large* variable. The measure of firm revenues is only reliably available among public firms, who must report their revenues in public filings. Thus we conduct these tests among publicly traded firms only. These models are provided in Table 4. In the models, we see that firm revenues and coverage by a tariff interact to increase the probability of exclusion request. The findings on ownership of a Chinese subsidiary and imports, in interaction with tariff coverage, are also as expected, although the former is not statistically significant in the model incorporating the input-sourcing controls. It is reassuring that

our results on firm size are so similar using firm revenues.

Conclusion

We conclude by summarizing our main findings and then describing several broader implications for the politics of trade and global production. The tariff exclusion process was developed so that firms could request that specific products, slated for coverage by Trump's Section 301 tariffs, be omitted from lists of covered products. The nature of this exclusion process and the trade war created a unique opportunity to test an idea from the firm-centered trade literature: that offshoring firms will mobilize to oppose trade protection for their own industry. The value of this opportunity owes to several things. China is the US's largest trade partner, and a major destination for offshoring of US manufacturing. As part of the exclusion process, firms had to request specific, narrowly tailored products be omitted from tariff protection. Exclusion requests could be matched to information on firms' industries, allowing us to show that firms were requesting relief from tariffs that protected their own final products. The sundry issues involved in trade agreements were not at stake here, allowing us to pinpoint firms' motivations with greater clarity than previous studies.

In our descriptive investigation, we found that a substantial minority of firms making exclusion requests were requesting exclusion for their own final product. These were 14-35% of requestors on any given docket. In our formal hypothesis testing, we found that coverage by a Section 301 tariff interacted with firm-level characteristics – size, multinationality, and exposure to imports – to generate requests for exclusion. The absolute and relative increases in the chances of requesting exclusion when these factors become 'active' are striking. A small firm in an uncovered, low-import goods industry in the US had a less than 1 in 800 chance of requesting exclusion; a large firm with a Chinese subsidiary in a high import industry that was covered had a more than 80 in 800 chance. This is consistent with our theoretical expectations and provides strong support for the claim that offshoring firms mobilize to fight protection in their own industry. Though not our focus, our empirical results also provide strong support for the idea that input-sourcing also drove requests for exclusion.

Before describing our broader contributions, we highlight two opportunities for future research. Our results imply that while offshoring sharply increases the chances of opposition to Section 301 tariffs, many firms that were negatively harmed by the tariffs nonetheless stayed on the sidelines. One reviewer highlighted this unexplained variation among firms which ought to have similar interests. This variation may owe to free riding dynamics; unmeasured heterogeneity in the intensity of preferences; firm aversion to 'political behavior'; or something else entirely. Future research should theorize and investigate this question in our data, or any other data examining firm-level political behaviors. Second, as of writing, the trade war is far from over. And other changes in both US and

Chinese foreign and domestic politics may be contributing to increasing risk for firms considering investing in China or relying on Chinese imports. Future scholarship should investigate which firms are able to reduce their dependence on Chinese suppliers, and which firms are unable and so will resist further deterioration in the bilateral relationship. Who reshores?

Our findings contribute in three ways to the broader literature on trade politics. First, we describe with new data and findings the fierce resistance to Trump's trade war among American firms. 4,985 unique US firms submitted over 53,000 separate requests for goods to be excluded from tariff coverage in the trade war. As shown in Figure 2, the extent to which their requests covered the products targeted for higher tariffs was remarkable. Submitting the requests required time and organization, and there is no other plausible interpretation of the act but that it represented the requesting firm's sincere opposition to a given tariff. The exclusion request process therefore reinforces research from other domains (e.g., investigating *ad hoc* coalitions or notice & comment) which find an organized response in opposition to Trump's trade war (Lee and Osgood, 2021; Zhu et al., 2021). Moreover, the contentious politics of the trade war have continued into the Biden Administration. Demands for a renewed exclusion process (and an end to the tariffs altogether) through the first years of the administration highlight the continuing salience of the trade war to US producers.

Second, our findings reinforce the idea that globally integrated firms are key constituents for global trade order, perhaps even the key constituents (Kim and Milner, 2019). They are strongly opposed to trade barriers and other frictions to international commerce (Zeng, Sebold and Lu, 2020; Gulotty and Li, 2020). They fought hard to support creation of the WTO system and the network of bilateral and regional trade treaties (Kim, 2015; Anderer, Dür and Lechner, 2020; Lee and Osgood, 2019). Having achieved those victories, they have also turned their political efforts to fight the recent wave of protectionism and economic populism in the US and beyond (Johns, Pelc and Wellhausen, 2019; Osgood, 2020). Of course, it must also be acknowledged that the successes of these firms in resisting the trade war were modest. Most tariffs in the trade war ultimately were not excluded, and the ever-growing lists of tariffs ultimately encompassed nearly all US trade with China. While the later rounds of tariffs were smaller and the Phase One trade deal dulled the impact of the trade war somewhat, the overall scope of the trade war is remarkable.

Finally, our findings illustrate a key theme from the firm-centered literature on trade politics, that big, globally engaged firms can undermine efforts to secure protection sought by other firms in their same industry. In our case, firms that have offshored final production of their product to China opposed tariffs on their goods that would benefit a US-based producer (or a producer who had offshored to a third country). Although it didn't pan out in this instance given the Trump administration's determined antagonism towards both global commerce and China, intra-industry cleavages are likely to benefit firms that support free trade in the long run. Internal disagreements can take an industry's trade association out of the picture, because the association's membership

doesn't have a coherent position. SMEs – who are more likely to oppose trade – strongly rely on the trade association to make their voice heard and to get organized. Large and very large firms – who are most likely to support trade – are individually and collectively more able to get organized without the association (and they may even be able to take over the association). Individually they benefit from free capital, political experience, and political-organizational economies of scale. Collectively they are a small group of impactful firms, making it easier to overcome the collective action problem. Offshoring firms are therefore a politically organized and engaged part of America's pro-trade coalition.

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