Courting the Median: Strategic Presidents and the Distribution of Tariff Phaseouts in U.S. Free Trade Agreements[1]

ERIC THAI[2]

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[2]Ph.D. Candidate, UC San Diego. Email: ethai@ucsd.edu. www.eric-thai.com

Abstract

Do targeted concessions negotiated in trade deals buy legislative support? I argue that presidents strategically allocate tariff phaseouts, which delay and soften import competition, to industries represented by pivotal median legislators, offsetting the political costs from ratifying a trade agreement. Using a novel dataset covering 14 U.S. free trade agreements (FTAs) and an Instrumental Variable (IV) design based on legislators' ideological proximity to the House median, I find that pivotal legislators receive significantly more targeted phaseouts and that receiving these concessions causally increases their likelihood of supporting ratification. This political transaction is specific to the incumbent; if a representative is replaced between negotiation and ratification, the effect disappears. Profiling of IV compliers suggests that median legislators seek to support job-creating policies but require time for their industries to adjust to trade liberalization, confirming that tariff phaseouts offset political reservations about supporting FTAs.

Key words: free trade agreements, tariffs, phaseout, Congress, ratification, instrumental variable

1 Introduction

For whom do presidents extract concessions in trade deals, and do these concessions buy legislative support for ratification? Congressional ratification represents a critical hurdle in trade liberalization: it requires Congress to not only consent to new regulations and tariff reductions but also forces individual members to cast politically consequential votes (Feigenbaum and Hall 2015; Conconi, Facchini, and Zanardi 2014). While conventional wisdom suggests that legislative support for free trade largely reflects district-level economic interests (Baldwin and Magee 2000) and that agreements are negotiated in anticipation of these domestic constraints (Putnam 1988), a notable gap remains in the literature. No study to the best of my knowledge has investigated whether specific trade concessions — an area where presidents exercise broad negotiating discretion — actually succeed in mobilizing legislative support in Congress.[3]

This study highlights an overlooked instrument in trade negotiations: tariff staging. Ubiquitous in modern FTAs, these rules allow negotiators to apply differential timelines for tariff elimination across individual product lines. Economically, these phaseouts have

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[3]The closest study to this particularly research gap is Goldstein and Gulotty (2014), who examine the strategic negotiating behavior of the president in relation to Congressional reauthorization of trade policy-making authority during the RTAA and GATT eras.

been shown to ease factor adjustments and facilitate resource reallocation (Riker 2021; Mussa 1984; Leamer 1980), thereby mitigating the immediate employment shocks associated with trade liberalization (Thai 2025). Consequently, this economic easing delays and softens the political backlash for incumbents (Thai 2025). Because industries spatially agglomerate,[4] tariff phaseouts defined at the product line can be geographically targeted to specific congressional districts. Thus, what appears to be a technical economic adjustment is, in practice, a *precise*, *distributable* political resource.

However, the use of such a resource is constrained by the reciprocal exchanges in trade negotiations. While phaseouts provide valuable adjustment time for import-competing industries, they impose opportunity costs on exporters, who —— under reciprocal terms —–- must endure slower market access abroad. This trade-off renders tariff phaseouts a *finite*, *scarce* political asset. To build a majority coalition for ratification, I argue that presidents strategically allocate this scarce resource to secure the votes of pivotal legislators. Because the *fast track procedures* eliminate the possibility of amendments and filibusters, supermajoritarian pivots are effectively nullified (Krehbiel 1998), leaving the median voter as the decisive player in Congress. Targeting these median legislators is efficient; they are 'cheaper' to buy than staunch protectionists and more credible in their commitment to ratify. By concentrating concessions on the median, the executive efficiently maximizes the likelihood of ratification while minimizing the aggregate costs borne by consumers and exporters. Representatives who secured concessions through their positional leverage during negotiations are likely to ratify the treaty, thereby strengthening their reputation for future trade agreements.

To test my argument, I employ an Instrumental Variable estimation that leverages the exogenous variation in House Representatives' proximity to the chamber median on trade ideology. The chamber median is exogenously determined by the changing ideological distribution of the House every two years, thereby affecting individual representatives' relative positions with respect to the ideological median. Furthermore, the exclusion restriction is plausibly satisfied because a median legislator is neither more nor less likely to vote in favor of ratification unless they receive concessions from the executive by virtue of being pivotal to a swing in favor of ratification. Therefore, any observed IV effect would be driven by pivotal legislators receiving significantly more concessions, for which there is strong theoretical and empirical evidence in the first stage.

The instrument is constructed by taking the inverse trade ideological distance of any given legislator to the chamber median. Trade ideology is estimated using the W-NOMINATE

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[4]See Krugman (1992); Ellison and Glaeser (1997, 1999); Ellison, Glaeser, and Kerr (2010); Shaver and Flyer (2000); Rosenthal and Strange (2001).

procedure, which scales 510 roll-call votes on trade from 1970 to 2013 (Poole et al. 2011). Additionally, I introduce an original database, PTARIFF, to measure districts' receipt of trade concessions. The database codes tariff-line treatment for all 14 negotiated U.S. FTAs, from the North American Free Trade Agreement (NAFTA) to the Trans-Pacific Partnership (TPP). Using this, I compute the average industry share of workers insulated from tariff phaseouts for each district.

I show that legislators' proximity to the median on trade is a strong predictor of trade concessions targeted to their districts' industries, which, in turn, causally increases their likelihood of ratifying the FTA. I show that this political transaction only applies when the representative is not replaced between the negotiation and ratification stages. If there is a change in representative, receiving more tariff phaseouts as a result of the predecessor's pivotal positioning does not causally increase the new representative's likelihood of ratifying the treaty. Furthermore, the result remains robust when the instrument is orthogonalized against over 34,000 combinations of structural covariates at the district, legislator, and state levels, dispelling concerns that the instrument merely proxies for or is confounded with other factors. Finally, I profile the compliers for whom the local average treatment effect is estimated and find that these representatives are more likely to support policies that boost employment, given their districts' relatively high unemployment rates; however, they seek tariff phaseout to help their largely import-sensitive districts adjust to free trade and thus minimize the potential political consequences.

This paper makes four distinct contributions to the literature on the political economy of trade. The paradigm in open economy politics (OEP) typically assumes that interests aggregate through institutions into policies; hence, constituency and industry interests often magically translate to trade policy outcomes.[5] Yet, this overwhelming focus on constituency and industry interests often leaves no room for agency for key players, namely the executive and pivotal legislators in Congress.[6] Here, I present new insights into the (1) constraints and (2) incentives of presidents and (3) their interactions with Congress in negotiating modern trade agreements.

