

The Strategic Use of Tariff Phaseouts in US Free Trade Agreements

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Abstract

Rules regarding the duration of tariff elimination are common in modern free trade agreements (FTAs) and are assigned differentially and selectively to sensitive products, as their extensive use incurs opportunity costs for more exporters. How does the executive determine which products are politically sensitive? Beyond mitigating import competition, I argue that the sources of political sensitivities stem from the executive's interests in either insulating themselves electorally or facilitating FTA ratification. I test my argument using a novel dataset on tariff treatment at the tariff line level across all 13 FTAs ratified by the United States. I find that, on average, longer tariff durations are allocated to products in industries concentrated in more electorally competitive states, especially for highly import-sensitive products. While the political motivations differ by agreement, the executive cannot address both concerns simultaneously. These findings demonstrate that the executive's particularistic preferences partly shape the structure of FTA tariff schedules.

Key words: tariffs, trade agreements, US politics

Word count: 11,593

1 Introduction

Rules on tariff elimination, i.e., tariff staging or phaseouts, are ubiquitous in free-trade agreements (FTAs), yet little is understood about their political economy. Even when committing themselves to free trade, importing countries retain significant flexibility on when specific products become duty-free. About 26% of imported goods from the United States FTA partners are phased out instead of eliminated overnight, and the duration varies across products and trade partners. Even while product liberalization exclusion is the preferred method of protecting domestic industries, the principle of reciprocity forecloses exclusion and necessitates tariff phaseouts to balance the interests of import-competing and exporting producers.² Furthermore, reciprocity moderates the use and duration because a reciprocal exchange of phaseout would introduce opportunity costs for exporters, thereby necessitating the prioritization of lengthy stagings to placate politically sensitive import-competing producers. What determines such sensitivity? How do governments design FTA tariff schedules to serve underlying political interests?

This paper argues that the United States executives and, by extension, negotiators strategically allocate longer phaseout duration to *politically sensitive* products in free trade

²The focus on reciprocity does not negate the institutional constraints from GATT/WTO Article XXIV that mandate that any preferential arrangement eliminate substantially all trade. Rather, reciprocity directly constrains the strategic incentives for states to use exclusion.

agreements. The sources of such sensitivity are the focus of this paper. I argue that the executives juggle between two potentially competing political interests: electoral insulation and ratification promotion. First, I hypothesize that products made by industries concentrating in electorally competitive states are phased out for longer. Because of the high vote-electoral college vote elasticity in the US, a majoritarian electoral system (Rogowski and Kayser 2002), Presidents are interested in maintaining or improving their (party's) vote margins in competitive states as small changes in vote counts can majorly affect the outcome of Presidential Elections. Alternatively, industries may become politically sensitive from their historical concentration in swing states, elevating their perceived importance; therefore, the targeting of phaseouts may be nothing more than path-dependent policymaking.

Second, executives may care about ratifying major trade policies like FTAs to shore up economic and strategic trade partners. Constrained by the reciprocal trade-off of tariff phaseouts and the opportunity costs imposed on exporters, negotiators may narrowly target phaseout duration to products made by industries that concentrate in the districts of key ratification voters in Congress. In doing so, negotiators must minimize the costs to exporters by targeting phaseouts where there is a relatively high marginal return in flipping votes. That is, Congressional members who are the target of such targeting must be highly credible in their ratification promise and threat, which requires that they are neither staunchly pro- nor anti-trade, as the underlying interests of their districts shape their trade policy preferences. The median legislator, then, is conceived to be more credible in promising to ratify the agreement if their domestic industries' tariffs are phased out for longer.

I test my argument using a highly disaggregated tariff line dataset on tariff treatment for all 13 ratified US FTAs. Products with longer phaseout duration are associated with industries concentrating in electorally competitive states, aligning more with the electoral insulation hypothesis. The incentive to insulate oneself electorally heightens as the partner poses a more significant import threat for particular products. When disaggregating the estimates by trade partners, the executive's electoral concern was highly salient for NAFTA, while ratification was salient for KORUS even though the threat of import is equally salient for both trade agreements. Broadly, I find evidence to suggest that the executive cannot simultaneously address both political concerns at once.

This paper makes several contributions. First, I theorize and test the extent to which electoral insulation or ratification promotion permeates into trade policymaking, which, to my knowledge, has not been closely examined nor possible due to the lack of highly disaggregated data. Such preferences, either electoral or ratification, vary by trade agree-

ments. However, on average, the structure of FTA tariff schedules generally reflects the executive's interest in insulating himself from political backlash in electorally competitive states rather than promoting ratification as predicted by Putnam (1988)'s two-level game framework. My empirical results also build upon a growing literature on the particularistic president and trade policies (Lowande, Jenkins, and Clarke 2018; Kriner and Reeves 2015*b,a*; Ma and McLaren 2018).³

Second, this article contributes to the growing literature on tariff phaseouts. Unlike earlier studies that focused on economic (and demand-side) explanations—such as product types, pre-existing vertical integration, intra-industry trade, economies of scale, and existing base rates (Anderer, Dür, and Lechner 2020; Kowalczyk and Davis 1998; Bacchini, Dür, and Elsig 2018; Chase 2003)—as well as the preferences of import-competing producers and foreign exporters (Van Lieshout 2021*a,b*), I demonstrate that the design of trade agreements' tariff schedules is also politically motivated from the supply side. I show that phasing out tariffs represents a more disaggregated form of flexibility provision that can be targeted toward politically salient and sensitive industries. Furthermore, this article contributes to the established literature on flexibility and escape clauses in promoting cooperation (Rosendorff and Milner 2001; Kucik and Reinhardt 2008). In contrast to agreement-wide provisions, such as safeguards and other escape clauses, tariff staging provides new opportunities for scholars to investigate how various domestic interests influence the design of agreements and how the final design affects domestic preferences regarding trade agreements.

Third, this paper underscores the significance of buying time for domestic producers by demonstrating the political incentives to phase out tariffs. Or rather, at the bare minimum, the electorally motivated targeting of phaseouts highlights the broad beliefs surrounding their supposed functions.⁴ Given that the electoral consequences from trade are mainly due to its adverse outcomes, notably unemployment and offshoring (Jensen, Quinn, and Weymouth 2017; Margalit 2011; Autor et al. 2017, 2020), and considering that the length of tariff phaseouts can theoretically slow down industry adjustment, it follows that tariff phaseouts can delay political consequences, although further research is needed.

³Prior research on particularistic presidents and trade policy tend to focus on most-favored-nation rates and unilateral tariff hikes, not on the design of free-trade agreements.

⁴I am careful about making such a claim despite finding evidence, both quantitative and qualitative, to suggest that there is a broad range of demand for tariff phaseouts. This is because despite phaseouts being relatively common in US tariff schedules, some economic research has found little to no evidence of phaseouts' ability to differentially affect import growth in a predictable manner (Besedes, Kohl, and Lake 2020; Dong and Jestrab 2022).

Finally, this paper speaks to the growing *differentiated integration* literature (Schneider 2008; Schimmelfennig, Leuffen, and Rittberger 2015; Schimmelfennig 2016; Schimmelfennig, Leuffen, and De Vries 2023), which has broadly focused on the EU's enlargement and the phasing in of the benefits and freedoms for EU acceding countries. Similar to the argument initially made by Schneider (2008), the differentiated phasing out of products is responsive to political sensitivities and is an institutional tool to boost cooperation on trade and, in the EU's case — cooperation on enlargement. The more distinct and obvious difference in this article would be the granularity of the differentiated object of investigation.

I organize the article in the following manner: First, I provide a brief background on tariff phaseouts, demonstrate their variation across products and partners, and theorize their economic functions. Second, I formulate a model of trade negotiation to set up how prioritization of products is central to understanding how negotiators make cross-product trade-offs. I argue that reciprocity, a constant force in trade negotiation, forecloses states' incentive to exclude products from liberalization, thereby necessitating and moderating the use and duration of tariff phaseout to promote trade cooperation. Third, I theorize on the origins of political sensitivities in shaping negotiation priorities and, thus, the resulting tariff schedule. I then develop my empirical strategy and present my results.

2 Background on Tariff Phaseouts

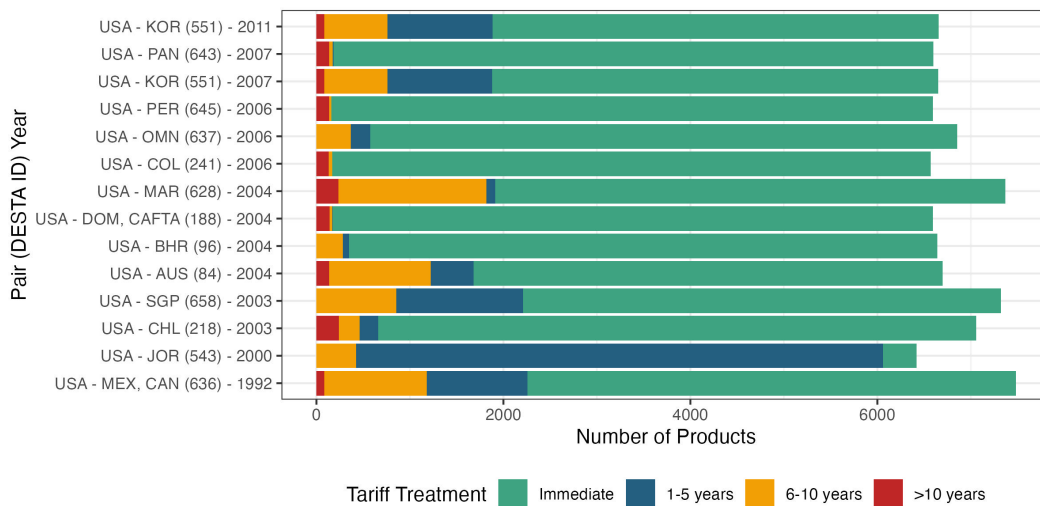
Tariff phaseouts, otherwise known as tariff staging, prescribe *when* products are duty-free and *how* they are to be eliminated. In many free-trade agreements (FTAs), negotiators allocate "staging categories" to every product in the tariff schedule. These staging categories are then explained in a separate Annex chapter, specifying the duration and mode of reduction. Figure A1 displays a page of the US tariff schedule on Australian imports with staging categories "A", "B", "D", and "E". To understand the treatment of specific tariffs, Annex 2-B of the FTA describes the reduction timeline for each staging category, as shown in Figure A2. For example, goods with staging category A "shall be eliminated entirely ... and be duty-free on the date this Agreement enters into force." Category A indicates an *immediate elimination* of tariffs, contrary to the variety of stagings that phases out tariffs; for example, products with category B "shall be removed in equal annual stages ... and shall be duty-free, effective January 1 of year four" while category D "shall be duty-free ... year ten." Otherwise, products that are already duty-free are given category "E" which specifies such goods "shall continue to receive duty-free treatment."

The duration of tariff phaseouts the US places on imports tends to be less or equal to 10

years, while some exceptional cases can receive up to 20 years. Paragraph 5(c) of GATT Article XXIV specifies that agreements to establish a free trade area must eliminate barriers on "substantially all trade" between member states, and the schedule must implement the free-trade area within a "reasonable length of time." A reasonable length of time was later clarified not to exceed 10 years unless for "exceptional cases."⁵ Van Lieshout (2021a) provides an exceptional account on the development of GATT XXIV and the promotion of trade agreement through the use of tariff phaseout. Figure 1 plots the number of products and their associated phaseout duration on imports from trade partners. While most products are eliminated overnight, about 26.2% of tariffs are phased out (Figure 2a).

[Figure 1 about here]

Figure 1: Number of Products and Phaseout Duration



Note: Country pair is formatted as home-partner, where the home country (USA) sets tariff treatment toward the partner country. Created by Author 11/3/24.

Tariff phaseouts are not new and exclusive to FTAs, as they have long been an institution of compromise in domestic trade agreements and previous WTO rounds.⁶ The main difference with FTAs is that the allocation and duration of phaseouts are seemingly *bespoke*. The use and duration of phaseouts are catered to specific sectors and sometimes

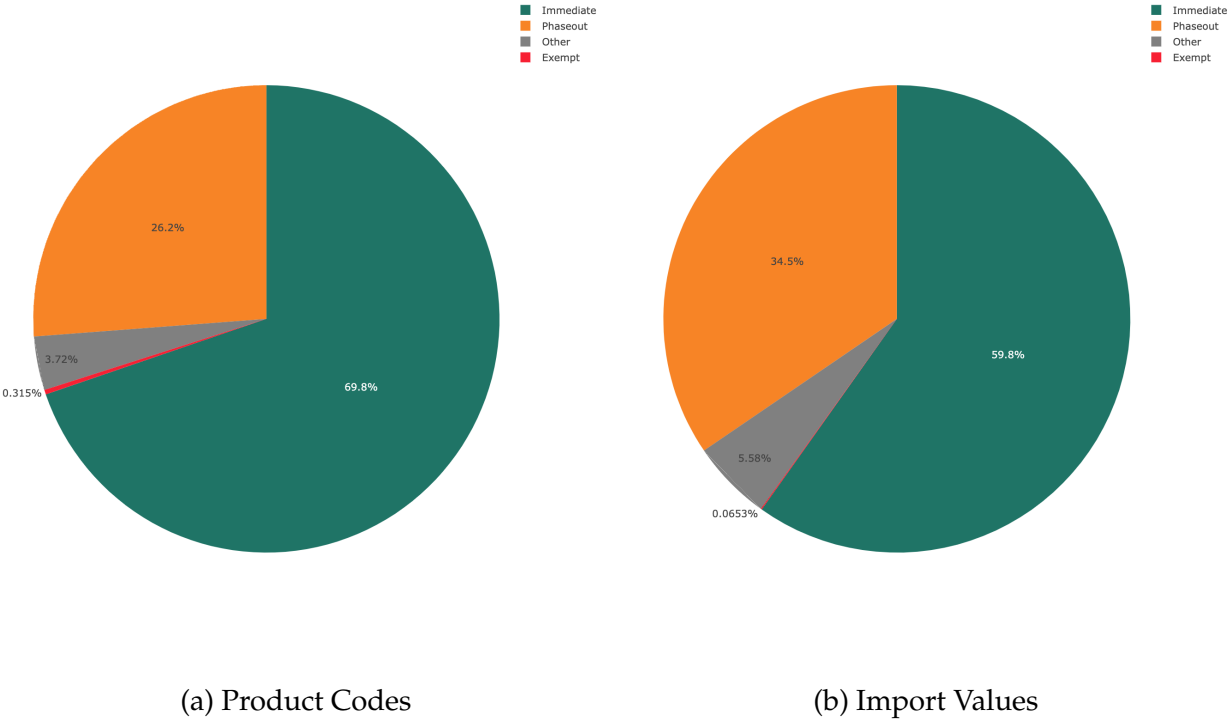
⁵GATT Article XXIV. Text can be accessed here: https://www.wto.org/english/tratop_e/region_e/region_art24_e.htm.

⁶The earliest example is the Compromise Tariff Act of 1833 in the United States that phased out products with tariff rates above 20% over nine years (Irwin 2020); this compromise was meant to diffuse objections from the South who demanded a reduction of import tariffs by threatening not to enforce tariffs and secede from the Union (See review in Irwin 2020). Other examples can be seen from previous GATT rounds, such as the Kennedy, Tokyo, and Uruguay rounds. In all three rounds of liberalization, all product bound rates were phased out over five or eight years (Kowalczyk and Davis 1998; Winham 1986; Stewart 1999).

specific products. Phaseouts are much more selective than umbrella coverage like the GATT/WTO Rounds and diverse in length of duration. Among the 26.2% of existing tariffs being phased out (Figure 2a), there are incredible variations in the duration among products within the same sector and across partners within the same industry.

[Figure 2 about here]

Figure 2: Proportion of Tariff Treatment in USA Trade Agreements After Omitting Already Duty-Free Category



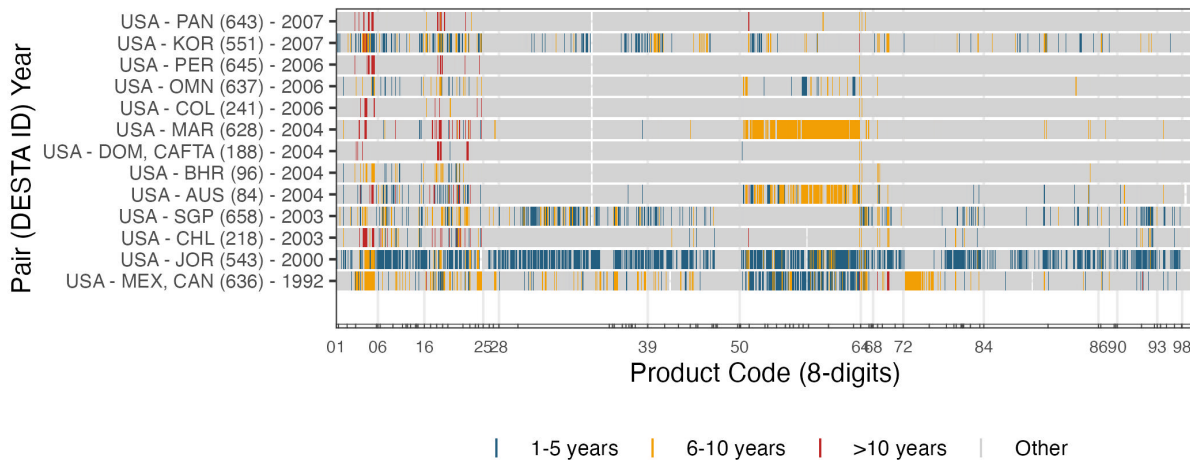
Note: Proportions are calculated by aggregating all product code lines (and 5-year rolling average import values before the agreement’s signature date) across all USA free trade agreements. "Other" indicates that the product’s tariff reduction is governed by other means, such as the WTO commitment. Created by Author on 11/8/24.

Figure 3 shows the distribution of various categories of phaseout duration from the United States toward its trade partners to provide an idea of which products are phased out and for how long. Each tick represents a product code that is phased out over (1) 1-5 years, (2) 6-10 years, or (3) over 10 years. The concentration of phaseout allocation (the presence and cluster of ticks) differs across trade partners for seemingly obvious reasons, such as each partner having a different comparative advantage and thus posing different import threats. For example, Moroccan textile products (product codes between Chapters 50 and 63) and Mexican and Canadian iron and steel (Chapter 72) are phased out between

6-10 years to mitigate import shock.⁷ While the same cluster of products may be phased out for two or more separate trade partners, their duration varies across partners. For example, the US phases out imports of animal products (Chapters 1-5) differentially across trade partners. Some receive relatively long duration (>10 years), such as Panama, Peru, and Colombia, while others are between 6-10 years, such as Mexico, Canada, Jordan, and Singapore. Among the product tariffs negotiated in the 13 US FTAs, while the phaseout of tariffs is only assigned to 26.2% of existing product tariffs, the associated import value of the phased-out products amounts to 34.5% of all import value (Figure 2b).⁸

[Figure 3 about here]

Figure 3: Distribution of Tariff Phaseout Duration from USA FTAs Across 8-digit Product Codes



Note: Each tick represents one product code, and product codes that were already duty-free or treated with immediate elimination or exemption are grouped as "Other" to improve visibility. Each tick on the x-axis demarcates a 2-digit chapter. Important 2-digit chapters are displayed. Refer to <https://hts.usitc.gov/> on the title of HS chapters. Created by Author 10/25/24.