First, this paper does not deny the fundamental mechanism of OEP: that constituency and industry interests aggregate through institutions and, thus, are represented in the

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[5]Trade policy outcome broadly covers legislative voting, design, tariff levels, among other issues. See Busch and Reinhardt (1999, 2000, 2005); McGillivray (2004, 1997); Baccini, Dür, and Elsig (2018); Van Lieshout (2021a,c); Chase (2003, 2015); Choi (2011); Clark (2007); Rogowski (2002); Schiller (1999); Bailey and Brady (1998); Amodio et al. (2022); Baldwin and Magee (2000); Raimondi et al. (2023); Buzard (2017); Lee (2017); Deardorff and Hall (1997); Dür et al. (2023); Deardorff and Sharma (2021)

[6]With the following key exceptions that afford agency to the executives Milner (1997); Goldstein and Gulotty (2014).

final design of trade deals (Lake 2009).[7] It acknowledges outright how such interests are communicated through the fast track procedure's consultation mechanism (Bowen and Broz 2022; Celik, Karabay, and McLaren 2012; Conconi, Facchini, and Zanardi 2012; Casey and Cimino-Isaacs 2024). However, it also considers the oft-ignored *constraints* of reciprocity in international negotiation,[8] which forces the president to narrowly target concessions to pivotal legislators who can credibly promise ratification. In the OEP world, industry interests with political clout (i.e., campaign donation and lobbying[9] or concentration in key electoral districts[10]) would have their interests represented in the FTA design; however, after controlling for import-exposure of districts, corporate PAC donations, electorally competitive districts and states, I demonstrate that industry interests are more likely to be heeded by negotiators when represented by pivotal legislators. In other words, I introduce a new layer in institutions through which industry interests may aggregate.

Second, trade concessions under reciprocal exchanges follow a different logic of distributive politics. Conventional wisdom suggests that presidents' electoral incentives govern the distributive politics of trade protection (Lowande, Jenkins, and Clarke 2018; Ma and McLaren 2018; Kriner and Reeves 2015*a*; Bown et al. 2024) and issue areas where presidents have broad discretion (Kriner and Reeves 2015*b*; Berry, Burden, and Howell 2010; Ha 2023). Yet, in the context of free trade agreements, and perhaps more conservatively in the context of tariff phaseouts, I find no such evidence of particularism by the president. Rather than engaging in electoral particularism, presidents act as efficient coalition builders to promote free trade, using targeted delays in liberalization to secure decisive votes from pivotal legislators in import-sensitive districts. Given recent protectionist policies that overturn decades' worth of assumptions that presidents latently prefer free trade (Lohmann and O'Halloran 1994), understanding presidents' interests in trade and the conditions under which they prefer to distribute protection is more important than ever.

Third, although many scholars have examined the relationship of legislators on trade

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[7]See Baccini, Dür, and Elsig (2018); Van Lieshout (2021*a*,*c*,*b*); Kowalczyk and Davis (1998); Chase (2003); Choi (2011); Clark (2007) for empirical studies linking industry interests with the allocation of tariff phaseouts.

[8]One in which the benefit of phasing out tariffs is balanced by the costs on exporters.

[9]See Grossman and Helpman (1994); Gawande and Bandyopadhyay (2000); Baldwin and Magee (2000); Gawande, Krishna, and Olarreaga (2012); Blanga-Gubbay, Conconi, and Parenti (2023); Kim (2017).

[10]See Lowande, Jenkins, and Clarke (2018); Ma and McLaren (2018); Muûls and Petropoulou (2013); Bown et al. (2024)

policies[11] and their interactions with the executive,[12] none, to the best of my knowledge, have examined to whom concessions are targeted and whether they mobilize legislative support for ratification.[13] Presidents have been shown to build coalitions in Congress through various means, such as side payments (Evans 2004) and subsidies (Kim, Naoi, and Sasaki 2025); yet, evidence of coalition-building through treaty provisions has been lacking due to data availability. With the introduction of a highly granular tariff treatment data, I am able to demonstrate (1) how tariff phaseouts are allocated to build a majority coalition for ratification under specialized context, a novel finding in the negotiation and tariff phaseouts literature,[14] and (2) how flexibility in tariff elimination can promote cooperation at the ratification stage, contributing to a well established literature on flexibility in international treaties and cooperation (Rosendorff and Milner 2001; Kucik and Reinhardt 2008). Uncovering these findings would not otherwise be possible under regular treaty provisions that are neither observably targetable nor divisible with clear beneficiaries.

2   Politics of Ratification

Every democracy has some form of domestic consent to international treaties. The ratification process expresses the will of the constituents, as represented by legislators, thereby conveying domestic commitment to comply with the treaty's rules (Martin 2005). This ratification process can also constrain the degree of cooperation (Putnam 1988), whether through procedural difficulties (Hug and König 2002), the number of veto players (Mansfield, Milner, and Pevehouse 2007), or electoral uncertainty (Milner and Rosendorff 1997). In the context of trade cooperation, scholars have assumed a fundamental difference in trade preferences between the branches of government stemming from differences in constituency. An executive who represents the country would prefer free trade, whereas a legislator who represents a smaller constituency would prefer protection (Lohmann and

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[11]See for example: Fredriksson, Matschke, and Minier (2011); McGillivray (2004); Hansen and Prusa (1997); Hansen (1990); Dür, Huber, and Stiller (2024); Choi et al. (2023); Amodio et al. (2022); Lee and Osgood (2019); Baldwin and Magee (2000)

[12]Goldstein and Gulotty (2014); Naoi (2015); Kim, Naoi, and Sasaki (2025); Evans (2004); Milner (1997); Putnam (1988)

[13]While Goldstein and Gulotty (2014) showcases the strategic negotiating behavior of presidents during the RTAA and GATT era. Because agreements prior to the Trade Act of 1974 did not require congressional ratification, the executive operated under a different institutional context for trade and, therefore, faced different incentives and constraints.

[14]While this is not the first paper on tariff phaseouts (Baccini, Dür, and Elsig 2018, 2015; Besedes, Kohl, and Lake 2020; Dong and Jestrab 2022; Khan and Khederlarian 2021; Van Lieshout 2021*a*,*c*,*b*; Kowalczyk and Davis 1998; Chase 2003; Grossman and Helpman 1995; Choi 2011; Jestrab 2024; Clark 2007), very few have theorized on their political function beyond simply responding to interest groups' lobbying.

O'Halloran 1994). Therefore, domestic politics directly shape the degree of trade cooperation.

Countries with a presidential system face unique challenges in ratification. Unlike its parliamentary counterpart, a presidential system holds regular elections, with the legislature representing vastly smaller constituencies than the executive, resulting in frequent division within government. Divided government can strengthen the executive's bargaining leverage, leading to more protectionist outcomes (Schelling 1960; Putnam 1988), but only under complete information (Milner and Rosendorff 1997). Elections generate uncertainty, leading to incomplete information about the legislature's composition when a treaty is up for ratification, thereby increasing the likelihood of ratification failure (Milner and Rosendorff 1997).

Such problems for ratification are less salient in parliamentary democracies. Elections are often irregular, and the resulting composition of the legislature determines the head of government, which is usually united under a single party.[15] Countries with strong party discipline may further emphasize the effects and disadvantages of a unified government in negotiation, such as more certain domestic ratification but with lesser bargaining leverage.

An enduring question of this literature is what increases the likelihood of ratification? In broader terms, what helps promote the likelihood of reaching international cooperation? To properly study the politics of treaty ratification, countries with a presidential system present a hard case. The United States, in particular, is an ideal case to examine the linkage between negotiation and ratification. It has a comprehensive set of domestic institutions that allow domestic preferences to be communicated to negotiators. The government is often divided between the two major parties, making it well-suited to examining the strategic interaction between the executive and the legislature. Finally, the United States currently faces backlash against globalization despite being a leader in postwar economic liberalization. Since 1990, the United States has entered into 13 trade agreements that eliminate substantially all trade barriers with its trading partners, which have undeniably contributed to growing dissent against trade alongside the Chinese import shock (Autor et al. 2020; Ritchie and You 2021; Flaherty 2025, 2024). Given the population's latent opposition to free trade, it is important to understand the mechanisms that enable legislators to cast politically consequential votes in favor of trade liberalization.

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[15]Although it may be the case that coalition governments would lead to outcomes similar to divided government if the governing parties' preferences on the treaty issue largely diverge.

2.1 US Domestic Trade Institutions

Before examining the mechanisms that can increase the likelihood of ratification, we must first understand the domestic institution governing trade in the United States. The United States Constitution assigns Congress authority over taxation, including tariffs. While Congress exercised such authority over the first 150 years of the United States, it was delegated to the president in 1934 by the Reciprocal Trade Agreement Act (RTAA) (Conconi, Facchini, and Zanardi 2012; Bailey, Goldstein, and Weingast 1997). The act established the norm of reciprocity in tariff reductions in exchange for the delegation of trade policy-making authority, thereby empowering exporting interests (Gilligan 1997), while periodic renewals kept trade liberalization in check (Goldstein and Gulotty 2014).[16]

Until 1974, reciprocal trade agreements under RTAA were not subjected to Congressional approval or ratification.[17] The Trade Act of 1974 limited such a blank check in the "fast track authority" by requiring Congressional ratification in both chambers. While the threshold for approval is lowered to a simple majority, compared to a two-thirds majority in the Senate for international treaties, including the House of Representatives, introduces additional stakeholders and pivot points. House Representatives represent small, parochial interests that may not align with the broader national or statewide agenda of trade liberalization, which may limit the depth of trade liberalization (intensive margin) and force a broader range of exemptions (extensive margin).

The Trade Act of 1974 permits an "expedited procedure" for domestic ratification of international trade agreements, subject to consultation, reporting, and notification requirements, and to negotiating objectives set out in the trade authorization bill (Casey and Cimino-Isaacs 2024). The expedited procedure includes mandatory introduction, automatic discharge from the committees of jurisdiction, limited floor debates, and no amendments. Each of these benefits allows trade agreements to bypass various political "choke points" where influential legislators could otherwise prevent a bill from being discharged from committee, introduced to the floor, or achieving cloture. As discussed later, Fast Track Authority effectively reduced the pivotal player in Congress (as described in Krehbiel (1998)) to the median voter in both chambers.

The Trade Act of 1974 established a three-tiered system of stakeholder consultation (Bowen and Broz 2022), which plays a vital role in conveying stakeholders' interests to negotiators. Because of this mechanism, interest group preferences are known to negotia-

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[16]Furthermore, RTAA limits the tariff reduction to 50% of the base rate.

[17]Even with such a blank-check, Goldstein and Gulotty (2014) demonstrate that presidents were strategically selective in trade partners and the kind of products they reduced barriers on.

tors. Interviews of former negotiators reveal that they "know" which sectors are sensitive and their priorities from the consultation process. Before major negotiations, the United States Trade Representative would accept public comments on the Federal Register, allowing for any stakeholders, not just industry groups, to provide input. However, not all interests are represented in the final trade agreement. Because reciprocity constrains negotiators' ability to fulfill the needs of every interest group, negotiators prioritize certain interests as filtered through the pivotal ratification voter.

2.2 What Promotes Ratification of Trade Agreements?

Congress has long been assumed to be protectionist (Lohmann and O'Halloran 1994). However, such protectionism is not due to representing smaller constituencies (Karol 2007; Ehrlich 2009), but rather the electoral horizon and frequency of elections. Conconi, Facchini, and Zanardi (2014) document that representatives are more protectionist than senators due to their shorter election cycles; senators, by contrast, are protectionist only when reelection is imminent. Furthermore, when looking within each chamber, it is well documented that Democratic legislators are more likely to oppose free trade (Conconi, Facchini, and Zanardi 2012; Owen 2017; Choi 2015). Given Congress's baseline protectionist stances, how have prior trade agreements secured a majority and bipartisan support during ratification?

To state the obvious, legislators' voting behavior on free trade agreements depends on the industry characteristics of their districts (i.e., their constituencies' interests) (Baldwin and Magee 2000; Choi 2015; Stiller 2023). Legislators representing districts with more export-oriented industries have been shown to support free trade (Conconi, Facchini, and Zanardi 2012; Malcolm 2017). In contrast, those whose districts are import-competing or have been exposed to negative trade shocks oppose free trade (Owen 2017; Che and Xiao 2020; Feigenbaum and Hall 2015). This may, in part, explain why some Republicans oppose free trade while Democrats support it. Beyond factors internal to the district itself, what are external factors that may mobilize support for free trade?

The existing literature points to four distinct instruments that can facilitate trade cooperation. Table 1 summarizes each instrument's characteristics. First, central to the embedded liberalism hypothesis (Ruggie 1982), free trade is achieved, in part, by compensating the opposition through redistributive programs. Programs such as the Trade Adjustment Assistance (TAA) may reduce legislators' hesitancy to vote to liberalize trade, as their trade-affected constituents would receive income support, retraining programs, and relocation assistance; however, there has been no empirical work examining this connection.

Moreover, redistributive programs such as TAA are eligibility-based and therefore not targetable. They are also highly procedural and bureaucratic, which prevents legislators from claiming credit to offset potential electoral consequences of voting for trade liberalization (Kim, Naoi, and Sasaki 2025). Additionally, new evidence from Kim (2024) suggests that the President's party determines the pace and approval rate of TAA investigations; therefore, a commitment problem exists between the two branches of government, thereby weakening the credibility of redistributive program delivery.

Table 1: Instrument to Promote Ratification

Instruments	Credit Claim	Commitment Problem	Eligibility	Targetable	Controlled By President
Redistribution	No	Yes	Yes	No	Yes
Subsidies	Yes	Yes	No	Yes	Partial
Trade Remedies	No	No	Yes	No	Yes
Side Payments	Yes	No	No	Yes	No
Tariff Staging	Maybe	No	No	Yes	Yes

Second, while subsidies are often distinct from the trade policy at hand that requires ratification, Kim, Naoi, and Sasaki (2025) argue that trade liberalization and subsidies are inextricably linked as an inter-branch compensation contract to promote trade cooperation. The president plays a key role in drawing out a budget for subsidies, but Congress authorizes and appropriates funds, allowing for both sets of actors to claim credit for targeted subsidies. However, given that subsidies are separate from the trade deal, such a promise (increased subsidies in exchange for legislator support for trade deals) also suffers from commitment problems, especially when there is a change in Congressional composition.