The decision to phase out tariffs and modulate the duration is of economic and political importance. Negotiators often spend the majority of their bargaining on the staging of sensitive products. A former trade negotiator estimates they spent about 60% of the market access chapter negotiation on the tariff schedule (Interview 2, 4:48). Another former trade negotiator attests to the political implication of protracting the negotiation of the

⁷Figure A7 displays the four tariff treatment across US FTAs.

⁸It is important to note that the import value may be attenuated toward zero due to existing tariffs that disincentivize trade. If countries are less likely to export into the US due to high existing tariffs, then it is reasonable to conclude that the potential import value for phased-out products would be significantly higher than pre-existing trade.

staging of highly sensitive products until the end of negotiation in order to signal their commitment to providing as much adjustment time to important domestic producers (Interview 1, 26:38). Hence, while the structure of tariff schedules can be explained by purely economic sources (Baccini, Dür, and Elsig 2018; Anderer, Dür, and Lechner 2020; Chase 2003; Kowalczyk and Davis 1998), it is clear that tariff negotiations are deeply political due to the economic weight of a free-trade commitment.

2.1 Economic Functions of Tariff Phaseouts

The bespoke nature of phasing out tariffs suggests the existence of demand and supply, which implies that, at minimum, there is a belief in its effectiveness. While sectors may prefer liberalization exclusion (Interview 1, 32:28), experience with prior FTAs may lead them to ask for the longest possible staging (Interview 2, 16:39). Although producers demanding extended staging may believe in its effectiveness, economic research suggests that phaseouts do not differentially slow down the growth of imports (Besedes, Kohl, and Lake 2020; Dong and Jestrab 2022); that is, the growth of import of products with a three-year scheduled reduction follow similar trends with products treated with a ten-year phaseout.

Even while phasing out tariffs does not differentially slow down import growth, I argue that tariff phaseouts have three economic functions in regard to industry employment.⁹ First, phasing out tariffs maintains the relatively high price of imported goods compared to domestically made goods. While imported goods may enter the US market early in the staged reduction process (Besedes, Kohl, and Lake 2020; Dong and Jestrab 2022), it does not necessarily mean that domestic producers are immediately less competitive. Branding and reputation of existing domestic companies may mitigate consumer flocking to imported foreign brands, at least earlier on. Therefore, the longer the price of imported goods is maintained relatively higher than domestic-made goods, the better it is for domestic producers. This temporary "protection" can thus delay industry adjustments and resource reallocation, i.e., delaying the increase in industry unemployment.

Second, the maintenance of some level of tariffs early in the phase-out period can dampen firms' incentives to offshore jobs to the trade partners. The intuition is simple. Firms only offshore if the cost of producing abroad is lower than the cost of domestic production; labor and transportation costs, as well as tariffs, contribute to the firm's cost calculation for offshoring. One may intuitively conclude that the longer it takes for tariffs

⁹I use employment as a benchmark due to its salience in regard to trade and politics (Margalit 2011; Autor et al. 2017, 2020; Ritchie and You 2021).

to be reduced to a critical threshold, one that would make offshoring profitable relative to domestic production, the longer the delay on firms' decision to offshore.

Finally, the declining price of foreign goods and the certainty of when tariffs are reduced and fully eliminated can help motivate domestic producers who cannot simply offshore to innovate and differentiate their products. Where consumers prefer variety (Krugman 1980), domestic producers can adjust and remain viable if they have enough time to distinguish their offerings from foreign competitors.

To what extent do tariff phaseouts matter to producers? Using monthly trade data, Khan and Khederlarian (2021) find that importers slowed down imports in anticipation of a staged reduction in tariffs from NAFTA, followed by a liberalization bump after the tariff has been reduced. This study suggests that tariff phaseout rules provide certainty for producers and that they are aware of the annual reduction from the tariff schedule and react accordingly to take advantage of lower rates, despite the reported low-utilization rate of FTA preferential tariffs (Zeng and Li 2021).

Given these functions, it is reasonable to expect tariff phaseout to concentrate on products made by import-competing producers or the "sensitive" sectors. Indeed, policy briefs often cite that long phaseouts are reserved for "sensitive" products, allowing producers to "adjust."¹⁰ As to be expanded in the following sections, there can be many sources that make an industry "sensitive." An industry can be sensitive due to potential import-competition (Van Lieshout 2021a) or due to their concentration in electorally competitive states or districts of key Congressional voters. This article disentangles the sources of such sensitivities and provides a clear answer on which matters more in shaping negotiation priorities.

An example to exemplify the belief in tariff phaseouts' effectiveness is the renegotiated US-Korea (KORUS) FTA in 2011. In the 2007 version of KORUS, ten auto product codes were given immediate phaseout because the US received significant non-tariff measure concessions from South Korea in 2007 on autos (Interview 2, 34:43). However, the renegotiated version lengthened the phaseout duration and modulated the mode of reduction of the ten automobile product codes. Doing so won the endorsement of the United Auto Workers (UAW) union.¹¹ The UAW's endorsement deviated from the position of other

¹⁰Congressional Research Service (CRS) on NAFTA: <https://crsreports.congress.gov/product/pdf/IF/IF10047>. CRS on US-Colombia FTA <https://crsreports.congress.gov/product/pdf/RL/RL34470>.

¹¹See the 2011 KORUS Side Letter that details the new staging rules for automobile products here https://ustr.gov/sites/default/files/uploads/agreements/fta/korus/2011_Side_Letter.pdf

large unions such as the AFL-CIO,¹² United Steel Workers,¹³ and the Communications Workers of America¹⁴ that opposed on labor, investment, and environmental grounds. The UAW statement (Figure A5) cited the slow phasing out of tariffs on automobile imports as one of the main reasons for its endorsement.¹⁵ This case demonstrates the extent to which phasing out just ten automobile product tariffs can win political support from important interest groups, like the UAW, which has been shown to shape the trade attitudes of UAW union members (Kim and Margalit 2017).

Nevertheless, it is still puzzling as to why phaseouts are used at all. Why are sensitive products like corn and sugar phased out over 15 years in NAFTA rather than being excluded from liberalization? What explains the rarity of exclusion? (See Figure 2a) Why do interest groups, like the UAW, find tariff phaseouts acceptable when tariffs are bound to be eliminated in the end? What makes certain products and industries "sensitive?"

In the next few sections, I illustrate an informal model of trade negotiation. I then argue that domestic producers typically demand liberalization exclusion for their products, and the importance of such industries — such as presence in electorally competitive states and districts of key Congressional members — shapes their "sensitiveness" and, thus, priority during bargaining. However, due to the reciprocal nature of negotiation, exclusion for one's import-competing producers begets exclusion that harms one's exporting producers. With the latter being institutionally empowered (Gilligan 1997a) with significant lobbying capabilities (Blanga-Gubbay, Conconi, and Parenti 2023), negotiators — playing a two-level game (Putnam 1988) — opt for tariff phaseouts to secure full trade liberalization for exporters with a temporary protection period for import-competing producers. Tariff phaseouts are, thus, an institution of compromise, allowing for a free-trade agreement not to be opposed by a critical threshold of the domestic audience that would otherwise spell its failure in ratification.

3 Model of Trade Negotiation

Let us assume two countries are bargaining over the design of each others' tariff schedules. Each side has two lists of products to *protect* at home and to *promote* liberaliza-

¹²<https://apw-aba.org/content/afl-cio-and-other-union-statements-us-korea-free-trade-deal>. Last accessed 9/19/23.

¹³<https://www.usw.org/news/media-center/releases/2010/usw-opposes-passage-of-revised-us-korea-trade-agreement>. Last accessed 9/19/23.

¹⁴https://cwa-union.org/news/entry/statement_by_the_communications_workers_of_america_on_the_proposed_korea-u. Last accessed on 9/19/23.

¹⁵<https://ustr.gov/about-us/policy-offices/press-office/blog/2011/october/uaw-backs-korea-trade-agreement>. Last accessed on 9/19/23.

tion abroad. The former refers to products made by import-competing producers, while the latter refers to products made by exporters. The ideal policy outcome for import-competing producers (and associated actors, such as unions and workers) is to exclude products from liberalization, i.e., maintaining the status quo. Conversely, exporters' ideal policy outcome would be to have free and quick access to the partner's market.

The lists are not necessarily physical but somewhat more akin to a mental list analogous to negotiators knowing the reservation points before entering the bargaining table. How negotiators know which industry is politically or economically sensitive is often black-boxed based on interviews, which is analytically unsatisfying. Without further details on how the lists are generated and rank-ordered to reflect political and economic sensitivities, a point which I will return to in Section 4, the following informal model demonstrates the importance of having a priority list in understanding how negotiators make cross-product trade-offs.¹⁶

First, I assume that the principle governing trade negotiation is reciprocity and that this principle is constant for all FTAs.¹⁷ This principle is instrumental for the liberalization of the global economy since the end of WWII — it is what allowed countries to liberalize their existing trade barriers in exchange for getting exporters greater access to foreign markets (Gilligan 1997a; Bailey, Goldstein, and Weingast 1997; Goldstein and Gullotti 2014). Unlike the GATT and WTO, in which countries negotiate over bound rates, free-trade agreement shifts the bargaining focus onto the staging of tariff reduction (Interview 1 1:12).

Second, I conceive the negotiation process to be sequential, with each side demanding a concession after the other.¹⁸ A country may demand the ideal policy outcome for its import-competing producers — i.e., liberalization exclusion for a handful of products; however, its counterpart is then empowered to demand exclusion for its import-competing producers, preventing any further market access for exporters of the original country, and thereby generating opportunity costs for exporters. This process is then repeated down the priority list of products to protect.

¹⁶For the sake of simplicity, this model focuses solely on cross-product trade-offs on tariff concessions; however, the logic may also apply more broadly to cross-issue trade-offs, such as tariff concessions for behind-the-border regulations (Interview 2, 34:43).

¹⁷The assumption that reciprocity is constant, therefore driving a constant incentive to not use exclusion, is well founded based on interview evidence. For example, a former trade negotiator stated that the "principle [in negotiation] was no exclusion" because it begets exclusions. Furthermore, they added that "the things that our partners wanted to exclude were things that mattered to us" (Interview 2 7:37, 7:56).

¹⁸While this abstracts away from unique and often contextually-dependent negotiation strategies based on informant interviews, former negotiators confirm that such a model is appropriate (Interview 2, 37:21).

One may conceive that the counterpart would even strategically demand exclusion on products made by the most important exporter, forcing the original country to rethink whether they want to exclude products to begin with. Regardless of the strategy used by the trade partner in negotiation, if left unfettered, both countries would exclude their most important products from liberalization while generating opportunity costs for exporters as tariffs on their exports will not be reduced. In other words, *exclusion begets exclusion*.

The resulting agreement would liberalize products that are neither important to the importer nor exporter, generate minimal gains for consumers and exporters, maintain producers' surpluses for sensitive sectors, and is non-compliant with the WTO as it is not technically an agreement that eliminates substantially all trade barriers. As a result, domestic support for the agreement's ratification would be weak. Knowing that about 95% of FTA lobbying in the United States are from pro-trade interests and multinational corporations (Blanga-Gubbay, Conconi, and Parenti 2023), the resulting agreement in this scenario would secure minimal push for ratification from pro-trade interests. The extent to which an agreement can be ratified without exporting interests' support is uncertain and deserves its own investigation. Even if the agreement is ratified, it would further maintain the status quo, begging the question of the purpose of negotiating a trade agreement that does not increase the aggregate welfare or benefit exporters. In sum, the unfettered use of exclusion would generate a suboptimal agreement with a relatively low likelihood of ratification.

This section demonstrates the counter-productive nature of liberalization exclusion. It answers the question posed in the previous section — why are certain products phased out rather than excluded from liberalization, and what explains the rarity of exclusion? I argue that while exclusion is a first-order priority instrument to protect import-competing producers, the principle of reciprocity effectively forestalls such demands and its implementation as it would lead to a suboptimal trade agreement that is nothing but a continuation of the status quo. The focus on reciprocity does not negate the potential institutional constraints from GATT/WTO Article XXIV. Rather, reciprocity directly constrains the strategic incentives for states to use exclusion. This reflects the reality of the USTR's negotiation principle of not utilizing exclusion to advance the interests of exporters in gaining market access (Interview 2, 7:37 - 7:56). Therefore, The principle of reciprocity disincentivizes the use of exclusion to expand exporters' interests. In order to commit to free trade, the next section explains how reciprocity necessitates the use of tariff phaseouts on sensitive products to promote trade cooperation.

3.1 The Political Functions of Tariff Phaseout

How do negotiators minimize objection to FTAs from both exporters and import-competing producers when placating one means alienating the other with liberalization exclusion? I argue that tariff phaseouts allow states to commit to free trade while temporarily protecting import-competing producers. While these producers prefer and demand product exclusion, reciprocity and GATT XXIV narrow negotiators' choice set to only committing to free trade. Negotiators may commit to free trade for specific products on day one (immediate elimination) or commit to free trade with the condition that the reduction takes place over a negotiated duration. With these constraints, import-competing producers would rather receive a lengthy phaseout than have tariffs eliminated overnight. Recall that tariff phaseouts are theorized to maintain relatively higher prices on imports, delay firms' offshore incentives, and provide domestic producers time to innovate or adjust. Even though exchanging tariff phaseouts may generate *diminishing* opportunity costs for exporters as their access to the partner's market is delayed, it is better than exclusion, which would materialize the *full* opportunity costs for exporters.

Phasing out tariffs, therefore, provides an optimal trade-off for the import-competing sector and exporters under international and ratification constraints.¹⁹ Essentially, phasing out tariffs allows negotiators to craft an agreement that not only liberalizes substantially all trade but also maximizes ratification chances by minimizing objections from stakeholders. The resulting agreement made possible by tariff phaseouts would (1) generate welfare gains for consumers, (2) increase surplus for domestic exporters slowly over time, and (3) minimize the immediate surplus losses for import-competing producers. As a result, (1) the eventual *losers* of the agreement may not oppose as strongly as they would under immediate tariff elimination and be able to adjust accordingly without future push to renege on the free-trade commitment. (2) The eventual *winners* would continue to lobby, thereby increasing the chances for ratification and ensuring the interest in keeping compliant with the agreement to achieve the eventual free trade. In short, tariff phaseouts promote cooperation both at the negotiation and enforcement level (Fearon 1998; Keohane 1984).

4 Whom to Target?

While reciprocity forecloses the incentives to exclude and necessitates tariff phaseouts for states to commit to free trade, it also begets moderation on its usage and duration. Phas-

¹⁹The international constraint comes from GATT XXIV, and the ratification constraint materializes through the principle of reciprocity and the preferences of empowered exporters (Gilligan 1997a).

ing out tariffs is inherently redistributive. The longer the staging is used on more product codes to benefit the domestic import-competing producers, the longer it would take for more domestic exporters to have full access to trade partners' markets. Essentially, their usage redistributes the upfront adjustment costs for the import-competing sector into opportunity costs for exporters. Limiting the use of phaseouts on imports means that the trade partners would similarly minimize their use of tariff phaseouts, benefiting domestic exporters and improving aggregate welfare at a quicker pace. Hence, reciprocity requires the allocation of tariff phaseout duration to be strategic as an over-use can harm exporters' interests.

Strategically allocating phaseout duration requires that the list be rank-ordered. While previous sections assumed this by arguing that negotiators "go down the list" in exchanging concessions, the source of such priority has not been theorized. The following sections theorize that while the creation of the list is predicated on formal consultation between negotiators and stakeholders, the priority is shaped by either electoral or ratification concerns of the executive.

4.1 Trade Promotion Authority and Consultation

The Trade Promotion Authority (TPA) or Fast Track Authority has been the cornerstone piece of legislation enabling trade liberalization since the introduction of the Reciprocal Trade Agreement Act (RTAA) in 1934 (Bailey, Goldstein, and Weingast 1997). TPA essentially delegates negotiating power over to the executive branch under tight conditions. These conditions require that negotiators satisfy US negotiating objectives set out by TPA and fulfill notification and consultation requirements to qualify for an expedited procedure (Casey and Cimino-Isaacs 2024). The expedited procedure allows for FTA implementation bills to be automatically introduced and discharged from committees and approved with a simple majority in both chambers, as opposed to a two-thirds majority in the Senate.

Under TPA, negotiators are institutionally mandated to consult with stakeholders (i.e., business groups and unions). These consultations take place before and during negotiations. Three months before negotiation starts, the US Trade Representatives (USTR) would place a request for comments in the Federal Register, where any stakeholder can submit comments, setting their preferences and expectations (Interview 2, 14:44). Theoretically, comments from stakeholders would be translated into an unordered list of products.

Consultation also occurs during negotiation through "cleared advisors" (Interview 2,

15:47; Interview 1, 27:37). Cleared advisors provide a secured informational channel between negotiators and stakeholders as well as members of Congress (Interview 2, 15:25; Interview 1, 27:37).

I theorize that negotiators would rank-order the products based on the political importance of the products, which shapes their negotiation priority. In the context of exchanging phaseout duration, I argue that the optimal negotiation strategy would be to request the most extended phaseout duration for high-priority products, waning in duration as products become less important to lower the opportunity costs faced by exporters.

What is deemed politically important is often nebulous and muddled. In the context of FTAs, I theorize that the executive may be concerned with the FTA's electoral consequences or its ratification prospects. Because the executive and legislative branches are held accountable by voters, one may conceive that industry employment concentration in salient states and districts may help prioritize which products are allocated with tariff phaseout duration.²⁰ Hence, I propose three possible sources for how certain industries and, thus, products become politically important or "politically sensitive." They are (1) electorally competitive states, (2) districts of the median Congressional member, and (3) districts of trade-related Congressional committee members.

4.2 Electoral Insulation

In contrast to the parochialism of Congress in setting trade policies (Lohmann and O'Halloran 1994), Presidents have been conventionally thought of as more universalistic (Lowande, Jenkins, and Clarke 2018; Kriner and Reeves 2015b,a; Nzelibe 2006). However, tariff structure has been found to be heavily biased in favor of industries located in swing states (Ma and McLaren 2018) and similarly for the allocation of trade protection (Lowande, Jenkins, and Clarke 2018; Kriner and Reeves 2015a). So, while a universalist president can negotiate a reciprocal trade agreement that benefits the aggregate welfare and exporters (Gilligan 1997a), the existence of tariff phaseouts provides opportunities for a particularistic president to shape negotiation priority in favor of import-competing industries concentrated in swing states.