Third, trade remedies or escape clauses have been shown, both theoretically and empirically, to promote the likelihood and depth of trade cooperation (Rosendorff and Milner 2001; Kucik and Reinhardt 2008). While escape clauses are FTA provisions, they typically do not specify the target of the benefits because they are eligibility-based. Allowing for trade remedies means that domestic industries can apply for safeguards, antidumping, and countervailing duties. However, bureaucrats who review such petitions make determinations based on the validity of these claims. Otherwise, invalid application of trade remedies would subject the United States to costly WTO disputes. Given the highly bureaucratic nature of receiving trade remedies, the good itself cannot be targeted to specific constituencies; therefore, neither legislators nor the executive can claim credit

to offset the political consequences of their support for free trade.

Finally, side payments, or earmarks, have been used to secure legislative support for free trade policies in the United States, such as NAFTA (Evans 2004, p. 148), and in Japan (Naoi 2015). However, side payments are often characterized as *intra-branch* contracts among legislators to grease the legislative machine, meaning that the executive is largely absent from the negotiation and distribution of earmarks. Because district-specific projects are highly visible, legislators can claim credit.

So far, existing mechanisms lack both presidential control and targetability. According to the negotiation literature, it is well acknowledged that the executive negotiates international treaties in anticipation of the domestic legislature (Putnam 1988) and that it has broad discretion in designing the treaty. Therefore, although one would expect concessions to be made to secure key votes in the legislature, no empirical study has examined this relationship. Such a relationship, if it existed, would be taboo to discuss, similar to vote trading with earmarks (Evans 2004). A key challenge in studying the targeting of concessions is that treaty provisions are primarily rules and regulations that countries must adhere to. Therefore, treaty provisions, while some may be negotiated as carve-outs for specific legislators, are not clearly targeted at any single domestic actor. For example, former trade negotiators have attested that "beef provisions" were needed for Senator Baucus, who was the chairman of the Senate Finance Committee. While the provision is targeted at Senator Baucus, its effects would spill over to the constituencies of other senators and representatives who raise cattle. As a result, systematic studies of concession targeting are difficult because the targeting process (i.e., the reasoning behind specific provisions being negotiated) is black-boxed. This paper showcases that such a question can be studied with tariff staging.

2.3 Targetable Provision: Tariff Staging

Since the conclusion of the GATT Uruguay Round in 1994, WTO members have been unable to agree on a subsequent round of trade liberalization (the Doha Round). In lieu of multilateral trade cooperation, countries quickly enter into bilateral and plurilateral trade agreements (Baccini 2019). Distinct from the gradual tariff cuts of the GATT era, these preferential trade agreements are often comprehensive and deep (Dür, Baccini, and Elsig 2014). Notably, most, if not all, tariffs are eliminated, as required by GATT Article XXIV. Instead of variable cuts in tariff rates for specific products where the strategic allocation of protection has facilitated trade cooperation in the past (Goldstein and Gulotty 2014), all dutiable goods tariffs in most preferential trade agreements are legally bound to be duty-

free; hence, these preferential trade treaties are often referred to as "free trade agreements" (FTAs).

An often overlooked instrument that is ubiquitous in free trade agreements (FTAs) is the staging of tariffs.[18] Tariff stagings prescribe the means and duration of how tariffs are to be treated. Is it excluded from liberalization or scheduled for elimination? If the latter, how long would the tariffs be phased out? Since all tariffs are expected to be eliminated under free trade agreements (GATT Article XXIV), phasing out tariffs provides flexibility under WTO rules (Baccini, Dür, and Elsig 2015; Van Lieshout 2021*a*). In rare cases, tariffs can be excluded from being reduced (Deardorff and Sharma 2021; Grossman and Helpman 1995). While exclusion is preferred for domestic industries, tariff phaseout is more prevalent. What makes tariff phaseout and exclusion unique and different from one another?

Tariff phaseouts are situated between two extremes of tariff staging: immediate elimination and exclusion (i.e., the status quo). Exclusion is rare (0.58%). The reasons for its rare use are two-fold. Beyond international law in that GATT Article XXIV limits the use of exclusion, export-oriented countries fear that protecting import-competing industries with exclusion would be reciprocated in limiting exporters' market access.

If "substantially all trade barriers" must be eliminated (GATT Article XXIV), in which 99.5% of dutiable products are, the executive primarily has two choices in how tariffs are to be reduced. They can either eliminate tariffs immediately upon implementing the FTA or phase them out over multiple years. The decision tree in Figure 1 outlines the choices, as well as the share of dutiable product codes and their tariff treatment across 14 US FTAs.[19] Figure A1 visualizes the share of products and the tariff treatment categories they can fall under across various US FTA tariff schedules. The share of products that were phased out varies not only across different trade agreements but also across trade partners within the same agreement (see TPP [DESTA ID = 899]).

[Figure 1 about here]

Trade negotiators spend approximately 60% of their time on the market access chapter, bargaining over tariff staging (TN02-01, 4:48). The remainder is spent on the chapter text. The final agreement often includes a 500-page or longer Tariff Schedule annex for each importing country, as shown in Figure A2. The schedule lists each unique tariff line,

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[18]With the exception of the following studies: Baccini, Dür, and Elsig (2018); Besedes, Kohl, and Lake (2020); Dong and Jestrab (2022); Khan and Khederlarian (2021); Van Lieshout (2021*a,c,b*); Kowalczyk and Davis (1998); Chase (2003); Grossman and Helpman (1995); Choi (2011); Jestrab (2024); Clark (2007).

[19]I exclude products that were "already duty-free" or are reduced by "other" means, such as WTO commitments, from the calculation.

Figure 1: Free Trade Agreement Decision Tree
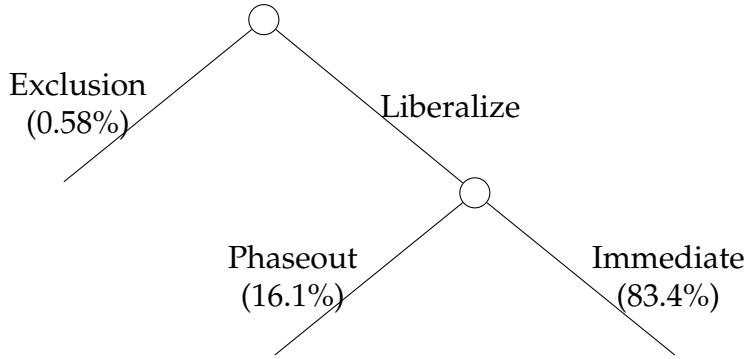
its description, base rate, and staging. The staging categories are defined in the Annex of the Market Access chapter (Figure A3) or in the headnote of importing countries' tariff schedule (Figure A4). For instance, tariffs on "olives that are pitted or stuffed" (0711.20.40) fall under the staging category "A," which indicates that these tariffs will be eliminated immediately. In contrast, tariffs on "mushrooms" (0711.59.10) are staged under category "D," meaning they will be reduced gradually in equal steps over 10 years.

Negotiators are highly specific and strategic about which products they seek to phase out and for how long. This is best illustrated by Figure A5, which graphs *which* 8-digit tariff lines in the US tariff schedule are phased out and colors the duration. Each line represents a product code that is phased out over (1) 1-5 years, (2) 6-10 years, or (3) over 10 years. A simple look would suggest that certain sectors are generally protected, such as the apparel and footwear sector (HTS Chapter 50-64), where products from those chapters are often phased out in various FTAs, with duration varying across and within trade agreements.

2.4 Strategic Importance of Tariff Phaseout

Tariff phaseouts serve as a strategic policy alternative to excluding products from liberalization. When trade negotiation is governed by reciprocity, exclusion is a non-starter to protect domestic industries, as it would limit exporters' market access. Additionally, exclusions can encourage other industry groups to seek their own exemptions, complicating the negotiation process. As one former trade negotiator noted, the guiding "principle [in negotiation] was no exclusion" because "the things that our partners wanted to exclude were things that mattered to us" (TN02-01).

Industry groups and labor unions recognize that exclusions are non-starters, leading them to request tariff phaseouts. In an interview, a former trade negotiator (TN02-01) said

that "people who are more sophisticated, who have been through the process a number of times, will say things like, 'we would like to be excluded. But if that's not possible, we would want the longest staging available.'" Interestingly, while unions are typically against trade agreements, the United Auto Workers cited tariff phaseouts as one of the reasons for its endorsement of the KORUS agreement (See Figure A6). The demand for tariff phaseouts by both unions and industries indicates that, although U.S. tariffs are generally low (Ethier 1998), full elimination, especially if immediate, would significantly harm domestic industries.

Although tariffs are scheduled for elimination, the gradual phasing out of tariffs serves as a temporary form of targeted protection. Phasing out tariffs offers two key economic benefits to domestic producers. First, although imported products may still enter the market early in the phase-out period (Besedes, Kohl, and Lake 2020; Dong and Jestrab 2022), the remaining tariffs during the implementation period help maintain the competitiveness of domestic producers. However, as tariffs are reduced year by year, there may come a point when imported goods become more competitive than domestically produced goods. Therefore, producers generally prefer a more extended phase-out period that allows tariffs to remain at their initial rates for several years before declining (refer to Figure A7 for a comparison between linear and backloaded phaseout models).

Additionally, the established brand recognition and reputation of domestic companies can help prevent consumers from quickly switching to foreign brands in the early stages. As a result, phasing in pressure from import competition may help motivate firms and provide breathing room to adjust. Indeed, economists have argued that phasing out tariffs can facilitate industry adjustments and resource reallocation (Lehr and Restrepo 2023; Riker 2021; Mussa 1984; Leamer 1980).

Second, maintaining some level of tariffs during the early phase-out period can reduce the immediate incentives for firms to offshore jobs to trade partners. Companies are likely to offshore only when the cost of producing goods abroad is lower than the cost of making them domestically. Factors such as labor and transportation costs, as well as tariffs, influence this cost assessment. Therefore, if tariffs take longer to decline to a level that makes offshoring more profitable than domestic production, firms will likely delay decisions to offshore jobs or lay off their domestic workforce.

Politically, tariff phaseouts provide the executive and negotiators with immense flexibility in designing free trade agreements that comply with the GATT Article XXIV rule while also garnering support among key legislators. Constrained by the elimination of "substantially all trade barriers" under the WTO rule, the executive would otherwise face

an uphill battle in ratifying the treaty in Congress if it did not allocate concessions.

Congressional members' vote on trade is responsive not only to the material interests of their constituency (Dür, Huber, and Stiller 2024; Conconi, Facchini, and Zanardi 2012; Choi 2015; Owen 2017; Feigenbaum and Hall 2015) and campaign donations from industry and labor groups (Baldwin and Magee 2000; Choi 2015),[20] but they are also responsive to side payments that raise theirs and their districts' utilities (Evans 2004; Naoi 2015). Therefore, it is also possible that targeted concessions embedded in an international trade agreement can sway key legislative votes.

There is a strong theoretical reason why concessions, such as tariff phaseouts, are targeted at specific legislators rather than being comprehensive. While firms and industries may lobby for more tariff phaseouts, the reciprocated phaseouts would impose opportunity costs on exporters. Therefore, to balance the interests of exporters and the import-competing sector, negotiators are constrained from over-allocating tariff concessions. Hence, negotiators prioritize phasing out tariffs that are important to legislators who are pivotal to ratification. Given that industries tend to agglomerate in specific regions,[21] tariff phaseouts can confer clear benefits to specific Congressional districts. Because tariff stagings are highly targeted provisions at the product level, they enable the executive to unilaterally distribute agreement benefits to facilitate ratification in Congress. The next section develops the logic for how trade agreements' tariff schedules can be designed to facilitate ratification in Congress.

3 Theory of Concession Targeting

3.1 Premises

The theory is predicated on well-established assumptions and facts from the United States' trade policymaking process and international trade negotiation dynamics. First, I assume that concessions are reciprocal in value. This is an undisputed assumption, since reciprocity is the guiding principle of RTAA, which has enabled trade liberalization since 1934 (Bailey, Goldstein, and Weingast 1997; Gilligan 1997). It has since governed how trade liberalization operates (Bagwell, Staiger, and Yurukoglu 2020).

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[20]One must also acknowledge the significant role firms play in lobbying on trade policies (Kim 2017; Blanga-Gubbay, Conconi, and Parenti 2023; Zhang 2025; Osgood 2021). While firms tend to lobby more for free trade, as predicted by the New New Trade Theory, it is not easy to estimate the average effect lobbying has on vote patterns due to counter-lobbying and other unobserved factors (Bombardini and Trebbi 2020).

[21]See Krugman (1979, 1992); Ellison and Glaeser (1997, 1999); Ellison, Glaeser, and Kerr (2010); Shaver and Flyer (2000); Rosenthal and Strange (2001).

Second, I assume legislators are office-seeking; as a result, they are responsive to consumers, industry, and labor groups in their districts. In other words, their net utility from an FTA is aggregated by the expected payoffs from their constituents, who are assumed to hold their representatives accountable.[22] This assumption has broad empirical support in the literature (Stiller 2023; Choi 2015; Dür, Huber, and Stiller 2024).

Third, I assume that the president is both policy- and office-seeking. While a universalist president may enhance the aggregate welfare through free trade (Lohmann and O'Halloran 1994), some may use free trade to boost their electoral prospects through lowering prices or signaling commitment to improve the economy (Mansfield, Milner, and Rosendorff 2002; Rogowski and Kayser 2002).