While the electoral incentive for targeting longer phaseouts to industries located in swing states is cut-and-dry, one may ponder whether allocating lengthy phaseouts is due

²⁰Industry employment is arguably conceptually appropriate because the distributional consequences of trade affect not only the immediate industry but also the local economy (Autor, Dorn, and Hanson 2013; Choi et al. 2024). With mounting evidence of trade's effect on voting patterns and political attitudes (Margalit 2011; Jensen, Quinn, and Weymouth 2017; Autor et al. 2020; Choi et al. 2024), a strategic approach to designing FTA tariff schedules would be to mitigate such harm to politically important industries.

to electoral concerns or due to the salience of industries based on their perceived electoral importance. On the one hand, Presidents may want to minimize domestic backlash from signing FTAs, especially in swing states. In a majoritarian system such as the United States, where the winner takes all, the vote-seat, or the vote-electoral college vote elasticity, is rather high compared to a proportional representation system (Rogowski and Kayser 2002). Therefore, the adverse employment consequences from trade agreements, while potentially small, can lead to big changes in the electoral college vote counts in more competitive states. Import competition not only hurts the workers in affected industries directly but also spills over to the local economy (Autor, Dorn, and Hanson 2013). Furthermore, trade has been documented to directly affect elections (Margalit 2011; Che et al. 2016; Blanchard, Bown, and Chor 2019; Autor et al. 2020; Kim and Cha 2022; Lake and Nie 2022). If tariff phaseouts can delay the adverse employment consequences of trade, as explained above, then one may conclude that a particularistic president may *intentionally* phase out tariffs for industries that concentrate in more competitive states in order to insulate himself (and his party) from domestic backlash at the polls.

On the other hand, industries may receive longer phaseouts by virtue of their political salience as a function of being historically located in highly electorally competitive states. In contrast with the particularistic president argument, which implies an intention to target industries in swing states with longer phaseouts for political ends, this opposing view suggests that any correlation is primarily due to the industry's inherent political salience. Indeed, an interview with a former negotiator reveals that swing states are not part of the consideration when phasing out products (Interview 2, 31:26). However, this does not negate the sources of an industry's political salience being derived from the electoral competitiveness of the states they concentrate in.

For example, the steel industry has been salient in the American consciousness. This salience is reinforced by various protection by previous Presidents (Kriner and Reeves 2015a, p.51 and 56), as well as the concentration of integrated mills in Indiana, Michigan, Ohio, and Pennsylvania (Watson 2022). According to reported beliefs from George W. Bush's presidential campaign, Bill Clinton's failure to protect the domestic steel industry was crucial to the success of Bush's campaign (Kriner and Reeves 2015a, p.38). Consequently, the importance of the steel industry is primarily due to its presence in key swing states.

Hence, industries' salience can be derived from their political geographies, and it can shape negotiation priorities due to path-dependent policymaking. That is, if salient industries are not protected in FTAs, there would be substantial backlash as it is in opposition to prior, more favorable treatments. However, such backlash is essentially what the

President prefers to insulate himself from. In the end, the consequences of not phasing out salient industries' products are the same regardless of the reasons and intentions behind doing so. Because the reasons why industries concentrating in swing states may be targeted with longer phaseouts are so intertwined, it renders any causal claim untestable. Nevertheless, there are at least two reasons why we may see industries that concentrate in electorally competitive states receiving longer tariff phaseouts. Hence, the first hypothesis:

Hypothesis 1 (H1): *On average, products belonging to industries concentrated in more electorally competitive states are phased out for a longer period.*

An industry's political salience stems not only from its geography but also from its economic sensitivities. The theoretical discussion thus far assumes that all import-competing producers are equal. While such an assumption is valid if the context of trade liberalization is at the global scale, i.e., reducing the US's most-favored-nation tariffs, producers' import sensitivities are contingent on the FTA partner country's comparative advantage. Hence, we may expect industries concentrating in electorally competitive states that are most threatened by the potential import competition from the trade partner to be heavily prioritized compared to if they are not as threatened by the trade partner. Hence, the second hypothesis.

Hypothesis 2 (H2): *On average, products belonging to industries concentrated in electorally competitive states are phased out for a longer period when the partner poses a greater import threat.*

4.3 Ratification Promotion

Recall the aforementioned consultation mechanism, which mandates that negotiators consult with stakeholders and members of Congress before and during negotiation. While consultation is a legal requirement for the FTA to benefit from the expedited procedure, it is within the negotiators' interests to engage in it as it reveals domestic preferences. In order to design an agreement that appeals to the majority of congressional members for ratification, negotiators must have near-complete information on industry preferences and the preferences of members of Congress.

Let us assume that industries' preferences communicated through the Federal Register help negotiators compile an unordered list of products to protect. Because negotiators are constrained by time, resources, and concessions to exchange, they may rely on Members of Congress to set the priority of products. Members of Congress may condition their

ratification vote on the protection or promotion of certain industries that are important in their states.

However, not every member of Congress is equal in their ratification threats and promises. Furthermore, in order for negotiators to maximize aggregate welfare and surpluses for exporters and maintain the margins for ratification, they must strategically target phaseout to industries concentrating districts of legislators that would provide a greater marginal return. Such return is the degree to which her ratification vote can be swayed.

I argue that the most credible members of Congress in their ratification threats are the degree to which they are median legislators on trade. Staunchly anti- or pro-trade legislators' threats are not as credible because their preferences on trade are shaped by the support of local interest groups. For example, a labor-union-endorsed and supported legislator cannot credibly promise to ratify an agreement that would hurt her constituents, and neither can a pro-trade legislator whose constituency primarily is in the export sector threaten not to ratify an FTA. Therefore, the priority of certain products, and consequently the degree to which the tariffs are phased out, is thus informed by the industry's concentration in the median legislator's districts. Hence, the third hypothesis:

Hypothesis 3 (H3): *On average, products belonging to industries concentrated in districts of median legislators are phased out for a longer period.*

Even though trade agreement implementation bills cannot be politically held up by committees, such as House Ways and Means and Senate Finance, it is imperative to negotiators that the committee votes favorably prior to entering the floor votes (Interview 2, 48:49). Therefore, a final source of political sensitivities of products may be from industries concentrated in the districts of trade-related committee members. Hence, the fourth hypothesis:

Hypothesis 4 (H4): *On average, products belonging to industries concentrated in districts of legislators in trade-related committees are phased out for a longer period.*

The current discussion thus far assumes that lobbying for product protection in FTAs is constant. This assumption is reasonable because lobbying for protection via Comments on USTR Public Notices is virtually costless compared to buying access to legislators. With a relatively low barrier to lobbying USTR on the Public Register, producers do not face problems of collective action often characterized by the lobbying literature (Kim 2017; Gilligan 1997b), as they tend to assume differential costs to lobbying. As such, anyone can submit comments and requests for carve-outs in trade negotiations.

However, we may expect producers with more to lose from the FTA to be more incen-

tivized to lobby for protection through Members of Congress. Assuming that producers are constrained on resources and that access to legislators is constant, the most efficient strategy would be to target the 33 median Senators as opposed to the 145 median Representatives. Additionally, negotiators may be more likely to comply with requests from key Senators because their votes hold more weight by virtue of the smaller size of the Senate compared to the House. Hence, we may expect that products made by industries concentrating in the districts of median Senators and members of the Senate Finance Committee correlate with longer phaseouts when the partner poses a significant import threat. Hence, the fifth hypothesis:

Hypothesis 5 (H5): *On average, products belonging to industries concentrated in districts of median Senators and members of the Senate Finance Committee are phased out for a longer period when the partner poses a greater import threat.*

On the other hand, due to most of the lobbying effort going to Senators, we may see a divergence in how import threat may condition the effect of key Representatives. In other words, we may expect that the most import-sensitive products might not receive longer phaseouts when the industries concentrate in districts of the median Representative or members of House Ways and Means compared to the least import-sensitive products. Hence, the sixth hypothesis:

Hypothesis 6 (H6): *On average, products belonging to industries concentrated in districts of median Representatives and members of the House Ways and Means Committee are not phased out for a longer period when the partner poses a greater import threat.*

5 Data and Empirical Strategy

5.1 Tariff Phaseout Duration

To test my argument, I make use of FTARIFF, a novel dataset on FTA tariff treatment at the original tariff line level in all 13 ratified US FTAs. FTARIFF is a broader data project in collaboration with Elizabeth Van Lieshout²¹ that is slated to provide dyadic tariff treatment for 140 bilateral free trade agreements.

For this paper, I use the phaseout duration the United States places on imports from its trade partners as the main dependent variable at the original 8-digit product code. I use the original 8-digit reported in US tariff schedules to conserve the sample size and the

²¹Stanford Political Science Ph.D., currently a trade policy analyst at the OECD.

specific treatment for each product.^{22 23} The phaseout duration is a continuous variable that ranges from 0 (immediate elimination) to 20 years.²⁴

5.2 Industry's Concentration in Electorally Competitive States

To test H1, I operationalize the degree to which an industry is concentrated in electorally competitive states by weighing the share of industry employment in each state by its electoral competitiveness. The foundation of this measurement is established in Equation 1, where $\frac{E_{sk\tau}}{E_{k\tau}}$ captures the five-year average (τ) of an industry k employment in state s relative to five-year average total industry employment. I use Eckert et al.'s (2020) NAICS-harmonized version of the County Business Pattern for employment numbers. The index s denotes states, k denotes industries, and τ refers to the year t in which the employment values are smoothed over the preceding five years.

$$\Psi_{kt} = \sum_{s=1}^S \left(\frac{E_{sk\tau}}{E_{k\tau}} \times \psi_{st} \right) \quad (1)$$

ψ_{st} represents the electoral competitiveness of state s in year t . The electoral competitiveness is measured to be how close to 50% the President's party received for state s in the past three elections. Equation 2 outlines how $\psi_{st}^{CompetitiveMargins}$ is constructed. Here, V_{st} represents the three-election average of the two-party vote share of the sitting president in state s during term t . Using a three-election average helps smooth out short-term fluctuations. The competitiveness measure is calculated by first finding the absolute difference from 50%. A state with a close election would have a smaller number. I then flip the direction by subtracting the absolute difference from 50% so that more competitive states have higher values, closer to 50%.

$$\psi_{st}^{CompetitiveMargins} = 0.50 - (|V_{st} - 0.50|) \quad (2)$$

²²Digitized NAFTA tariff data is taken from Besedes, Kohl, and Lake (2020)'s replication data.

²³In order to concord between product and industries, I use Liao et al.'s 2020 Concordance package to translate 6-digits HS codes (2002 revision) to 6-digits NAICS (2012 revision). My independent variables are constructed using Eckert et al.'s 2020 County Business Pattern data, where they harmonized industry codes to the 2012 revision of the NAICS.

²⁴While the duration is usually whole numbers in years (e.g., 1, 2, 3), there are special cases where product codes have more than one tariff treatment, in which the average duration is taken, creating rational numbers (e.g., 2.34, 5.21).

5.3 Industry's Concentration in Districts of Median Legislators

To test H3, I operationalize the industry's concentration in districts of median legislators (Γ_{kt}) as a function of industry k employment share in district d weighted by median legislator's district dummy γ_{dt} . Essentially, I'm honing in on the industry employment share in districts of median legislators.

$$\Gamma_{kt} = \sum_{d=1}^D \left(\frac{E_{dk\tau}}{E_{k\tau}} \times \gamma_{dt} \right) \quad (3)$$

To construct the binary γ_{dt} , I rely on the average rate at which a legislator votes yes on extending the Trade Promotion Authority (TPA) or Fast Track Authority. Voting in favor of TPA should proxy a legislator's propensity toward voting in favor of free-trade agreements, as the bill essentially delegates or continues to delegate trade-making authority to the executive. Furthermore, TPA votes are "the hardest vote there is" (Interview 2, 44:18), according to a former trade negotiator. This is because voting for TPA signals a legislator's position on free trade, which is sensitive information to publicly declare because scholarship has emphasized the political significance and consequence of pro-trade votes (See for example Feigenbaum and Hall 2015). While there may still be a gap between the anti-TPA vote and the eventual pro-FTA ratification vote, voting in favor of TPA should roughly approximate the legislator's pro-trade attitude in principle.

I hand coded which trade-related roll-call votes were about TPA and created the average pro-TPA rate for each legislator.²⁵ Due to the nature of TPA being renewed every couple of years, the coverage of this variable is imperfect as some legislators may never have the opportunity to vote to extend TPA. Furthermore, while some legislators may vote once for TPA, others have a more extensive voting history.

While these data limitations may pose a challenge to the construct validity of the measure, I argue that it is rather reflective of negotiators' perception of each representative's propensity for free trade, thus gauging who the median voter is in ratification. Based on my interviews with a former trade negotiator, their gauge relies on previous voting history (Interview 1, 15:49); therefore, negotiators are more uncertain of junior representatives' stance on trade as they have fewer opportunities to reveal their preferences through roll call votes. In total, I have the "revealed" preferences of about 58% of Representatives and 75% of Senators through their TPA votes. The remaining legislators without TPA vote records are automatically considered to be the "median" to align closer to the idea

²⁵Using roll call data from VoteView, I can only identify trade-related bills using the "tariff" issue code up until October 2013.

of uncertainty on their ratification vote; this means that the middle one-third of legislators with revealed preferences are coded as median (i.e., 1) and the remaining legislators without voting record on TPA are also coded as median.

Section A.2.6 demonstrates the robustness in my main results with alternative coding of median legislators using DW-NOMINATE ideal point estimates as well as pro-TPA rate prior to FTA signature date.

5.4 Industry's Importance to Districts of Trade Committee Members

To test H4, I follow the previous section's operationalization. Instead of the median legislator dummy to subset the share of industry employment concentrated in key ratifying voters, I subset them based on whether their Representative or Senator is in the Ways and Means or Finance Committee, respectively. Data on whether a district or state is represented by a Representative or Senator in either committee comes from Stewart III and Woon (2024).²⁶

5.5 Import Threat

To test H2, H5, and H6, the degree to which the import of specific products from an FTA partner is viewed as "threatening" depends on two components. First, if the product tariff were to be eliminated, what would be the increase in demand for such a product? Even if import demand elasticity is high, it doesn't necessarily imply that the partner would be able to fulfill increased demands. Hence, a trade partner would only pose an import threat for any particular product if the demand change from eliminating tariff is high and if the partner has already been exporting said product to a high degree.

Equation 4 outlines how *Import Threat* is constructed as a function of demand change when the tariff is eliminated $(1 - (1 + BaseRate^{HS6d})^{-\sigma^{HS2d}})$ and the FTA partner's capability of exporting product to the world except for the United States in the three years leading up to the agreement $Export_{jt}^{i \neq USA}$. I specify the partner's export number to exclude their export into the United States to avoid any endogeneity because existing barriers disincentivize trade. Here, τ specifies that the export numbers are rolling averages of three years prior to the agreement's signing.²⁷ Export data is aggregated to the 4-digits to minimize missing data at the 6-digits from 16% to 5%.

²⁶I hand-coded the committee membership of legislator for the 102nd Congress (for NAFTA) due to missing data from Stewart III and Woon (2024).

²⁷There are some inconsistencies in the number of years used as rolling averages in this paper. Three years is used due to differing product codes available from UNComTrade for earlier agreements. For example, the export data from Mexico and Canada prior to 1992 at the 6-digit HS rev.0 only go back to 1990.

$$ImportThreat_{jpt}^{HS6d} = \log(Export_{j\tau, i \neq USA}^{HS4d} \times (1 - (1 + BaseRate^{HS6d})^{-\sigma^{HS2d}})) \quad (4)$$

The demand change is characterized as the inverse of the demand level when prices are higher due to tariffs. First, $(1 + BaseRate^{HS6d})$ specifies the percentage change in price for imports when there are tariffs. For example, a 25% tariff on light trucks would increase the price of said goods by 1.25 times. σ^{HS2d} is the import demand elasticity. Put together $(1 + BaseRate^{HS6d})^{-\sigma^{HS2d}}$ computes the demand level when there's a tariff in place; hence, with high import demand elasticity, a large price change (i.e., reduction in price when tariffs are eliminated) would lead to a greater reduction in demand levels.

For example, the demand for imported light trucks with 25% tariff would be 41% with an elasticity of 4 (high) versus 80% with an elasticity of 1 (low), compared to the baseline of 100% when there's no tariff.²⁸ If demand for light trucks is highly elastic, the elimination of tariffs would increase demand by 59%, as captured by the difference with 1.

MFN base rates are taken from UNCTAD, and data on import demand elasticity is from Broda and Weinstein (2006), accessed from Liao et al. (2020)'s `concordance` package. Because the 6-digit estimates of import demand elasticity have extreme outliers, I take the median value of 6-digit HS products and aggregate it to the 2-digit HS.

5.6 Controls

I employ a mix of product and industry-level characteristics to control for any confounders. First, I hold the *Base Rate* constant to control for the documented relationship where products with higher base rates receive longer tariff phaseout (Baccini, Dür, and Elsig 2018; Anderer, Dür, and Lechner 2020; Kowalczyk and Davis 1998). I use ad-valorem rates from the FTA tariff schedule at the 8-digit and supplemented any non-ad-valorem-rates, such as tariff rate quotas, with ad-valorem-equivalent rates calculated by UNCTAD TRAINS database.²⁹

Second, I control for a variety of product characteristics, such as whether the product is intermediate, capital, consumer, or agricultural and the degree to which the product is upstream and differentiated. I use Liao et al.'s (2020) `concordance` package to classify

²⁸In which case, regardless of elasticity, the resulting demand level would be 100%. For example $1^{-4} = 1^{-1}$.

²⁹To learn more about how UNCTAD convert tariff rate quotas to ad-valorem equivalent rates, see https://wits.worldbank.org/wits/wits/witshelp/content/data_retrieval/p/intro/c2.ad_valorem_equivalents.htm.

each 6-digit product as intermediate or final goods. Agricultural, capital, and consumer goods are binary variables derived from the USITC Concordance Wizard database.³⁰ The database provides a binary coding for agricultural products as well as end-use cases in which I use the one-digit code to classify whether a product is capital goods or consumer goods.³¹ Product differentiation and upstreamness are all drawn from Liao et al.'s (2020) concordance R package. Product differentiation is drawn from Rauch (1999)'s classification, and data on upstreamness is from Antràs and Chor (2018); Antràs et al. (2012). I used HS revision 2002 to derive these product-level controls, and I standardized all non-binary variables.

Industry Size is simply the natural log of employment number for industry k . Industry employment number is drawn from Eckert et al. (2020)'s NAICS-harmonized version of the County Business Pattern.³²

Fourth, *Capital Mobility* is measured using Liquidation Recovery Rate for property, plant, and equipment (PPE) from Kermani and Ma (2023)'s database of Asset Specificity.³³ The data is time-invariant and originally was coded using 2-digit BEC codes; I converted this to NAICS 6-digit. If a firm resides within an industry with a relatively high asset specificity, i.e., higher asset immobility, it may lobby for longer tariff phaseouts to allow for its investments to depreciate. If an industry can take advantage of the labor market abroad and its liquid recovery rate for PPE is relatively high, it may lobby for a faster tariff phaseout so it may offshore production and import final goods from abroad. Having a high liquidation rate, or asset mobility, allows producers to benefit from moving their investment abroad to low-cost labor countries where returns are higher.

I also account for intra-industry trade (IIT), in which I use the Grubel–Lloyd index $(1 - \frac{|import_{ij} - export_{ij}|}{import_{ij} + export_{ij}})$ (Grubel and Lloyd 1971). A low value indicates that there is little intra-industry trade, while a high value would indicate that the two countries simultaneously exchange the same good. Controlling for IIT speaks directly to Kowalczyk and Davis (1998) and Baccini, Dür, and Elsig (2018), who find that higher intra-industry trade may induce shorter phaseout. The bilateral trade data at 6-digit HS is from the UNComTrade. I group CAFTA and Dominican Republic together as a trade bloc, as well as Mexico and Canada when dealing with plurilateral agreement.³⁴

³⁰Data accessible here <https://dataweb.usitc.gov/classification/commodity-translation>. Last accessed 10/26/24.

³¹End use classification codebook is accessible here <https://www.census.gov/foreign-trade/reference/codes/enduse/imeumstr.txt>. Last accessed 10/26/24.

³²The data is accessible at <http://www.fpeckert.me/cbp/>.

³³Data accessible through <https://assetspecificity.com/>. Last accessed 8/6/24

³⁴Unlike other continuous control variables, I do not standardize IIT as it is bound between 0 and 1.

Finally, I account for unions' ability to leverage their "vote" and "money" in extracting concessions in trade agreements via legislators. As demonstrated by UAW's endorsement of KORUS, unions may lobby Congressional members and Senators to push for more extensive phaseout duration for relevant industries that concentrate in local districts and states. Hence, we should see that industry concentration in districts and states with greater union power, measured through PAC donations or union membership, is associated with longer phaseouts for relevant products. Following Equations 1 and 3, I weigh industry employment in each district or state by the logged union PAC donation averaged over three election cycles or union membership by population ratio. Data on Union PAC donation comes from the Database on Ideology, Money in Politics, and Elections (DIME) (Bonica 2023).³⁵ Union membership data at the state level is from Hirsch, MacPherson, and Even (2024)'s *Unionstats*, while district-level union membership is taken from Becher, Stegmueller, and Käppner (2018).

Table 1 displays the summary statistics for all variables discussed above. Additionally, *Phaseout Usage* and *Excluded* are binary variables created for robustness checks in Table A2 and A3, respectively. Other variables not discussed in this section will be touched upon in the empirical results section.

5.7 Research Design

I assess how longer phaseout durations are assigned to products based on economic and political sensitivities within each FTA. Equation 5 essentially conducts a cross-industry regression with the FTA fixed effects, represented by γ_j , since the broadest level of variation occurs at the NAICS 6-digit level. This model provides estimates that capture the average effect of each variable across FTAs. Additionally, I incorporate sector fixed effects as defined by HTS's "sections," denoted by $\delta_k^{HTSSector}$, to account for unobserved heterogeneity within sectors.³⁶

$$P_{pj}^{HS8d} = \gamma_j + \delta_k^{HTSSector} + \beta_1 X_{kt}^{NAICS6d} + \beta_2 X_{kt}^{NAICS6d} + \beta_3 X_{pt}^{HS6d} + \varepsilon_{pt} \quad (5)$$

P_{pj}^{HS8d} denotes the phaseout duration at the 8-digit product code. $\beta_1 X_{kt}^{NAICS6d}$ denotes the coefficient on the main industry concentration measures, which are constructed at the 6-digit NAICS, similar to the set of industry-level controls in $\beta_2 X_{kt}^{NAICS6d}$. Finally, $\beta_3 X_{pt}^{HS6d}$ denotes the set of product-level control variables at the 6-digit HS. Finally, I

³⁵While it may also be reasonable to control for Corporate PAC donations, it is highly collinear with Union PAC donation.

³⁶See <https://hts.usitc.gov/> on sector grouping of two-digit chapters.

Table 1: Summary Statistics

| Statistic | N | Mean | St. Dev. | Min | Max |
|---|---------|--------|----------|---------|--------|
| Phaseout Duration | 139,496 | 1.348 | 3.121 | 0.000 | 20.000 |
| Phaseout Usage | 139,496 | 0.213 | 0.409 | 0 | 1 |
| Excluded | 148,059 | 0.007 | 0.081 | 0 | 1 |
| Competitive Margins | 139,482 | 0.000 | 1.000 | -9.322 | 3.938 |
| Import Threat | 128,043 | -0.000 | 1.000 | -4.398 | 2.870 |
| Median TPA (HoR) | 139,482 | -0.000 | 1.000 | -4.849 | 4.036 |
| Union PAC (HoR) | 139,482 | -0.000 | 1.000 | -12.309 | 5.027 |
| Ways and Means Committee (HoR) | 139,482 | 0.000 | 1.000 | -2.355 | 18.453 |
| Median TPA (Senate) | 139,482 | 0.000 | 1.000 | -1.595 | 3.992 |
| Union PAC (Senate) | 139,482 | 0.000 | 1.000 | -3.781 | 2.872 |
| Finance Committee (Senate) | 139,482 | -0.000 | 1.000 | -2.613 | 6.408 |
| Rust Belt _s | 139,482 | -0.000 | 1.000 | -2.127 | 4.354 |
| Sun Belt _s | 139,482 | -0.000 | 1.000 | -2.543 | 3.214 |
| MFN Base Rate | 147,473 | -0.000 | 1.000 | -0.595 | 31.811 |
| Intermediate Products | 147,440 | 0.099 | 0.299 | 0 | 1 |
| Industry Size (ln) | 139,482 | -0.000 | 1.000 | -7.091 | 2.912 |
| Capital Mobility | 136,646 | 0.000 | 1.000 | -1.804 | 2.830 |
| Agricultural Products | 147,561 | 0.798 | 0.401 | 0 | 1 |
| Capital Products | 147,561 | 0.149 | 0.356 | 0 | 1 |
| Consumer Products | 147,561 | 0.239 | 0.427 | 0 | 1 |
| Upstreamness | 146,734 | 0.000 | 1.000 | -2.077 | 1.889 |
| Differentiated Goods | 141,447 | 0.648 | 0.478 | 0 | 1 |
| Union Membership Rate (CD) | 130,077 | -0.000 | 1.000 | -2.370 | 6.100 |
| Union Membership Rate (State) | 139,482 | 0.000 | 1.000 | -2.957 | 3.459 |
| Intra-Industry Trade | 91,532 | 0.150 | 0.269 | 0.000 | 1.000 |
| Sugar Products | 148,059 | 0.005 | 0.069 | 0 | 1 |
| Auto Products | 148,059 | 0.002 | 0.041 | 0 | 1 |
| Textile, Apparel, and Footwear Products | 148,059 | 0.176 | 0.380 | 0 | 1 |
| Steel | 148,059 | 0.014 | 0.117 | 0 | 1 |

cluster my standard errors by 6-digit NAICS to account for any correlation in the errors among products made by the industry.

Due to missing data for *Capital Mobility* that essentially provide no variation for the agricultural, forestry, fishing and hunting (NAICS 11) and mining, quarrying, and oil and gas extraction (NAICS 21) industries, the estimates are only informative of manufacturing industries (NAICS 31-33).

6 Results

I theorize that the design of trade agreements' tariff schedules is politically motivated. Unlike prior studies that focused on economic determinants, such as the type of goods (Baccini, Dür, and Elsig 2018), intra-industry trade (Baccini, Dür, and Elsig 2018; Kowalczyk and Davis 1998), and the degree to which the partner's imports pose a threat to domestic producers (Van Lieshout 2021a), I contribute a new political explanation for the duration of tariff phaseouts, as well as providing insights on whether an executive is more concerned about the agreement's electoral consequences or its ratification prospects.

Controlling for said economic covariates, I find that across various models and robustness checks that the executive's electoral concerns trump his ratification concerns. I consistently find a strong and positive association between industry employment concentration in electorally competitive states and phaseout duration. Even when accounting for Rust and Sun Belt states, which have been suggested to be a source of political sensitivities by a former trade negotiator (Interview 2, 31:58), the main finding remains robust. The main effect of industry concentration in competitive states is not monotonous across all products. In particular, I find that the targeting of phaseout duration based on electoral concerns is significantly magnified as products are more import-sensitive. Similarly, while, on average, ratification variables are statistically insignificant, they are heavily moderated by the degree of import threat. When analyzing estimates across trade partners, import competition from both KORUS and NAFTA is equally significant. However, tariff staging responds more to electoral concerns for NAFTA and to ratification concerns for KORUS. Finally, I find evidence to suggest that the executive cannot address both concerns simultaneously.

These results are robust when I regress phaseout duration using a Poisson Regression in Table A1 and when I regress phaseout usage with a logistic regression in Table A2.

6.1 Regression Results

Table 2 presents five models starting with the baseline regression that includes only the main explanatory variables. The baseline model suggests that *Competitive Margins* is highly correlated with longer phaseout duration, and the association is robust across various specifications, supporting H1.³⁷ A one standard deviation increase in industry employment share in competitive states is associated with 1.86 additional months in phaseout duration for products within the industry. On the other hand, one standard deviation increase in *Import Threat* is associated with 8.36 additional months in phaseout duration, echoing Van Lieshout (2021a)'s findings. Variables that characterize ratification concerns, such as *Median TPA* and *Committees*, are statistically insignificant, and some exhibit negative signs in some models, failing to support H3 and H4.

[Table 2 about here]

Most control variables in Model 2 exhibit expected signs. *MFN Base Rate* is positive and highly statistically significant, corroborating the findings from Baccini, Dür, and Elsig (2018); Anderer, Dür, and Lechner (2020); Kowalczyk and Davis (1998). *Intermediate goods* and *Upstreamness of product* are negative and statistically significant, echoing the findings from Baccini, Dür, and Elsig (2018) and Anderer, Dür, and Lechner (2020).

Agricultural products are strongly correlated with shorter phaseout duration, contradicting the conventional understanding of agricultural protectionism (Deardorff and Sharma 2021). This negative association is present even in explaining the likelihood for exclusion (See Table A3). When inquired as to why agricultural products are correlated with shorter phaseouts, a former trade negotiator suggested that the agricultural sector is more export-oriented; as such, negotiators would request reciprocal immediate duty-free treatment on agricultural products (Interview 2, 50:00). However, not all agricultural products are the same. Sugar is significantly correlated with 8.19 *additional* months in phaseout duration in Model 3 — reinforcing the conventional understanding of sugar protectionism.

Consumer goods are associated with shorter phaseout duration; while insignificant in Model 2, it becomes significant in Models 4 and 5. This result suggests that the executive can be both producer and consumer-minded, challenging the assumption from the *Protection for Sale* literature that the executive is either one or the other (Grossman and Helpman 1994; Gawande, Krishna, and Olarreaga 2009).

³⁷Table A6 demonstrates that *Competitive Margins* is also robust with FTA-sector fixed effects as well as when US-Jordan FTA is omitted from the regression.

Table 2: Main Results

| Dependent Variable: Model: | Phaseout Duration | | | | |
|---------------------------------------|---------------------|----------------------|----------------------------|----------------------|-----------------------------------|
| | Baseline (1) | + Controls (2) | + Protected Sectors (3) | HTS Sector FE (4) | + IIT and Union Membership (5) |
| <i>Variables</i> | | | | | |
| Competitive Margins _s | 0.155** (0.067) | 0.167*** (0.059) | 0.173*** (0.065) | 0.167*** (0.059) | 0.201*** (0.071) |
| Median TPA (HoR) _d | -0.143 (0.090) | 0.028 (0.079) | -0.034 (0.079) | -0.045 (0.079) | 0.072 (0.078) |
| Median TPA (Senate) _s | 0.062 (0.131) | -0.160* (0.086) | -0.182* (0.095) | -0.113 (0.102) | 0.066 (0.111) |
| Ways and Means Committee _d | -0.118 (0.079) | -0.072* (0.039) | -0.013 (0.036) | 0.006 (0.031) | -0.009 (0.037) |
| Finance Committee _s | -0.043 (0.077) | -0.010 (0.050) | 0.038 (0.046) | 0.052 (0.040) | -0.007 (0.046) |
| Import Threat | 0.697*** (0.087) | 0.426*** (0.047) | 0.431*** (0.047) | 0.415*** (0.049) | 0.349*** (0.050) |
| Union PAC (HoR) _d | | 0.156 (0.099) | 0.138 (0.098) | 0.144 (0.093) | 0.163** (0.079) |
| Union PAC (Senate) _d | | -0.051 (0.088) | -0.074 (0.084) | -0.080 (0.084) | -0.083 (0.082) |
| Base Rate | | 0.756*** (0.218) | 0.692*** (0.193) | 0.624*** (0.175) | 0.595*** (0.129) |
| Industry Size (ln) | | -0.017 (0.046) | -0.018 (0.044) | -0.024 (0.046) | -0.066 (0.048) |
| Capital Mobility | | 0.076 (0.049) | 0.065 (0.042) | 0.095* (0.049) | 0.064 (0.070) |
| Intermediate product | | -0.374*** (0.088) | -0.233*** (0.068) | -0.074* (0.045) | -0.043 (0.036) |
| Agricultural product | | -1.39*** (0.241) | -1.56*** (0.242) | -0.808*** (0.311) | -0.476* (0.256) |
| Capital product | | -0.404*** (0.125) | -0.291*** (0.105) | -0.237*** (0.088) | -0.144* (0.087) |
| Consumer product | | 0.016 (0.122) | -0.145 (0.109) | -0.156** (0.075) | -0.165** (0.080) |
| Upstream product | | -0.080** (0.039) | -0.058* (0.033) | -0.100 (0.066) | -0.067 (0.069) |
| Differentiated product | | -0.114 (0.157) | -0.175 (0.159) | -0.004 (0.080) | -0.050 (0.079) |
| Sugar products | | | 0.683*** (0.222) | | |
| Auto products | | | -0.892*** (0.163) | | |
| Textile, Apparel, Footwear products | | | 0.750*** (0.138) | | |
| Steel products | | | 0.519** (0.231) | | |
| Intra-Industry Trade | | | | | -0.228** (0.106) |
| Union Membership Rate _d | | | | | 0.113 (0.124) |
| Union Membership Rate _s | | | | | 0.014 (0.119) |
| <i>Fixed-effects</i> | | | | | |
| FTA | Yes | Yes | Yes | Yes | Yes |
| HTS Sector | No | No | No | Yes | Yes |
| <i>Fit statistics</i> | | | | | |
| Observations | 109,559 | 102,834 | 102,834 | 102,834 | 69,690 |
| R ² | 0.14 | 0.22 | 0.22 | 0.23 | 0.21 |
| Within R ² | 0.04 | 0.13 | 0.14 | 0.15 | 0.16 |

Clustered (NAICS 6d) standard-errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Model 3 includes indicators for four industries traditionally considered protected: sugar, automotive, textile, and steel. Products are classified as sugar if they fall under the 4-digit HS headings 1701, 1702, or 1703. Automobiles are categorized under the 8703 heading, which are all final consumer goods. Textile, apparel, and footwear products encompass all items between HS chapters 50 and 64. Steel products correspond to products under Chapter 72. All except for auto are positively correlated with longer phaseout.

While auto products being associated with shorter phaseouts may be surprising, it is reasonable if we expect negotiators to negotiate quick access for auto exports to reciprocate in kind for the trade partner. For most trade partners, competition on auto is not too intense, which allows negotiators to reserve using phaseouts on other politically salient products. However, even when negotiating with South Korea, a major competitor in autos, the 2007 negotiated agreement phases out auto tariffs immediately. This is because USTR was able to extract favorable concessions on Korean standards imposed on imported US cars, which were US auto exporters' top concern, thereby enabling USTR to reciprocate concessions by giving Korean automakers immediate access to the US market (Interview 2, 34:43). This concession, of course, was controversial and was revised in the 2011 renegotiation where phaseouts on autos were lengthened.³⁸ Table 3 replicates Model 3 from Table 2 but splits it into the two KORUS versions. As expected, the coefficient for auto products is positive and statistically *insignificant* in 2007 but *significant* and positive for the 2011 version. In the 2011 version, auto products received about 1.28 years longer in phaseouts compared to non-auto products.

[Table 3 about here]

Model 4 adds in the sector fixed effects to control for any unobserved differences across sectors, as structured by the US Harmonized Tariff Schedule.³⁹ Here, most results previously discussed are robust.

Finally, model 5 adds in *Intra-Industry Trade* and *Union Membership Rate* at both the congressional district and state level. These are added last because of limited data availability, which reduced the sample to 69,690 observations. Union membership rate at the district level, estimated by Becher, Stegmueller, and Käppner (2018), uses LM forms from the Office of Labor-Management Standards (OLMS) as source data that only goes back to 2000. Therefore, Model 5 omits NAFTA entirely. Even without NAFTA, the main finding for *Competitive Margins* is robust with increased magnitude. The *Intra-Industry Trade* coefficient is negatively associated with phaseout duration, echoing Baccini, Dür, and Elsig

³⁸See the 2011 side letter here https://ustr.gov/sites/default/files/uploads/agreements/fta/korus/2011_Side_Letter.pdf

³⁹See <https://hts.usitc.gov/> for how the US defines each sector.

Table 3: Auto Phaseouts KORUS 2007 vs KORUS 2011

| Dependent Variable: partner_year Model: | Phaseout Duration KOR (2007) KOR (2011) (1) (2) | |
|---|---|--------------------|
| <i>Variables</i> | | |
| Auto products | 0.652 (0.800) | 1.28*** (0.423) |
| Control | Yes | Yes |
| <i>Fixed-effects</i> | | |
| FTA | Yes | Yes |
| <i>Fit statistics</i> | | |
| Observations | 8,581 | 8,599 |
| R ² | 0.30 | 0.27 |
| Within R ² | 0.30 | 0.27 |

*Clustered (NAICS 6d) standard-errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

(2018) and Kowalczyk and Davis (1998)’s findings. Union membership at the district and state levels does not significantly correlate with longer phaseout durations.

Industry concentration in electorally competitive states can sometimes be conflated with Rust or Sun-belt states. While industry concentration in either region is not strongly correlated with industry employment concentration in competitive states (See Figure A9), it may provide useful information on whether preferences of industries in either would permeate into the design of trade agreements. Table 4 includes both Rust and Sun Belt variables, constructed by following Equation 1 but using binary indicators for the states.⁴⁰ Essentially, the variable captures the proportion of the industry employment that resides in either Rust or Sun Belt states.

Model 1 in Table 4 provides a truncated model to just the main explanatory variables, replicating Model 4 from Table 2. Models 2 and 3 include employment concentration in *Rust Belt* and *Sun Belt* states separately since they are highly correlated with each other. Industry employment concentration in more electorally competitive states remains to be correlated with longer phaseout duration when controlling for industry concentration

⁴⁰Rust belt states include Illinois, Indiana, Michigan, Missouri, New York, Ohio, Pennsylvania, West Virginia, and Wisconsin. Sun belt states include: Alabama, Arizona, Florida, Georgia, Louisiana, Mississippi, New Mexico, South Carolina, Texas, California, Arkansas, North Carolina, Nevada, Oklahoma, Tennessee, and Utah

in the Sun or Rust Belt states. Rust Belt industries are correlated with longer phaseout duration, about 2.22 additional months in phaseout duration. On the other hand, Sun Belt industries are correlated with shorter phaseout duration, about 1.5 months shorter.

[Table 4 about here]

6.2 Marginal Effects of Political Covariates Conditional on Import Sensitivities

To test H2, H5, and H6, I estimate the marginal effect of various political sensitivities in explaining phaseout duration when conditional on import threat.⁴¹ The controls and fixed effects are specified in Equation 5, as can be seen in Model 4 in Table 2. The only difference here is I generate a marginal effect plot for each pair of interactions (e.g., *CompetitiveMargins* × *ImportThreat*, *MedianTPA(HoR)* × *ImportThreat*).