Fourth, trade negotiators are assumed to be perfectly delegated agents of the president. The bureaucrats in the Office of the United States Trade Representative have little reason to work against the interests of their principal, the president. Given the president's preference for free trade, negotiators are afforded leeway and flexibility to design trade agreements that achieve the president's objectives, including ratification.

Fifth, pivotal legislators have greater political influence than other legislators. In American Politics, Krehbiel (1998) characterizes four distinct pivotal actors: the median voter, the filibuster pivot,[23] the veto pivots,[24] and the president.[25] In the context of trade treaties, we can assume that the presidential pivot is out of the question for free trade agreements that they themselves initiated. If the president does not ultimately veto the implementing bill for trade agreements, then the veto pivots are not salient players. Finally, the fast-track procedure under the Trade Act of 1974 offers time-limited debates upon satisfactory compliance with requirements set forth by Congress. Therefore, the FTA implementing bill is not subject to the filibuster, eliminating the filibuster pivot. Therefore, in the context of trade agreements — when negotiated under fast track authority or trade promotion authority, the only pivotal player with political influence is the median legislator in both chambers. I further assume that interest groups' preferences are stronger when filtered through such a pivotal legislator, making their ask for concessions more likely to be heeded by trade negotiators.

Finally, I assume that negotiators have complete information on the preferences of in-

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[22]Of course, the extent to which particular constituent interests constrain legislators' votes is subject to varying institutional features that may amplify certain voices over others, such as campaign contribution laws and industrial policies, like right-to-work laws, that systematically weaken labor voices.

[23]The 60th Senator to invoke cloture, thereby ending a filibuster.

[24]The two-third of representatives and senators required to override a presidential veto.

[25]The president has the power to veto a bill.

terest groups and legislators. As mandated by the requirements to qualify for the fast track procedure, negotiators are in constant consultation with stakeholders and Congressional members; hence, preferences of private sector permeates into the negotiation process not only *directly* through varied consultation venues but also *indirectly* through Congress.[26]

Negotiators generally have priors regarding each legislator's position on trade, based on their stated views and reservations, as expressed verbally (TN02-02) or through prior roll-call votes (TN01-01). From elite interviews, trade negotiators are most responsive to Ways and Means and Finance committee chairpersons, Congressional whips, or senior legislators with political influence (TN01-02, TN02-02). While these committee chairpersons have *de facto* influence, they do not have the *de jure* authority to prevent implementing bills from being voted on by the floor under the fast track authority's expedited procedure. I further assume that the preferences of rank-and-file legislators, who may be pivotal in the final roll call vote, are filtered through these channels.

3.2 The Logic of the Median

Consider a three-person legislature with a uniform distribution of preferences on trade that range from pro- to anti-trade, where the median legislator is unsure or is on the fence. These preferences are endogenous to various factors; however, for simplicity, let us assume that legislators derive net-positive, net-zero, and net-negative utility from implementing a free trade agreement, which ultimately shapes their preferences regarding trade.[27] For instance, Conconi, Facchini, and Zanardi (2012) demonstrated that the export orientation of a district explains legislative votes to authorize fast track authority, which delegates trade-making power to the president. This aligns with the second assumption, which states that legislators are responsive to their constituents.

Let us also assume that legislators with a net positive gain from a trade agreement will vote to ratify the treaty. In contrast, those with a net negative gain will vote against ratification. The median and anti-trade legislators can be persuaded to vote "yes" if the trade agreement is structured to raise their net-negative outcome to at least a "net-zero plus one" outcome. Achieving this requires trade negotiators to secure concessions that protect key industries in both districts, with more significant concessions needed to sway the anti-trade legislator.

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[26]See Bowen and Broz (2022) for a review of the three-tiered consultation system; however, the most significant is the Advisory Committee for Trade Policy and Negotiation and the Federal Register.

[27]This follows a similar theoretical setup in Naoi (2015).

These concessions are reciprocal in value, meaning that the trading partner can now secure concessions on trade protection, which adversely affect exporters in the home country. If the costs are evenly distributed across all legislators, obtaining the median legislator's ratification would be more costly, since all legislators' utilities would decrease linearly. Therefore, for theoretical simplicity's sake, I posit that the costs of these reciprocal concessions fall primarily on the pro-trade legislator representing exporting interests. Figure 2 illustrates this theoretical setup, alongside two possible deals, colored in red and blue.

The first trade deal, in red, outlines the net utility relative to the baseline (in black) for each legislator if negotiators were to prioritize anti-trade and median legislators. By providing protection that raises the utility of both legislators from a net loss to a net gain, the pro-trade legislator's net utility collapses. Now, a trade agreement that would have brought net gains to exporters, and hence the pro-trade legislator, is now bringing a net loss. The resulting trade agreement would not necessarily improve the general welfare, as it is riddled with protection, nor would it increase exporters' market access. The president would not gain much in their utility function as a policy and office-seeking actor; furthermore, given that the president and his negotiators set the agenda on how a trade agreement is negotiated before being brought to a vote in Congress, it is unlikely that they would design such a trade deal to begin with.

[Figure 2 about here]

Alternatively, negotiators can design a more efficient trade agreement (in blue) that not only facilitates ratification but also maximizes welfare gains to consumers and exporters by targeting protection to the median legislator. The median legislator would require much less concessions than the protectionist legislator to be persuaded to vote "yes." As a result, less protection is needed, leading to greater utility for consumers and the president and fewer costs borne by exporters. Here, a simple majority is achieved with substantially lower costs for stakeholders.

The logic for targeting the median because of lower costs is not new. My theoretical setup and conclusion resemble Naoi (2015)'s *Globalization as Legislation* framework, which predicts that side payments (pork, policy, and institutional reforms) are allocated to legislators with marginal losses from globalization to build a ratification coalition. However, the distinguishing feature of my theory is that reciprocity mirrors the costs of each extracted concession, with those costs falling primarily on the exporting sector.