Figure 4 plots the marginal effect for industry concentrated in (A) electorally competitive states, (B) Rust Belt states, and (C) Sun Belt states.⁴² Figure 4.A shows that the marginal effect for *Competitive Margins* on phaseout duration for a given product is positive and increasing in magnitude as the partner poses a greater import threat, supporting H2. The marginal effect for a typically high value in import threat is statistically distinguishable from the marginal effect with a typically low value in import threat. Since the typically medium value leads to a higher marginal coefficient, it suggests that such an interaction effect is not linear.⁴³ Figure 4.B demonstrates a similar marginal effect for Rust Belt states. Figure 4.C, however, showcases that the marginal effect of Sun Belt states is negative, non-linear, and statistically distinguishable between typically low and high import-threat values.

[Figure 4 about here]

Figures 5 and 6 plot the marginal effect for HoR and Senate variables (*Median TPA* and *Committee*) conditional on the intensity of import threat. A clear trend prevails. Variables that characterize ratification concerns at the Senate (House of Representatives) level suggest a seemingly upward (downward) marginal effect as import sensitivity increases, supporting both H5 and H6, respectively.

This means that industries concentrating in the districts of median legislators in the Senate (House of Representatives) get longer (shorter) phaseout duration when the im-

⁴¹I use the R package *Interflex* from Hainmueller, Mummolo, and Xu (2019).

⁴²The latter two plots test whether rust and sun belt states would behave similarly to *Competitive Margins*.

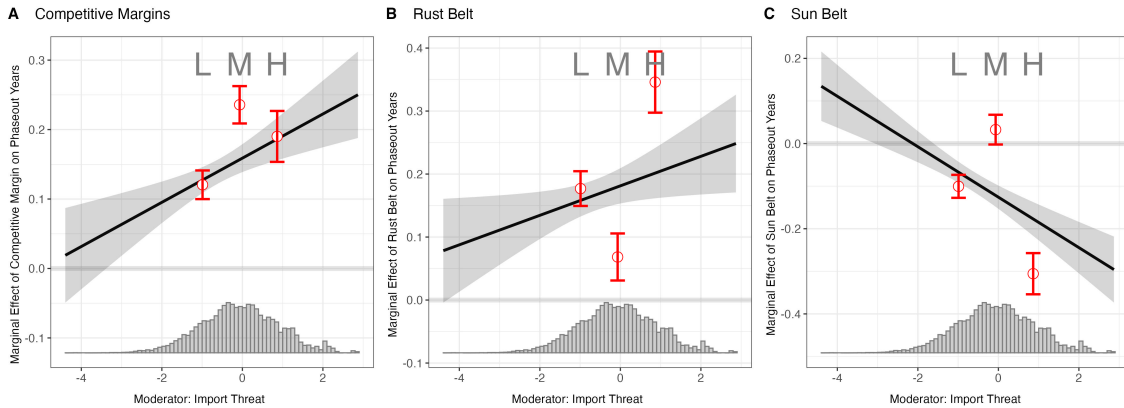
⁴³In fact, the effects of many interactions between import threats and political sensitivities are not linear.

Table 4: Secondary Result: Employment Concentration in Rust and Sun Belt States

| Dependent Variable: Model: | Phaseout Duration | | |
|---------------------------------------|---------------------|---------------------|---------------------|
| | (1) | (2) | (3) |
| <i>Variables</i> | | | |
| Competitive Margins _s | 0.167*** (0.059) | 0.138** (0.057) | 0.183*** (0.060) |
| Median TPA (HoR) _d | -0.045 (0.079) | -0.039 (0.074) | -0.025 (0.077) |
| Median TPA (Senate) _s | -0.113 (0.102) | -0.007 (0.115) | -0.096 (0.103) |
| Ways and Means Committee _d | 0.006 (0.031) | 0.008 (0.031) | 0.004 (0.030) |
| Finance Committee _s | 0.052 (0.040) | 0.070* (0.042) | 0.049 (0.040) |
| Import Threat | 0.415*** (0.049) | 0.422*** (0.047) | 0.415*** (0.048) |
| Union PAC (HoR) _d | 0.144 (0.093) | 0.114 (0.087) | 0.131 (0.093) |
| Union PAC (Senate) _d | -0.080 (0.084) | -0.063 (0.084) | -0.075 (0.084) |
| Rust Belt _s | | 0.185*** (0.070) | |
| Sun Belt _s | | | -0.126** (0.053) |
| Control | Yes | Yes | Yes |
| <i>Fixed-effects</i> | | | |
| HTS Sector | Yes | Yes | Yes |
| FTA | Yes | Yes | Yes |
| <i>Fit statistics</i> | | | |
| Observations | 102,834 | 102,834 | 102,834 |
| R ² | 0.23 | 0.23 | 0.23 |
| Within R ² | 0.04 | 0.04 | 0.04 |

Clustered (NAICS 6d) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Figure 4: Marginal Effects for Electoral Variables



Note:

port threat is high. Similarly, industries concentrating in the district of House Members in the Ways and Means Committee are associated with longer phaseouts as the import threat is low but shorter phaseouts as the import threat increases. On the other hand, industries concentrating in the district of Senators in the Finance Committee receive shorter phaseouts when faced with a median intensity of import threat but receive significantly longer phaseouts when faced with a high import threat. This result suggests that industries with the most to lose from a free trade agreement target their lobbying efforts toward Senators in the Finance Committee due to their political influence. Indeed, a former trade negotiator specifically stated that "if you've got a trade agreement that can't pass Finance Committee, you probably haven't done your job" (Interview 2, 48:49).

[Figure 5 about here]

[Figure 6 about here]

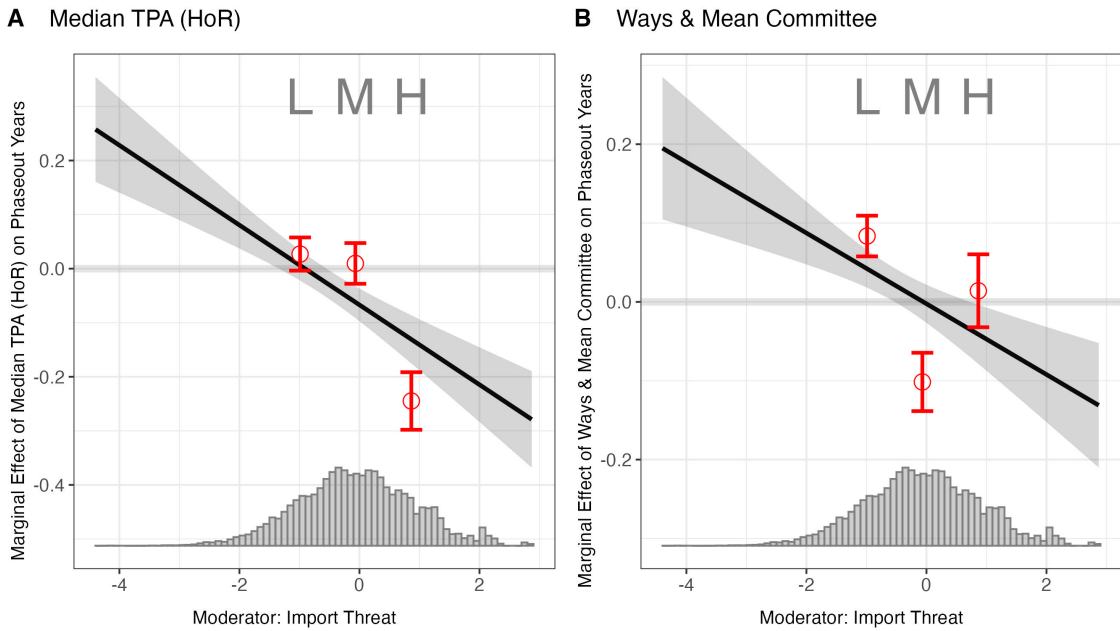
6.3 Heterogeneous Effect By FTA

When are electoral or ratification concerns more salient? Can both concerns be addressed simultaneously? Figure 7 showcases the heterogeneous effect of four variables across FTAs in the sample.⁴⁴

Figure 7a demonstrates that imports from the trade partner that would present a greater threat to domestic producers are generally always correlated with longer phaseout. The magnitude of the estimates aligns with the conventional understanding that NAFTA and KORUS were more economically consequential than Latin American and Middle Eastern

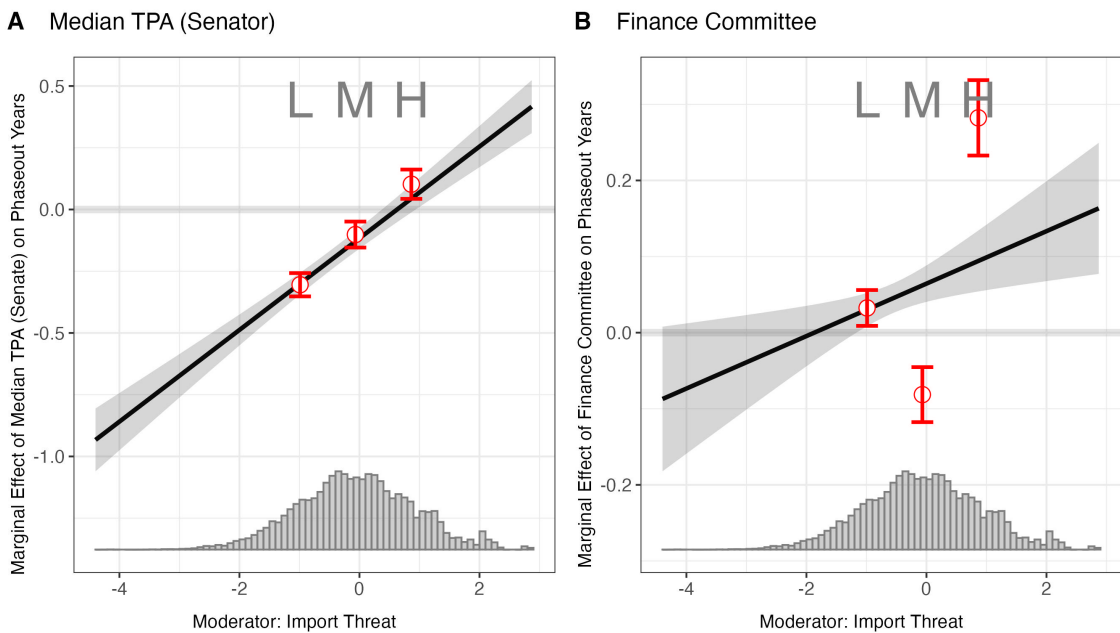
⁴⁴I rerun Model 4 from Table 2 for each FTA. Figure A10 plots the estimates for all variables.

Figure 5: Marginal Effects for Ratification Variables (House of Representative)



Note:

Figure 6: Marginal Effects for Ratification Variables (Senate)



Note:

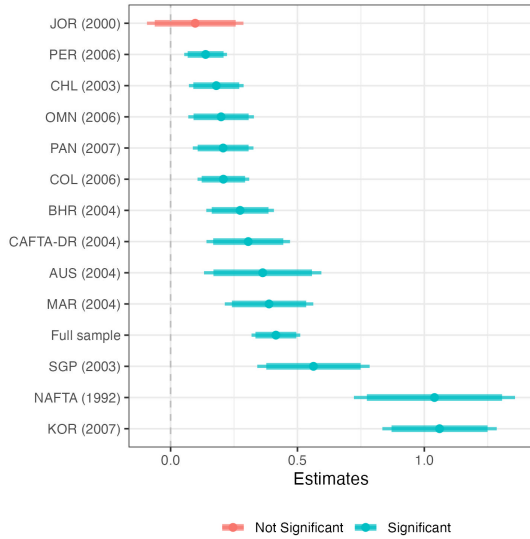
trade partners. NAFTA and KORUS's *Import Threat* estimates are essentially the same, indicating that products from either Mexico, Canada or South Korea that pose an im-

port threat would receive similar phaseout duration treatment. A one standard deviation increase in *Import Threat* is associated with about one additional year in phaseout on imports for both agreements. This suggests that domestic producers were concerned about the import competition posed by liberalizing trade with either set of trade partners.

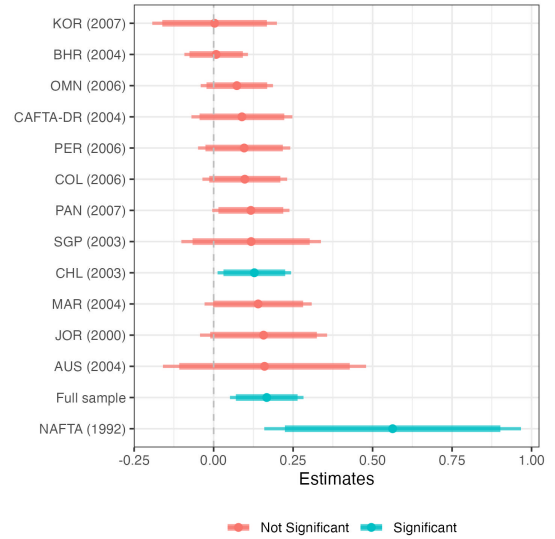
When examining the effect of political sensitivities by FTA, a pattern starts to emerge. Specifically, when one concern is addressed, it leaves the other unaddressed — indicating that electoral insulation and ratification promotion cannot be addressed simultaneously. For example, the coefficient for industry concentration in competitive states is positive with a relatively large magnitude for NAFTA; however, when examining the estimates for *Median TPA (HoR)* and *Median TPA (Senate)*, both coefficients are negative, significant for the former (Figure 7c). For KORUS, industries that concentrate in the district of median senators receive significantly longer phaseout, about six additional months, but such targeting was not present for industries that concentrate in competitive states or districts of median representatives, both with a zero (0) coefficient.

What may explain why electoral insulation shapes negotiation priority for NAFTA but not for KORUS despite both having similar levels of economic sensitivities? A rough examination would lead one to conclude that it may be about the electoral horizon of the incumbent executive. NAFTA was negotiated under George H. W. Bush's first term, which suggests that perhaps phaseout was strategically allocated to insulate the executive from backlash in key battleground states. On the other hand, KORUS was negotiated during the second term of George W. Bush. Given the lack of a political horizon and that KORUS was a politically salient trade agreement, it seems to suggest that the political motivation to maximize ratification prospects takes the helm in importance, although median Senators rather than Representatives were targeted.

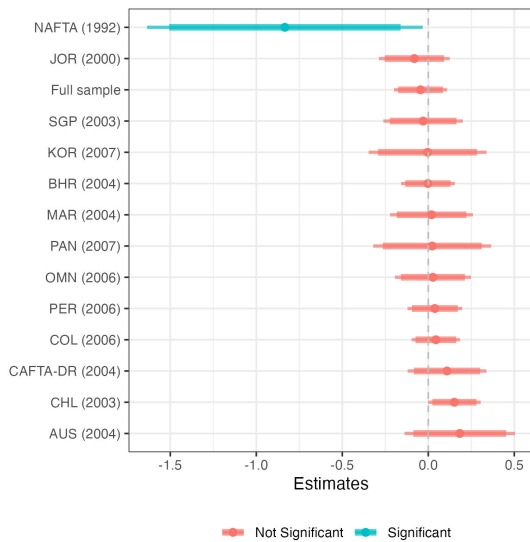
Figure 7: Estimates by FTA Partner



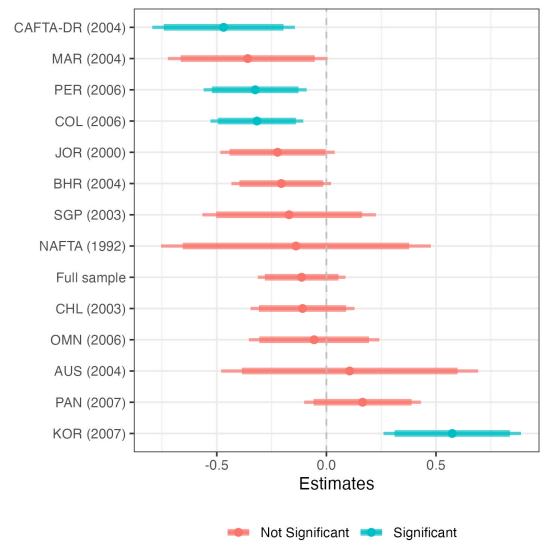
(a) Import Threat



(b) Competitive Margins



(c) Median TPA (HoR)



(d) Median TPA (Senate)

Note: This figure presents the estimates for selected variables. Figure A10 presents estimates by FTA for all variables according to Model 4 in Table 2.

7 Conclusion

Tariff staging, or the rules that dictate when tariffs are completely phased out, can theoretically facilitate cooperation as a more disaggregated form of flexibility and allow domes-

tic producers to adjust. This article reasons that reciprocity forecloses the incentive to use exclusion, necessitating, while at the same time, moderating the use of tariff phaseouts as they are redistributive. I argue that lengthy phaseouts are prioritized for politically sensitive products, and the executive's interests in insulating themselves electorally and promoting ratification shape which products are salient in negotiation. I find that, on average, electoral insulation trumps ratification promotion. Specifically, products made by industries concentrated in electorally competitive states are associated with longer phaseout duration, the magnitude of which is amplified when the partner poses a greater import threat. When disaggregating the estimates by trade agreements, I find that the executive cannot address both sources of political sensitivities simultaneously.

A broader implication of this work is that at least on the tariff schedule, the US executives rarely play a two-level game to promote ratification as theorized by Putnam (1988). Rather, tariff phaseouts are allocated on a particularistic pattern that favors industries concentrating in more electorally competitive states. While I do not make a causal argument nor design the test to be causal, it is important to acknowledge the underlying causal mechanisms for such an association. First, executives with electoral horizons, like George H. W. Bush with NAFTA, may be interested in securing and maintaining favorable margins in competitive states due to the high vote-electoral college vote elasticity in a majoritarian electoral system. This insight might be generalizable to other Presidential systems with a majoritarian electoral rule in informing how the executive's preferences may permeate into the design of FTA tariff schedules. Second, executives may be more likely to prioritize industries in competitive states simply due to their historic location, which has shaped previous trade policymaking decisions; therefore, the protection given yesterday is also given today as a form of policy path dependency, echoing findings from (Goldstein and Gulotty 2014). Regardless of the underlying mechanism, there is a clear incentive for any executive to target such industries with carve-outs on tariffs as they would expect political consequences otherwise.

This article focuses on the political incentive to phase out tariffs toward electorally important industries, yet more work needs to be done to understand the political economy of tariff phaseouts fully. One fruitful research agenda would be to examine the causal mechanism between tariff phaseouts, employment, and political consequences more closely. The results of this paper seemingly suggest that there is an electoral incentive to phase out tariffs. What missing is a close examination of whether longer staging is effective at slowing down employment decline and the subsequent political consequences of trade. As mentioned throughout this paper, economists have suggested that longer stagings do not necessarily delay the growth of import (Besedes, Kohl, and Lake

2020; Dong and Jestrab 2022); however, the link between import growth and employment decline has not been empirically tested. Even if future research demonstrates how phasing out tariffs may not marginally make a difference in employment decline, it will show how phasing out tariffs is simply an "empty-husk" political tool to facilitate free-trade commitment, in which the belief of its effectiveness motivates its particularistic targeting.

References

- Anderer, Christina, Andreas Dür, and Lisa Lechner. 2020. "Trade Policy in a "GVC World": Multinational Corporations and Trade Liberalization." *Business and Politics* 22 (4): 639–666.
- Antràs, Pol, and Davin Chor. 2018. "On the Measurement of Upstreamness and Downstreamness in Global Value Chains." *World trade evolution: Growth, productivity and employment* 5: 126–194.
- Antràs, Pol, Davin Chor, Thibault Fally, and Russell Hillberry. 2012. "Measuring the Upstreamness of Production and Trade Flows." *American Economic Review* 102 (3): 412–416.
- Autor, David, David Dorn, Gordon Hanson, and Kaveh Majlesi. 2017. "A Note on the Effect of Rising Trade Exposure on the 2016 Presidential Election." *Appendix to "Importing Political Polarization"* .
- Autor, David, David Dorn, Gordon Hanson, and Kaveh Majlesi. 2020. "Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure." *American Economic Review* pp. 1–69.
- Autor, David H, David Dorn, and Gordon H Hanson. 2013. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States." *American Economic Review* 103 (6): 2121–2168.
- Baccini, Leonardo, Andreas Dür, and Manfred Elsig. 2018. "Intra-Industry Trade, Global Value Chains, and Preferential Tariff Liberalization." *International Studies Quarterly* 62 (2): 329–340.
- Bailey, Michael A, Judith Goldstein, and Barry R Weingast. 1997. "The Institutional Roots of American Trade Policy: Politics, Coalitions, and International Trade." *World Politics* 49 (3): 309–338.
- Becher, Michael, Daniel Stegmueller, and Konstantin Käppner. 2018. "Local Union Organization and Law Making in the US Congress." *The Journal of Politics* 80 (2): 539–554.
- Besedes, Tibor, Tristan Kohl, and James Lake. 2020. "Phase out Tariffs, Phase in Trade?" *Journal of International Economics* 127: 103385.
- Blanchard, Emily, Chad Bown, and Davin Chor. 2019. Did Trump's Trade War Impact the 2018 Election? Technical Report w26434 National Bureau of Economic Research Cambridge, MA: .

- Blanga-Gubbay, Michael, Paola Conconi, and Mathieu Parenti. 2023. "Lobbying for Globalization." *Unpublished Manuscript* .
- Bonica, Adam. 2023. "Database on Ideology, Money in Politics, and Elections: Public Version 3.1." .
- Broda, Christian, and David E Weinstein. 2006. "Globalization and the Gains from Variety." *The Quarterly journal of economics* 121 (2): 541–585.
- Casey, Christopher A, and Cathleen D Cimino-Isaacs. 2024. Trade Promotion Authority (TPA). Technical report Congressional Research Service (CRS).
- Chase, Kerry A. 2003. "Economic Interests and Regional Trading Arrangements: The Case of NAFTA." *International Organization* 57 (1): 137–174.
- Che, Yi, Yi Lu, Justin R Pierce, Peter K Schott, and Zhigang Tao. 2016. "Does Trade Liberalization with China Influence US Elections?" *NBER Working Paper No. 22178* .
- Choi, Jiwon, Ilyana Kuziemko, Ebonya Washington, and Gavin Wright. 2024. "Local Economic and Political Effects of Trade Deals: Evidence from NAFTA." *American Economic Review* 114 (6): 1540–1575.
- Deardorff, Alan V., and Rishi R. Sharma. 2021. "Exempted Sectors in Free Trade Agreements." *Canadian Journal of Economics/Revue canadienne d'économique* 54 (1): 284–310.
- Dong, Xiuming, and Ross Jestrab. 2022. "The Effect of Phase-in Tariffs on Import Growth." *Unpublished Manuscript* .
- Eckert, Fabian, Teresa Fort, Peter Schott, and Natalie Yang. 2020. Imputing Missing Values in the US Census Bureau's County Business Patterns. Technical Report w26632 National Bureau of Economic Research Cambridge, MA: .
- Fearon, James D. 1998. "Bargaining, Enforcement, and International Cooperation." *International Organization* 52 (2): 269–305.
- Feigenbaum, James J, and Andrew B Hall. 2015. "How Legislators Respond to Localized Economic Shocks: Evidence from Chinese Import Competition." *The Journal of Politics* 77 (4): 1012–1030.
- Gawande, Kishore, Pravin Krishna, and Marcelo Olarreaga. 2009. "What Governments Maximize and Why: The View from Trade." *International Organization* 63 (3): 491–532.
- Gilligan, Michael J. 1997a. *Empowering Exporters*. University of Michigan Press.

- Gilligan, Michael J. 1997b. "Lobbying as a Private Good with Intra-Industry Trade." *International Studies Quarterly* 41 (3): 455–474.
- Goldstein, Judith, and Robert Gulotty. 2014. "America and Trade Liberalization: The Limits of Institutional Reform." *International Organization* 68 (2): 263–295.
- Grossman, Gene M., and Elhanan Helpman. 1994. "Protection for Sale." *The American Economic Review* 84 (4): 833–850.
- Grubel, H. G., and P. J. Lloyd. 1971. "The Empirical Measurement of Intra-Industry Trade*." *Economic Record* 47 (4): 494–517.
- Hainmueller, Jens, Jonathan Mummolo, and Yiqing Xu. 2019. "How Much Should We Trust Estimates from Multiplicative Interaction Models? Simple Tools to Improve Empirical Practice." *Political Analysis* 27 (2): 163–192.
- Hirsch, Barry, David A. MacPherson, and William Even. 2024. "Unionstats: Union Membership, Coverage, and Earnings from the Current Population Survey.".
- Irwin, Douglas A. 2020. "Trade Policy in American Economic History.".
- Jensen, J. Bradford, Dennis P. Quinn, and Stephen Weymouth. 2017. "Winners and Losers in International Trade: The Effects on US Presidential Voting." *International Organization* 71 (3): 423–457.
- Keohane, Robert O. 1984. *After Hegemony*. Princeton University Press.
- Kermani, Amir, and Yueran Ma. 2023. "Asset Specificity of Nonfinancial Firms*." *The Quarterly Journal of Economics* 138 (1): 205–264.
- Khan, Shafaat Yar, and Armen Khederlarian. 2021. "How Does Trade Respond to Anticipated Tariff Changes? Evidence from NAFTA." *Journal of International Economics* 133: 103538.
- Kim, In Song. 2017. "Political Cleavages within Industry: Firm-level Lobbying for Trade Liberalization." *American Political Science Review* 111 (1): 1–20.
- Kim, Sung Eun, and Sujin Cha. 2022. "Do Voters Reward Politicians for Trade Liberalization? Evidence from South Korea." *The Review of International Organizations* 17 (4): 751–780.
- Kim, Sung Eun, and Yotam Margalit. 2017. "Informed Preferences? The Impact of Unions on Workers' Policy Views." *American Journal of Political Science* 61 (3): 728–743.

- Kowalczyk, Carsten, and Donald R. Davis. 1998. "Tariff Phase-Outs: Theory and Evidence from GATT and NAFTA." In *The Regionalization of the World Economy*. University of Chicago Press pp. 227–258.
- Kriner, Douglas L., and Andrew Reeves. 2015a. *The Particularistic President: Executive Branch Politics and Political Inequality*. Cambridge: Cambridge University Press.
- Kriner, Douglas L., and Andrew Reeves. 2015b. "Presidential Particularism and Divide-the-Dollar Politics." *American Political Science Review* 109 (1): 155–171.
- Krugman, Paul. 1980. "Scale Economies, Product Differentiation, and the Pattern of Trade." *American Economic Review*, 70 (5): 950–959.
- Kucik, Jeffrey, and Eric Reinhardt. 2008. "Does Flexibility Promote Cooperation? An Application to the Global Trade Regime." *International Organization* 62 (3): 477–505.
- Lake, James, and Jun Nie. 2022. "The 2020 Us Presidential Election and Trump's Trade War." *SSRN Electronic Journal* .
- Lewis, Jeffrey B., Keith Poole, Howard Rosenthal, Adam Boche, Aaron Rudkin, and Luke Sonnet. 2023. "Voteview: Congressional Roll-Call Votes Database."
- Liao, Steven, In Song Kim, Sayumi Miyano, and Hao Zhang. 2020. "Concordance: Product Concordance."
- Lohmann, Susanne, and Sharyn O'Halloran. 1994. "Divided Government and U.S. Trade Policy: Theory and Evidence." *International Organization* 48 (4): 595–632.
- Lowande, Kenneth S., Jeffery A. Jenkins, and Andrew J. Clarke. 2018. "Presidential Particularism and US Trade Politics." *Political Science Research and Methods* 6 (2): 265–281.
- Ma, Xiangjun, and John McLaren. 2018. A Swing-State Theorem, with Evidence. Technical Report w24425 National Bureau of Economic Research Cambridge, MA: .
- Margalit, Yotam. 2011. "Costly Jobs: Trade-related Layoffs, Government Compensation, and Voting in US Elections." *American Political Science Review* 105 (1): 166–188.
- Nzelibe, Jide. 2006. "The Fable of the Nationalist President and the Parochial Congress." *Ucla L. Rev.* 53 (5): 1217–1273.
- Poole, Keith T, Jeffrey B Lewis, James Lo, and Royce Carroll. 2008. "Scaling Roll Call Votes with W-NOMINATE in R." *Available at SSRN 1276082* .
- Putnam, Robert D. 1988. "Diplomacy and Domestic Politics: The Logic of Two-Level Games." *International Organization* 42 (3): 427–460.

- Rauch, James E. 1999. "Networks versus Markets in International Trade." *Journal of International Economics* .
- Ritchie, Melinda N., and Hye Young You. 2021. "Trump and Trade: Protectionist Politics and Redistributive Policy." *The Journal of Politics* 83 (2): 800–805.
- Rogowski, Ronald, and Mark Andreas Kayser. 2002. "Majoritarian Electoral Systems and Consumer Power: Price-Level Evidence from the OECD Countries." *American Journal of Political Science* 46 (3): 526–539.
- Rosendorff, B Peter, and Helen V Milner. 2001. "The Optimal Design of International Trade Institutions: Uncertainty and Escape." *International Organization* 55: 829–857.
- Schimmelfennig, Frank. 2016. "Good Governance and Differentiated Integration: Graded Membership in the European Union." *European Journal of Political Research* 55 (4): 789–810.
- Schimmelfennig, Frank, Dirk Leuffen, and Berthold Rittberger. 2015. "The European Union as a System of Differentiated Integration: Interdependence, Politicization and Differentiation." *Journal of European Public Policy* 22 (6): 764–782.
- Schimmelfennig, Frank, Dirk Leuffen, and Catherine E De Vries. 2023. "Differentiated Integration in the European Union: Institutional Effects, Public Opinion, and Alternative Flexibility Arrangements." *European Union Politics* 24 (1): 3–20.
- Schneider, Christina J. 2008. *Conflict, Negotiation and European Union Enlargement*. Cambridge: Cambridge University Press.
- Stewart III, Charles, and Jonathan Woon. 2024. "Congressional Committee Assignments, 102nd to 118th Congresses, 1991-2023.".
- Stewart, Terence P. 1999. "The GATT Uruguay Round: A Negotiating History (1986-1994)." *The GATT Uruguay Round* pp. 1–960.
- Van Lieshout, Elisabeth. 2021a. "Buy Now, Pay Later: The Use of Implementation Delays in Preferential Trade Agreements." *Unpublished Manuscript* .
- Van Lieshout, Elisabeth. 2021b. "I Want It That Way: Particularistic Exporters in Trade Negotiations." *Unpublished Manuscript* .
- Watson, Christopher D. 2022. *Domestic Steel Manufacturing: Overview and Prospect*. Technical Report R47107 Congressional Research Service (CRS) Washington DC: .

Winham, Gilbert R. 1986. *International Trade and the Tokyo Round Negotiation*. Princeton University Press.

Zeng, Ka, and Xiaojun Li. 2021. *Fragmenting Globalization: The Politics of Preferential Trade Liberalization in China and the United States*. Ann Arbor, MI: University of Michigan Press.

A.1 Appendix

A.1.1 Example of Tariff Phaseout Rules in FTAs

Figure A1: Tariff Schedule Example from US-Australia FTA

| HTSUS (2004) | DESCRIPTION | BASE RATE | STAGING CATEGORY |
|--------------|--|-------------------------------------|------------------|
| 0711.20 | -Olives: --Not pitted: ---Green in color, in a saline solution, in containers each holding more than 8 kg, drained weight, certified by the importer to be used for repacking or sale as green olives: | | |
| 0711.20.18 | ---Described in additional U.S. note 5 to this chapter and entered pursuant to its provisions | 3.7 cents/kg on drained weight | A |
| 0711.20.28 | ---Other | 5.9 cents/kg on drained weight | A |
| 0711.20.38 | ---Other | 5.9 cents/kg on drained weight | A |
| 0711.20.40 | --Pitted or stuffed | 8.6 cents/kg on drained weight | A |
| 0711.30.00 | -Capers | 8% | B |
| 0711.40.00 | -Cucumbers including gherkins | 7.7% | B |
| | -Mushrooms and truffles: | | |
| 0711.51.00 | --Mushrooms of the genus Agaricus | 5.7 cents/kg on drained weight + 8% | D |
| 0711.59 | --Other: | | |
| 0711.59.10 | ---Mushrooms | 5.7 cents/kg on drained weight + 8% | D |
| 0711.59.90 | ---Other | 7.7% | B |
| 0711.90 | -Other vegetables; mixtures of vegetables: | | |
| 0711.90.20 | --Leguminous vegetables | Free | E |
| 0711.90.50 | --Onions | 5.1% | B |
| 0711.90.65 | --Other vegetables; mixtures of vegetables | 7.7% | B |
| 0712 | Dried vegetables, whole, cut, sliced, broken or in powder, but not further prepared: | | |
| 0712.20 | -Onions: | | |
| 0712.20.20 | --Powder or flour | 29.8% | F |
| 0712.20.40 | --Other | 21.3% | F |
| | -Mushrooms, wood ears (Auricularia spp.), jelly fungi (Tremella spp.) and truffles: | | |
| 0712.31 | --Mushrooms of the genus Agaricus: | | |
| 0712.31.10 | ---Air dried or sun dried | 1.3 cents/kg + 1.8% | A |
| 0712.31.20 | ---Other | 1.9 cents/kg + 2.6% | A |

Note:

Figure A2: Description of Staging Categories from US-Australia FTA

ANNEX 2-B
TARIFF ELIMINATION

1. **Base Rates of Customs Duty.** Except as otherwise indicated, the base rates of customs duty set forth in this schedule reflect the HTSUS Column 1 General rates of duty in effect January 1, 2004, for the United States and the general rates of duty in Schedule 3 to the Australian Customs Tariff Act 1995, in effect January 1, 2004, for Australia.
2. **Staging.** Except as otherwise provided in a Party's Schedule attached to this Annex, the following staging categories apply to the elimination of duties by each Party pursuant to Article 2.3:
 - (a) duties on goods provided for in the items in staging **category A** shall be eliminated entirely and such goods shall be duty-free on the date this Agreement enters into force;
 - (b) duties on goods provided for in the items in staging **category B** shall be removed in equal annual stages beginning on the date this Agreement enters into force, and such goods shall be duty-free, effective January 1 of **year four**;
 - (c) duties on goods provided for in the items in staging **category C** shall be removed in equal annual stages beginning on the date this Agreement enters into force, and such goods shall be duty-free, effective January 1 of **year eight**;
 - (d) duties on goods provided for in the items in staging **category D** shall be removed in equal annual stages beginning on the date this Agreement enters into force, and such goods shall be duty-free, effective January 1 of **year ten**; and
 - (e) **goods provided for in staging category E shall continue to receive duty-free treatment.**

Note:

A.1.2 UAW Endorsement Statement

Figure A3: Description of US-Specific Staging Categories from the Head Note of US-Australia FTA

4. Staging. The following staging categories apply to the elimination of customs duties by the United States pursuant to Article 2.3 (Elimination of Duties):

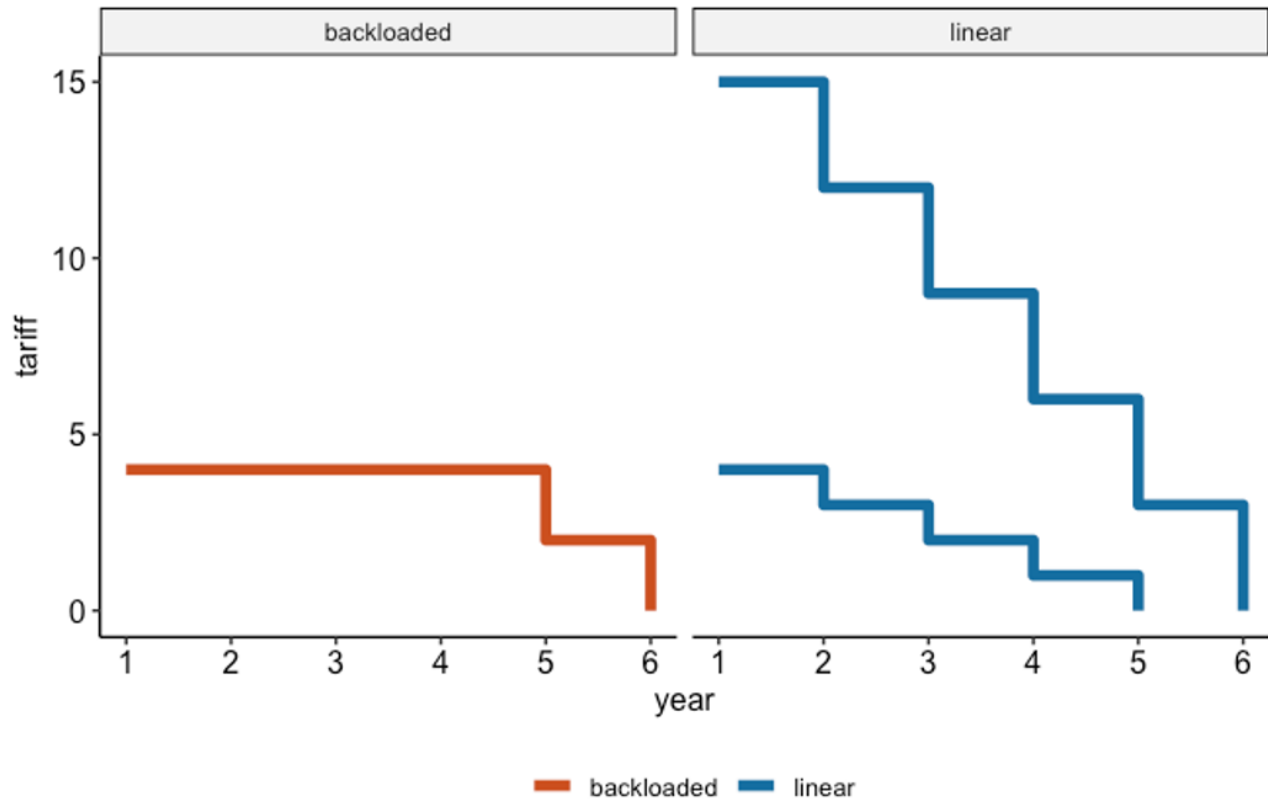
- (a) Duties on goods provided for in subheadings 2918.90.20, 8111.00.47 and 8111.00.49 shall be removed in equal annual stages beginning on the date this Agreement enters into force, and such goods shall be duty free, effective January 1, 2010;
- (b) Duties on goods provided for in the items in staging category F shall be removed in eighteen equal annual stages beginning on the date this Agreement enters into force, and such goods shall be duty-free, effective January 1 of year eighteen.
- (c) Duties on goods provided for in the items in staging category G shall remain at base rates during years one through six. Duties on these goods shall be reduced by 5.6 percent of the base rate on January 1 of year seven and by an additional 5.6 percent of the base rate on January 1 of each year thereafter through year twelve. Beginning January 1 of year thirteen, duties on these goods shall be reduced by an additional 11.1 percent of the base rate annually through year eighteen and shall be duty-free effective January 1 of year eighteen.
- (d) Duties on goods provided for in the items in staging category H shall remain at base rates during years one through eight. Duties on these goods shall be reduced by 6.7 percent of the base rate on January 1 of year nine and by an

Annex 2B-US-Notes-1

Note:

A.1.3 FTARIFF Descriptive Statistics

Figure A4: Example of Linear and Backloaded Phaseout "Shape"



Note:

A.2 Empirical Analysis Appendix

A.2.1 Cross Industry Differences within FTAs (All Variables)

Figure A5: UAW Statement

UAW backs Korea trade agreement

The full text of the op-ed by UAW President Bob King is printed below. The piece, published today, can be read online [here](#).