In Naoi (2015), side payments are drawn from the government budget, in which the costs are dispersed across the actors. A rational party leader would prefer to conserve

Figure 2: Theory Visualization
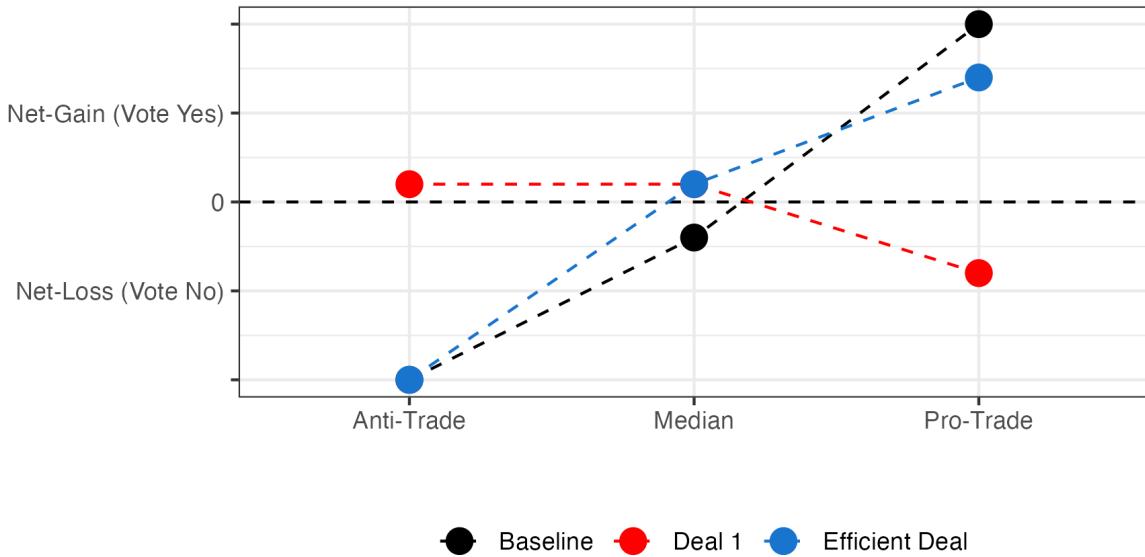
Note: The cost function is assumed to be disproportionately borne by exporters, hence the sum of value extracted for either anti-trade or median legislator is reciprocated onto the pro-trade legislator. Created by Author 9/4/24.

resources for public goods provisions and other programs that enhance their party's electoral prospects. Therefore, they may find it cheaper to buy the support of fence-sitting legislators who would stand to lose only marginally from globalization, rather than those who would stand to lose more.

On the other hand, extracting trade agreement concessions to protect the import-competing sector empowers trade partners to exclude exporters from market access through reciprocity. Protection not only generates concentrated opportunity costs for exporters but also dispersed costs for consumers. Hence, an office-seeking president would prefer to lower prices for voters by minimizing the level of protection extracted. The most efficient way to achieve this would be to target concessions to buy off the median legislator, who requires less to be convinced than the protectionist legislator.

As discussed earlier, the president and negotiators prefer not to protect industries through exclusion, as exporters would not have freer access to the trading partner's market. Therefore, protection in this case refer to tariff phaseouts, which mimics the effect of exclusion, but does not impose realized opportunity costs on exporters; instead, tariff phaseouts, and its reciprocant, imposes diminishing opportunity costs, which exporters can tolerate if the two alternatives are either (1) no trade agreement (status quo) or (2) trade agreement with protection that does not improve their access to foreign markets.

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3.2.1 Credible Promises

A second reason why the median legislator is likely to be targeted is that they are more credible in their promises to ratify if certain concessions are granted. Legislators with inconsistent preferences and voting records on trade are more credible because they have proven that they can be persuaded. They are not staunch ideologues nor heavily constrained by their district's material interests. Compared with anti-trade or free-trading legislators who cannot credibly promise or threaten to withhold a ratification vote, respectively, if concessions are extracted, median legislators are less strongly constrained by their constituencies to vote in alignment with material interests.

Why would the median legislator follow through with their promises once concessions are allocated? Trade agreements are designed and ratified sequentially. Once the agreement is signed between countries, after concessions have been negotiated, there is no mechanism to ensure that the median legislator would vote to ratify it. Revisiting the assumption that legislators are office-seeking, it is likely that they expect a long political horizon barring their exit from office through election. As such, any legislator seeking to be effective at securing carveouts for their districts would build their credibility through any means possible — one of which is following through on their promises. Therefore, instead of a one-shot Prisoners' Dilemma game where the median legislator might be incentivized to defect (i.e., vote against ratification), the game is iterated over a long horizon where they are incentivized to "cooperate" (i.e., follow through on their promises) as it would yield better long-run utility for them and their districts.

This yields two hypotheses on allocation and ratification.

> **Hypothesis 1 (H1):** *Allocation:* The closer legislators are to the median, the more their constituent industries would receive tariff phaseouts in free trade agreements.

> **Hypothesis 2 (H2):** *Ratification:* Median legislators whose constituent industries received more tariff phaseout concessions are more likely to vote to ratify the free trade agreement.

4   Data and Research Design

I test my hypotheses using a sample of U.S. House Members. I limit the scope of this study to the House of Representatives for three reasons. First, the House is historically more protectionist than the Senate (Conconi, Facchini, and Zanardi 2014). Second, the House's

two-year election cycle introduces more frequent uncertainty regarding incumbent tenure than the Senate (Milner and Rosendorff 1997). These two factors, when combined, constitute a "hard test" for the theory. Third, the House allows for more precise attribution of concessions. Unlike the Senate, where concessions on tariffs cannot be distinguished between two senators representing the same constituency, House districts offer clearly defined boundaries for linking district-targeted concessions to specific legislators. Overall, focusing on the House enables more precise analysis of distributive politics and provides stronger evidence of the relationship between concessions and legislative voting.

Before describing the Instrumental Variable design, I will first detail the measurement of key variables, namely the *Average Industry Phaseout Coverage* — i.e., the treatment — and *Proximity to Trade Median* — i.e., the instrument.

4.1 Average Industry Phaseout Coverage

To measure targeted trade concessions in tariff phaseouts, I collected original data on U.S. tariff treatment for all free trade agreements from NAFTA to TPP. The PTARIFF database codes information on the treatment of each tariff line code at the eight digits U.S. harmonized tariff system (HTS) level.[28]

The data collection process is as follows: First, I collect PDF tariff schedules from the U.S. Trade Representative website. These tariff schedules primarily consist of tables with more than 8,000 distinct tariff lines (rows), the descriptions of Harmonized Tariff Schedule (HTS) codes, their base rates, and their unique staging categories (See A2 for an example).[29] Second, I extract the tables from the PDF using Tabula, a Python software that "liberates data tables trapped inside PDF files."[30] Third, I manually code each unique staging category by hand, referring to the FTA main text to make a determination on whether the tariff line with the category is (1) reduced, (2) eliminated, and if so, whether it is (3) immediately eliminated. Next, I code the (4) duration of the phaseout in years and (5) the means of reduction (linear or back-loaded).[31] If the category backloads the phaseout, meaning there is a momentary pause prior to reduction, I also code (6) the duration of the initial pause. Figure A3 provides an example of the language on staging categories

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[28]PTARIFF is a broader data project in collaboration with Elisabeth Van Lieshout, who is a Stanford Political Science Ph.D. and currently a trade policy analyst at the OECD, that slated to code dyadic tariff treatment for over 120 bilateral trade agreements.

[29]The author thanks Besedes, Kohl, and Lake (2020) for providing digitized NAFTA tariff data from their replication package. The original NAFTA tariff schedule was scanned and was not fitted for optical character recognition (OCR). The author manually coded approximately 1,100 tariff lines with more than one tariff treatment that had not been coded by Besedes, Kohl, and Lake (2020).

[30]Click here for more information on Tabula.