UAW backs Korea trade agreement

By Bob King

President Barack Obama and U.S. Rep. Sander Levin, a Royal Oak Democrat, should be commended for their effective efforts to substantially revise the U.S.-Korea Free Trade Agreement, which Congress overwhelmingly approved Wednesday night. The UAW fully supports this trade agreement because the automotive provisions, which are very different from those negotiated by President George W. Bush in 2007, will create significantly greater market access for American auto exports and include strong, auto-specific safeguards to protect our domestic markets from potentially harmful surges of Korean automotive imports.

Unlike the 2007 negotiations with South Korea, the labor movement, and particularly the UAW, had an opportunity to be part of the 2010 discussions on strengthening the trade deal. Working with U.S. Trade Representative Ron Kirk and other members of the Obama administration, then-Ways and Means Committee Chairman Levin and top management from the auto companies, the UAW believes the new agreement will help protect current American auto jobs, contains meaningful trade law enforcement and makes stronger labor and environmental commitments.

Under the 2007 proposed agreement, almost 90% of Korea's auto exports to the U.S. would have received immediate duty-free access. Under the agreement passed this week, the 2.5% U.S. tariff on automobiles will stay in place until the fifth year after implementation of the agreement, and the 25% tariff on light trucks remains until the eighth year, when it starts to be phased out. Moreover, South Korea will immediately reduce its electric car tariffs from 8% to 4%, and will phase out the tariff by the fifth year of the agreement. The delay in tariff reductions will allow the domestic automakers time to strengthen their global competitive positions in both traditional and advanced energy efficient auto markets.

Note: Full statement can be accessed here: <https://ustr.gov/about-us/policy-offices/press-office/blog/2011/october/uaw-backs-korea-trade-agreement>

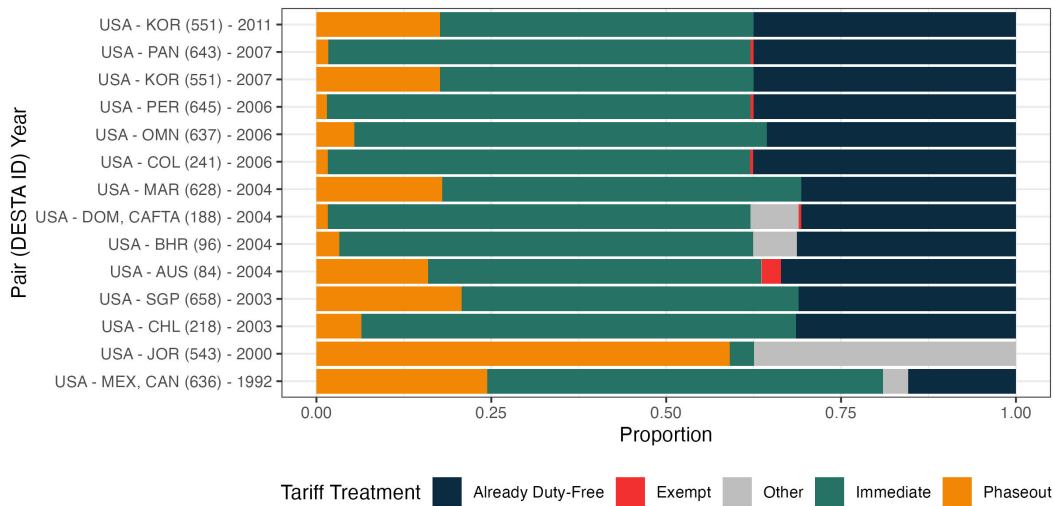
A.2.2 Robustness Checks: Poisson Regression on Phaseout Duration

Table A1: Poisson Regression for Phaseout Duration

| Dependent Variable: Model: | Phaseout Duration | | | | |
|---------------------------------------|---------------------|----------------------|----------------------------|----------------------|-----------------------------------|
| | Baseline (1) | + Controls (2) | + Protected Sectors (3) | HTS Sector FE (4) | + IIT and Union Membership (5) |
| <i>Variables</i> | | | | | |
| Competitive Margins _s | 0.156*** (0.060) | 0.156*** (0.045) | 0.171*** (0.050) | 0.163*** (0.044) | 0.244*** (0.063) |
| Median TPA (HoR) _d | -0.094 (0.073) | 0.061 (0.059) | 0.012 (0.053) | -0.011 (0.052) | 0.060 (0.052) |
| Median TPA (Senate) _s | 0.050 (0.093) | -0.079 (0.052) | -0.068 (0.054) | -0.023 (0.058) | 0.075 (0.061) |
| Ways and Means Committee _d | -0.105* (0.055) | -0.060** (0.025) | -0.022 (0.026) | -0.017 (0.027) | -0.033 (0.034) |
| Finance Committee _s | -0.024 (0.052) | 0.001 (0.041) | 0.036 (0.032) | 0.049 (0.035) | 0.020 (0.036) |
| Import Threat | 0.576*** (0.044) | 0.435*** (0.046) | 0.452*** (0.048) | 0.443*** (0.052) | 0.501*** (0.064) |
| Union PAC (HoR) _d | | 0.141* (0.079) | 0.140* (0.074) | 0.150** (0.072) | 0.133** (0.060) |
| Union PAC (Senate) _d | | -0.003 (0.056) | -0.024 (0.048) | -0.025 (0.048) | -0.034 (0.049) |
| Base Rate | | 0.111*** (0.021) | 0.113*** (0.020) | 0.099*** (0.018) | 0.096*** (0.022) |
| Industry Size (ln) | | 0.017 (0.029) | 0.023 (0.029) | 0.031 (0.031) | -0.002 (0.038) |
| Capital Mobility | | 0.078 (0.048) | 0.047 (0.032) | 0.077* (0.041) | 0.051 (0.053) |
| Intermediate product | | -0.706*** (0.149) | -0.433*** (0.122) | -0.215** (0.094) | -0.156 (0.098) |
| Agricultural product | | -0.711*** (0.123) | -1.02*** (0.104) | -0.494*** (0.130) | -0.360* (0.207) |
| Capital product | | -0.851*** (0.153) | -0.603*** (0.130) | -0.492*** (0.149) | -0.440** (0.201) |
| Consumer product | | 0.209** (0.106) | 0.011 (0.085) | -0.040 (0.069) | -0.156 (0.108) |
| Upstream product | | -0.084** (0.038) | -0.023 (0.036) | -0.064 (0.086) | -0.096 (0.127) |
| Differentiated product | | -0.165** (0.081) | -0.229*** (0.082) | -0.069 (0.070) | -0.149** (0.073) |
| Sugar products | | | 0.355** (0.139) | | |
| Auto products | | | -1.28*** (0.128) | | |
| Textile, Apparel, Footwear products | | | 0.779*** (0.078) | | |
| Steel products | | | 0.420** (0.181) | | |
| Intra-Industry Trade | | | | | -0.574*** (0.170) |
| Union Membership Rate _d | | | | | 0.093 (0.067) |
| Union Membership Rate _s | | | | | 0.068 (0.064) |
| <i>Fixed-effects</i> | | | | | |
| FTA | Yes | Yes | Yes | Yes | Yes |
| HTS Sector | No | No | No | Yes | Yes |
| <i>Fit statistics</i> | | | | | |
| Observations | 109,559 | 102,834 | 102,834 | 102,834 | 67,094 |
| Squared Correlation | 0.13 | 0.15 | 0.18 | 0.18 | 0.16 |
| Pseudo R ² | 0.19 | 0.27 | 0.28 | 0.29 | 0.30 |
| BIC | 481,257.1 | 413,440.0 | 404,821.2 | 400,156.5 | 250,025.8 |

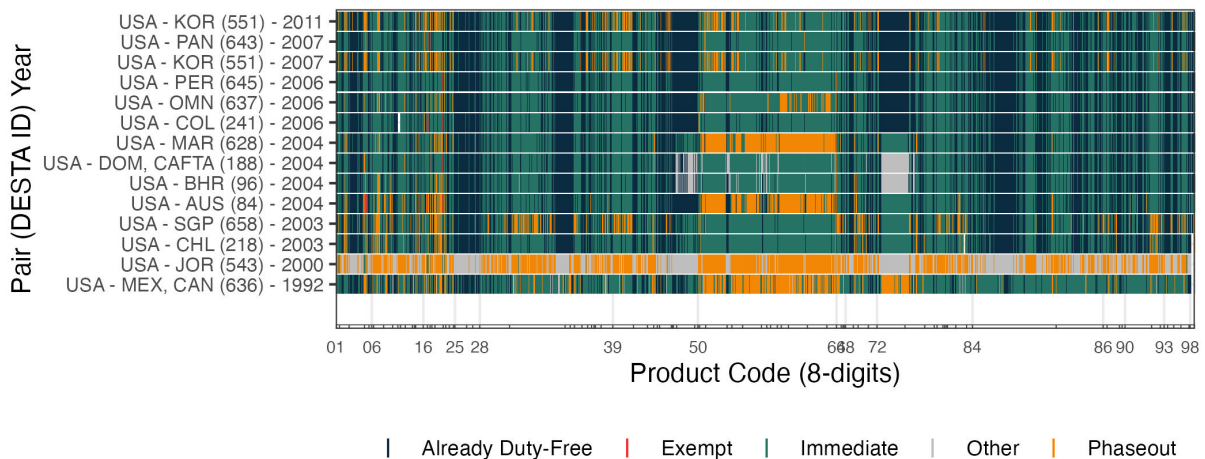
Clustered (NAICS 6d) standard-errors in parentheses
Signif. Codes: ***, 0.01, **, 0.05, *, 0.1

Figure A6: Proportion of Each USA Tariff Treatment Category Toward Imports From Trade Partners



Note: Country pair is formatted as home-partner, where the home country sets tariff treatment toward the partner country. "Other" indicates that the product's tariff reduction is governed by other means, such as the WTO commitment. Created by Author 10/24/24.

Figure A7: Distribution of Tariff Treatment from USA FTAs Across 8-digit Product Codes



Note: Each tick represents one product code. "Other" indicates that the product's tariff reduction is governed by other means, such as the WTO commitment. Each tick on the x-axis demarcates a 2-digit chapter. Important 2-digit chapters are displayed. Refer to <https://hts.usitc.gov/> on the title of HS chapters. Created by Author 10/24/24.

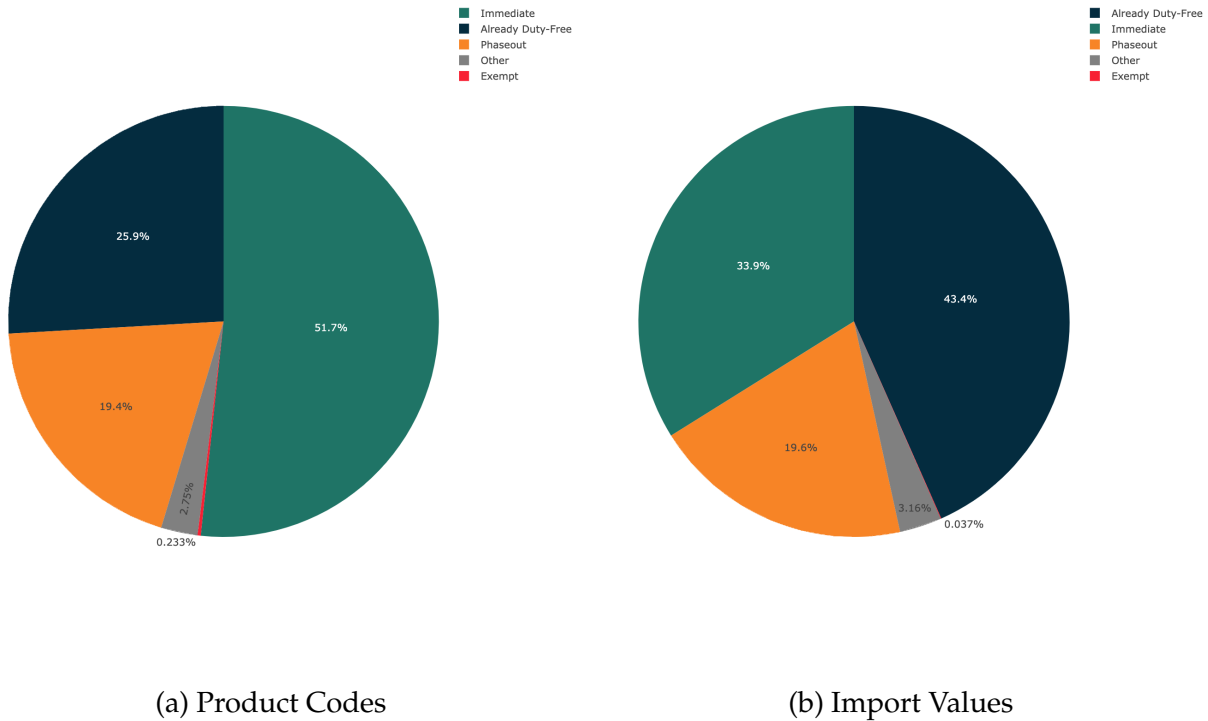
A.2.3 Robustness Checks: Logistic Regression on Phaseout Usage

Table A2: Logistic Regression for Phaseout Usage

| Dependent Variable: Model: | Phaseout Usage | | | | |
|---------------------------------------|---------------------|----------------------|----------------------------|----------------------|-----------------------------------|
| | Baseline (1) | + Controls (2) | + Protected Sectors (3) | HTS Sector FE (4) | + IIT and Union Membership (5) |
| <i>Variables</i> | | | | | |
| Competitive Margins _s | 0.163** (0.071) | 0.165*** (0.058) | 0.175** (0.069) | 0.190*** (0.065) | 0.217*** (0.082) |
| Median TPA (HoR) _d | -0.085 (0.088) | 0.056 (0.080) | -0.007 (0.082) | -0.038 (0.079) | 0.108 (0.082) |
| Median TPA (Senate) _s | 0.148 (0.110) | 0.069 (0.101) | 0.017 (0.105) | 0.042 (0.113) | 0.198* (0.105) |
| Ways and Means Committee _d | -0.140** (0.063) | -0.086** (0.039) | -0.035 (0.036) | -0.031 (0.034) | -0.037 (0.050) |
| Finance Committee _s | -0.076 (0.076) | -0.087 (0.054) | -0.009 (0.044) | 0.005 (0.043) | -0.032 (0.053) |
| Import Threat | 0.682*** (0.064) | 0.590*** (0.086) | 0.629*** (0.089) | 0.656*** (0.096) | 0.647*** (0.089) |
| Union PAC (HoR) _d | | 0.168** (0.079) | 0.159** (0.075) | 0.191*** (0.073) | 0.201*** (0.073) |
| Union PAC (Senate) _d | | 0.074 (0.093) | 0.047 (0.087) | 0.030 (0.086) | 0.007 (0.075) |
| Base Rate | | 0.688*** (0.182) | 0.539*** (0.149) | 0.470*** (0.139) | 0.504*** (0.136) |
| Industry Size (ln) | | -0.036 (0.050) | -0.027 (0.040) | 0.004 (0.041) | -0.014 (0.052) |
| Capital Mobility | | 0.007 (0.050) | -0.004 (0.045) | 0.082 (0.058) | 0.028 (0.071) |
| Intermediate product | | -0.664*** (0.152) | -0.457*** (0.137) | -0.241** (0.104) | -0.198* (0.103) |
| Agricultural product | | -0.789*** (0.136) | -1.11*** (0.141) | -0.424 (0.285) | 0.044 (0.285) |
| Capital product | | -0.638*** (0.162) | -0.454*** (0.150) | -0.413** (0.187) | -0.229 (0.219) |
| Consumer product | | 0.119 (0.128) | -0.088 (0.112) | -0.108 (0.097) | -0.132 (0.123) |
| Upstream product | | 0.014 (0.050) | 0.064 (0.049) | -0.004 (0.110) | 0.017 (0.133) |
| Differentiated product | | -0.138 (0.095) | -0.236** (0.095) | -0.075 (0.084) | -0.087 (0.109) |
| Sugar products | | | 0.299 (0.256) | | |
| Auto products | | | -0.910*** (0.212) | | |
| Textile, Apparel, Footwear products | | | 0.945*** (0.131) | | |
| Steel products | | | 0.284 (0.241) | | |
| Intra-Industry Trade | | | | | -1.20*** (0.246) |
| Union Membership Rate _d | | | | | 0.024 (0.123) |
| Union Membership Rate _s | | | | | 0.101 (0.099) |
| <i>Fixed-effects</i> | | | | | |
| FTA | Yes | Yes | Yes | Yes | Yes |
| HTS Sector | No | No | No | Yes | Yes |
| <i>Fit statistics</i> | | | | | |
| Observations | 109,559 | 102,834 | 102,834 | 102,834 | 67,094 |
| Squared Correlation | 0.39 | 0.44 | 0.45 | 0.45 | 0.38 |
| Pseudo R ² | 0.36 | 0.41 | 0.41 | 0.42 | 0.37 |
| BIC | 73,501.2 | 64,616.1 | 63,824.1 | 63,312.3 | 40,001.0 |

Clustered (NAICS 6d) standard-errors in parentheses
 Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Figure A8: Proportion of Tariff Treatment in USA Trade Agreements

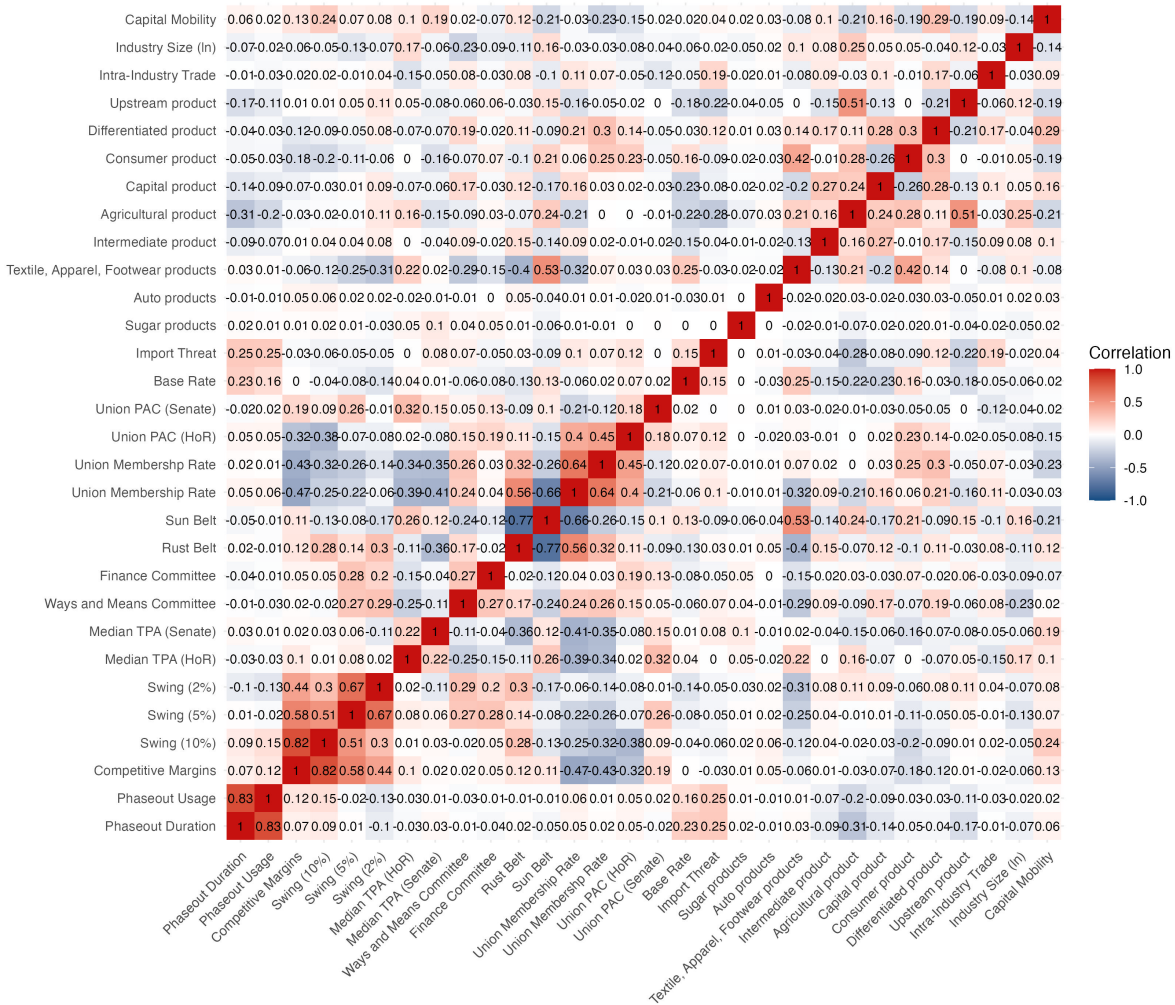


Note: Proportions are calculated by aggregating all product code lines (and 5-year rolling average import values before the agreement's signature date) across all USA free trade agreements. "Other" indicates that the product's tariff reduction is governed by other means, such as the WTO commitment. Created by Author on 10/24/24.

A.2.4 Robustness Checks: Logistic Regression on Exclusion

Are tariff phaseouts the same as protectionism? While tariff phaseouts are seen and used as an alternative to exclusion (i.e., protectionism in FTAs), do the political patterns that explain phaseout duration apply to exclusion? Tariff phaseouts are conceptually distinct from protectionism as the maintenance of MFN base rates is not indefinite. To test this argument, I regress the decision to exclude products from liberalization with existing covariates with a logistic regression. I find that variables that measure ratification and electoral concerns do not correlate with a higher likelihood of product exclusion. Some exceptions, such as industries concentrating in the districts of House members of *Ways and Mean Committee* experience a lower likelihood of having their products excluded from liberalization. Other variables, such as *import threat*, *Union PAC (HoR)*, *Sugar products*, and *Differentiated products* are more likely to be excluded. Other product characteristics, such as intermediate, agricultural, capital, upstream, auto, textile, apparel and footwear, and steel, are significantly less likely to be excluded. Interestingly, employment concentration

Figure A9: Correlation of Variable Heat Map



Note: Created by Author 10/26/24

in districts with higher union membership rates shows a higher likelihood for their products to be excluded. The negative coefficient for capital and intermediate goods echoes findings from Deardorff and Sharma (2021), but the negative estimates on agriculture and positive on differentiated products directly contradict their findings.

Table A3: Logistic Regression for Product Liberalization Exclusion

| Dependent Variable: Model: | Excluded | | | | |
|---------------------------------------|---------------------|----------------------|----------------------------|----------------------|-----------------------------------|
| | Baseline (1) | + Controls (2) | + Protected Sectors (3) | HTS Sector FE (4) | + IIT and Union Membership (5) |
| <i>Variables</i> | | | | | |
| Competitive Margins _s | 0.243* (0.127) | 0.137 (0.176) | 0.072 (0.169) | -0.124 (0.179) | -0.045 (0.174) |
| Median TPA (HoR) _d | -0.863** (0.407) | -0.132 (0.306) | -0.350* (0.212) | 0.003 (0.311) | -0.047 (0.235) |
| Median TPA (Senate) _s | -0.060 (0.366) | -0.024 (0.259) | -0.234 (0.149) | 0.084 (0.214) | 0.293 (0.226) |
| Ways and Means Committee _d | 0.010 (0.124) | -0.206*** (0.075) | -0.203*** (0.074) | -0.237*** (0.073) | -0.036 (0.090) |
| Finance Committee _s | -0.175 (0.179) | 0.139 (0.107) | 0.085 (0.098) | 0.247* (0.128) | 0.049 (0.125) |
| Import Threat | 2.40*** (0.333) | 1.24*** (0.333) | 1.32*** (0.339) | 1.03*** (0.343) | 0.991*** (0.367) |
| Union PAC (HoR) _d | | 0.330** (0.134) | 0.326*** (0.123) | 0.301*** (0.105) | -0.089 (0.103) |
| Union PAC (Senate) _d | | -0.187 (0.118) | -0.142 (0.099) | -0.130 (0.118) | -0.135 (0.104) |
| Base Rate | | -0.012 (0.106) | -0.006 (0.109) | -0.070 (0.090) | -0.149 (0.110) |
| Industry Size (ln) | | -0.401** (0.182) | -0.291* (0.163) | -0.672*** (0.200) | -0.436** (0.180) |
| Capital Mobility | | -0.277 (0.254) | -0.130 (0.208) | -0.583** (0.238) | -0.639** (0.253) |
| Intermediate product | | -13.6*** (0.437) | -13.7*** (0.516) | -15.3*** (0.549) | -15.7*** (0.548) |
| Agricultural product | | -5.12*** (1.28) | -4.56*** (1.29) | -2.59* (1.43) | -1.98 (1.42) |
| Capital product | | -11.8*** (1.30) | -12.3*** (1.28) | 4.35*** (1.44) | -2.68*** (0.202) |
| Consumer product | | -0.856 (0.832) | -0.063 (0.732) | 2.75 (1.71) | -12.6*** (1.43) |
| Upstream product | | -1.61*** (0.339) | -1.66*** (0.294) | -7.76*** (0.682) | -8.99*** (0.620) |
| Differentiated product | | 0.568** (0.280) | 0.580** (0.283) | 0.919 (0.811) | 0.570 (0.705) |
| Sugar products | | | 3.11*** (0.921) | | |
| Auto products | | | -14.4*** (1.27) | | |
| Textile, Apparel, Footwear products | | | -13.1*** (1.05) | | |
| Steel products | | | -8.01*** (1.93) | | |
| Intra-Industry Trade | | | | | -0.556 (0.517) |
| Union Membership Rate _d | | | | | 0.493*** (0.089) |
| Union Membership Rate _s | | | | | -0.056 (0.223) |
| <i>Fixed-effects</i> | | | | | |
| FTA | Yes | Yes | Yes | Yes | Yes |
| HTS Sector | No | No | No | Yes | Yes |
| <i>Fit statistics</i> | | | | | |
| Observations | 44,773 | 42,098 | 42,098 | 42,098 | 34,257 |
| Squared Correlation | 0.20 | 0.28 | 0.28 | 0.29 | 0.28 |
| Pseudo R ² | 0.38 | 0.52 | 0.52 | 0.53 | 0.51 |
| BIC | 5,633.6 | 4,509.8 | 4,496.0 | 4,598.7 | 4,318.2 |

Clustered (NAICS 6d) standard-errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Figure A10: Cross-Industry Estimates of Main Variables Across FTA Partners (Equation 5)



Note:

A.2.5 Robustness Checks: Alternative Measures of Electoral Competitiveness

An alternative approach to measuring industry concentration in electorally competitive states is to measure the share of industry employment in "swing" states defined at various electoral margin ranges. A state is coded as swing if the three-election average of the two-party vote share of the sitting president in state s during term t is between 45% and 55%, following the coding rule from [Kriner and Reeves \(2015b\)](#). I also narrow in on the 10% margin by coding swing states with 5% and 2% margins for robustness check.

$$\psi_{st}^{Swing} = \begin{cases} 1 & \text{if } 45\% < V_{st} < 55\% \\ 0 & \text{otherwise} \end{cases} \quad (6)$$

Table [A4](#) showcases the coefficients

for the three variants of industry concentration in swing states. The coefficients are positive and decrease in magnitude as the margin used to code the swing indicator decreases.

Table A4: Robustness Check: Alternative Coding of Competitive Margins

| Dependent Variable: Model: | Phaseout Duration | | |
|---------------------------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) |
| <i>Variables</i> | | | |
| Swing _s (10%) | 0.297*** (0.088) | | |
| Swing _s (5%) | | 0.180*** (0.067) | |
| Swing _s (2%) | | | -0.044 (0.059) |
| Median TPA (HoR) _d | -0.051 (0.072) | -0.044 (0.075) | -0.009 (0.089) |
| Median TPA (Senate) _s | -0.130 (0.099) | -0.125 (0.100) | -0.132 (0.113) |
| Ways and Means Committee _d | 0.012 (0.029) | -0.015 (0.032) | 0.026 (0.037) |
| Finance Committee _s | 0.040 (0.039) | 0.021 (0.049) | 0.070 (0.048) |
| Import Threat | 0.422*** (0.047) | 0.419*** (0.051) | 0.403*** (0.051) |
| Union PAC (HoR) _d | 0.182** (0.088) | 0.129 (0.088) | 0.089 (0.089) |
| Union PAC (Senate) _d | -0.103 (0.072) | -0.080 (0.079) | -0.038 (0.084) |
| Base Rate | 0.620*** (0.179) | 0.637*** (0.174) | 0.636*** (0.173) |
| Industry Size (ln) | -0.013 (0.042) | -0.023 (0.050) | -0.047 (0.051) |
| Capital Mobility | 0.064 (0.044) | 0.096* (0.053) | 0.095* (0.054) |
| Intermediate product | -0.070 (0.044) | -0.085* (0.045) | -0.075 (0.048) |
| Agricultural product | -0.787** (0.307) | -0.808** (0.312) | -0.859** (0.333) |
| Capital product | -0.226*** (0.086) | -0.278*** (0.090) | -0.277*** (0.090) |
| Consumer product | -0.138* (0.071) | -0.212** (0.086) | -0.182** (0.083) |
| Upstream product | -0.078 (0.067) | -0.108* (0.064) | -0.116* (0.065) |
| Differentiated product | -0.017 (0.077) | -0.043 (0.077) | -0.033 (0.079) |
| <i>Fixed-effects</i> | | | |
| HTS Sector | Yes | Yes | Yes |
| FTA | Yes | Yes | Yes |
| <i>Fit statistics</i> | | | |
| Observations | 102,834 | 102,834 | 102,834 |
| R ² | 0.24 | 0.23 | 0.23 |
| Within R ² | 0.04 | 0.04 | 0.04 |

Clustered (NAICS 6d) standard-errors in parentheses

Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

A.2.6 Robustness Check: Account for Post-Treatment Bias and Alternative Coding for *Median TPA*

The main analysis includes *Median TPA* coded using the legislator's rate of voting in favor of TPA for their entire career. Because this includes post-treatment TPA decisions, I reran the analysis with a version of *Median TPA* created using the pre-existing pro-TPA rate of a legislator for each Congressional session. Put simply, I compute the proportion of pro-TPA votes a legislator has demonstrated in their career by the end of each Congressional session to account for potential post-treatment bias. Even when accounting for post-treatment bias, the two variants' correlation is extremely high at 0.91.

I also include alternative measurements of median legislators. First and simplest, I use the DW-NOMINATE score from VoteView (Lewis et al. 2023). Since a value of 0 denotes an ideologically moderate legislator. The benefit of this measure is its seemingly universal application in Congressional studies; however, capturing ideologically median legislators does not align well with the concept of a median legislator on trade issues. To ameliorate this concern, I calculate the DW-NOMINATE score using only roll call votes on trade bills using the `wnominate` package (Poole et al. 2008).⁴⁵ The benefit of this approach is the construct validity — i.e., the measurement aligns closer to the concept.

I take the median one-third of these two ideal point scores in creating *DW-NOMINATE Moderate* and *Trade Modeate* for both chambers, then I weigh each district's "median"-ness with industry employment share in the district before aggregating the weighted employment share to the industry level as specified in Equation 3.

Table A5 showcases that the estimate for *Competitive Margins* is robust across the three alternative measurements for the median legislator.

A.2.7 Robustness Check: FTA-Sector Fixed Effects and Omitting US-Jordan FTA

Figure 3 illustrates two facts: first, products that are phased out often cluster within the same sector, and second, the US phases out a vast majority of products from Jordan. While the main results in Table 2 account for variations unobserved within sectors in Model 4, it does not necessarily showcase the variation in phaseout duration and its correlates within the sector for each agreement. To test whether *Competitive Margins* is robust in explaining the variation in duration within each sector cluster for each agreement, I include an FTA-HTS sector fixed effect in Model 1 of Table A6. Here, *Competitive Margins* is robust,

⁴⁵Roll call bills were subsetted from Lewis et al. (2023)'s VoteView database by "tariffs" bills.

Table A5: Robustness Checks: Median TPA Pre-treatment And Ideologically Moderate Legislators

| Dependent Variable: Model: | Phaseout Duration | | |
|--|---------------------------------|-----------------------------|------------------------------------|
| | Median TPA Pre-treatment (1) | Moderate DW-NOMINATE (2) | Moderate on Trade Roll Call (3) |
| <i>Variables</i> | | | |
| Competitive Margins _s | 0.233*** (0.065) | 0.153** (0.060) | 0.206*** (0.061) |
| Median TPA Pre-treat (HoR) _d | -0.170 (0.157) | | |
| Median TPA Pre-treat (Senate) _s | -0.482*** (0.118) | | |
| DW-NOMINATE Moderate (HoR) _d | | -0.032 (0.053) | |
| DW-NOMINATE Moderate (Senate) _s | | 0.108 (0.082) | |
| Trade Moderate (HoR) _d | | | -0.047 (0.059) |
| Trade Moderate (Senate) _s | | | -0.148** (0.060) |
| Ways and Means Committee _d | -0.015 (0.033) | 0.021 (0.034) | -0.002 (0.031) |
| Finance Committee _s | 0.106*** (0.038) | 0.050 (0.039) | 0.072* (0.038) |
| Union PAC (HoR) _d | 0.156** (0.075) | 0.194** (0.088) | 0.156* (0.090) |
| Union PAC (Senate) _d | -0.116* (0.063) | -0.113 (0.072) | -0.072 (0.088) |
| Import Threat | 0.417*** (0.048) | 0.424*** (0.048) | 0.418*** (0.048) |
| Control | Yes | Yes | Yes |
| <i>Fixed-effects</i> | | | |
| HTS Sector | Yes | Yes | Yes |
| FTA | Yes | Yes | Yes |
| <i>Fit statistics</i> | | | |
| Observations | 102,834 | 102,834 | 102,834 |
| R ² | 0.24 | 0.23 | 0.23 |
| Within R ² | 0.05 | 0.04 | 0.04 |

Clustered (NAICS 6d) standard-errors in parentheses

Signif. Codes: ***, 0.01, **, 0.05, *, 0.1

although with a smaller magnitude. On average, across all FTA-sector combinations, a one standard deviation increase in an industry's concentration in electorally competitive states is correlated with 1.38 months longer phaseout duration. Model 2 replicates Model 4 from Table 2 without the US-Jordan FTA. Here, the results remain robust.

Table A6: Robustness Checks: FTA-Sector FE and No US-Jordan FTA

| Dependent Variable: Model: | Phaseout Duration | |
|---------------------------------------|----------------------|-------------------------|
| | FTA-sector FE (1) | No US-Jordan FTA (2) |
| <i>Variables</i> | | |
| Competitive Margins _s | 0.115** (0.048) | 0.151** (0.059) |
| Median TPA (HoR) _d | -0.003 (0.067) | -0.036 (0.087) |
| Median TPA (Senate) _s | -0.156** (0.076) | -0.072 (0.103) |
| Ways and Means Committee _d | -0.011 (0.028) | 0.021 (0.034) |
| Finance Committee _s | -0.018 (0.038) | 0.009 (0.046) |
| Import Threat | 0.387*** (0.050) | 0.432*** (0.050) |
| Union PAC (HoR) _d | 0.138** (0.069) | 0.140 (0.095) |
| Union PAC (Senate) _d | -0.102*** (0.032) | -0.052 (0.095) |
| Base Rate | 0.609*** (0.170) | 0.576*** (0.162) |
| Industry Size (ln) | -0.065* (0.039) | -0.041 (0.048) |
| Capital Mobility | 0.060 (0.047) | 0.085* (0.051) |
| Intermediate product | -0.106** (0.042) | -0.087* (0.045) |
| Agricultural product | -0.840*** (0.304) | -0.893*** (0.320) |
| Capital product | -0.265*** (0.080) | -0.273*** (0.088) |
| Consumer product | -0.204*** (0.073) | -0.180** (0.079) |
| Upstream product | -0.126** (0.059) | -0.100 (0.067) |
| Differentiated product | -0.015 (0.076) | 0.020 (0.083) |
| <i>Fixed-effects</i> | | |
| FTA-HTS Sector | Yes | |
| FTA | | Yes |
| HTS Sector | | Yes |
| <i>Fit statistics</i> | | |
| Observations | 101,890 | 94,937 |
| R ² | 0.36 | 0.21 |
| Within R ² | 0.04 | 0.04 |

Clustered (NAICS 6d) standard-errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1