[31]Figure A7 illustrates the difference between tariff phaseouts that are "linear" and "backloaded."

that is common between the USA and Australia, and Figure A4 is an example of a head-note staging categories specific to the United States' tariff schedule. Fourth, I merge the schedule table with the coded categories.

Although the raw data provide highly granular information on tariff schedules, I employ a binary measure indicating whether a dutiable product's tariff is subject to a phaseout. Given that the unit of analysis is the congressional district, I aggregate these product-level indicators to calculate the extent of tariff phaseout coverage among the district's workforce.

[Figure 3 about here]

Figure 3: Relationship with Trade Ideology
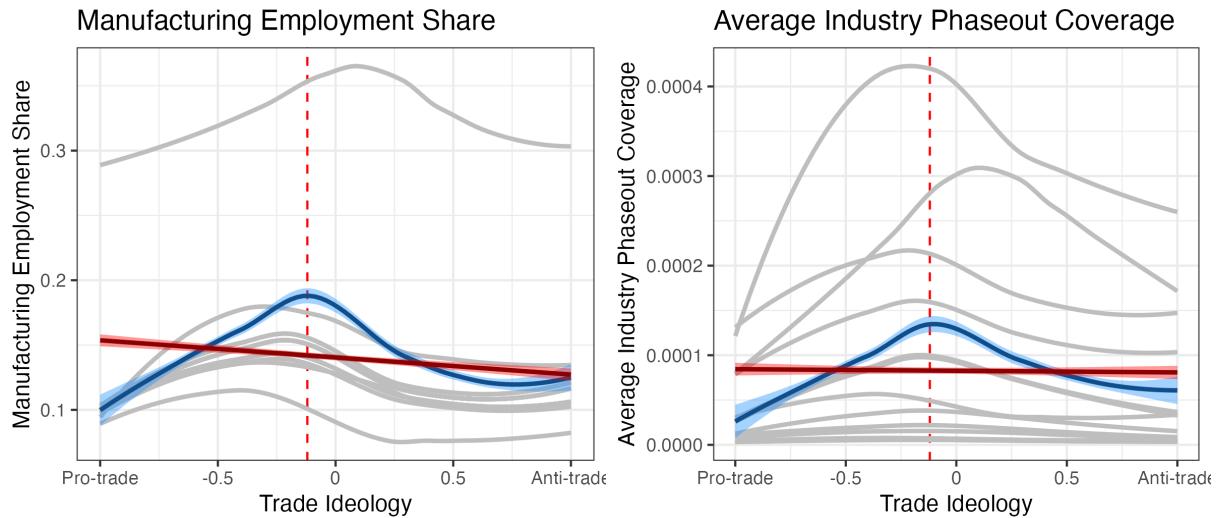
Note: Both plots are fitted by individual FTA LOESS lines (grey), aggregated LOESS lines (blue), and linear regression lines (red). The red dashed vertical line indicates the global median Trade Ideology score. Created by Author 12/24/25.

A standard approach might involve a simple sum of the industry-employment-share-weighted phaseout measures across all industries within a district. However, as shown in the left panel of Figure 3, the manufacturing employment share is non-monotonic, peaking near the median of trade ideology. Such concentration of manufacturing employment share near the global median in legislative trade ideology may place greater weight on tariff phaseouts allocated to median legislators' districts, given that they have more manufacturing employment. Therefore, to ensure that the measure captures the intensity of phaseout coverage independent of the district's aggregate manufacturing size, I employ an averaging function. The measure is calculated as follows:

$$\text{AvgPhaseout}_{dj} = \frac{1}{K_d} \sum_{k \in \mathcal{K}d} \left(\frac{E_{dkt}}{E_{dt}} \times \frac{\sum_{p \in \mathcal{P}k} PO_{pj}}{|\mathcal{P}_k|} \right), \quad (1)$$

where PO_{pj} is a binary indicator of whether a dutiable product p is phased out (1) or not (0) in agreement j. This inner term represents the share of products subject to phase-outs within industry k. The denominator $|\mathcal{P}_k|$ denotes the total number of dutiable product codes in the industry, excluding those that were duty-free prior to the agreement. This ensures the proportion accurately reflects protection on relevant trade lines.[32] This industry-specific exposure is then weighted by the industry's labor share, $\frac{E_{dkt}}{E_{dt}}$, where E_{dkt} is employment in industry k and district d, and E_{dt} is the total district workforce at time t (averaged over the 5 years prior to the agreement).[33] Finally, to arrive at the district-level measure, I sum these weighted exposures and divide by K_d, the number of active industries in district d.

Individually, the product of the inner two terms should give an estimate of the proportion of industry k workers as a share of the total employed workforce in district d that is "covered" by tariff phaseouts. After averaging across industries within a given district, the resulting district-level measure captures the *Average Industry Phaseout Coverage*. Figure A8 shows the phaseout coverage from the 2011 version of KORUS, grouped into quartiles.

4.2 Trade Ideal Points

The instrumental variable is the legislator's ideological proximity to the median. First order of business, however, is creating a trade ideal point estimate to calculate both the median ideal point and the inverse distance of each legislator to the median. To do so, I scale 510 trade-related roll call votes (1970 to 2013) from the VoteView database with the W-NOMINATE (weighted nominal three-step estimation) procedure (Poole and Rosenthal 1985; Poole et al. 2011; Lewis et al. 2023).[34] I exclude FTA ratification roll call votes to limit any endogeneity.

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[32]I concord different HS revisions across agreements to HS rev. 2002, linking it with industry-level variables at NAICS rev. 2012. I used Liao et al.'s 2020 `Concordance` package to translate 6-digit HS codes (2002 revision) to 6-digit NAICS (2012 revision).

[33]Industry employment data is from Eckert et al.'s 2020 version of the County Business Pattern data, harmonized to the 2012 NAICS revision. I used the Missouri Census Data Center's county-district crosswalk files to map employment from the county to the district level.

[34]VoteView ended the coding of roll call votes by issue areas in October 2013, and the roll call vote data has not been updated since the 115th Congress. I selected roll-call votes from 1970 because the United States began experiencing import exposure from its trading partners around that time.

The underlying assumption of the NOMINATE procedure is that each legislator has a bell-shaped utility function and maximizes their ideal point through legislative actions, as observed in roll-call votes (Poole and Rosenthal 1985). Therefore, legislators would behave and vote in ways that would maximize the likelihood of their most preferred outcome.[35] Legislators who exhibit similar preferences will be placed more closely than those who behave dissimilarly. Those placed in the middle are often less predictable in their voting behavior.

Based on the 510 roll call votes on trade, the W-NOMINATE algorithm generates a time-invariant latent *Trade Ideology* score for each legislator with a sufficient voting record (those with at least 20 roll call votes), where the most protectionist legislator receives an ideal point of 1, while the most free-trading legislator receives -1. I use Bernie Sanders as the protectionist anchor in which legislators' ideal points are generated in relations to. Bernie Sanders has been historically critical of U.S. trade liberalization efforts. Not only did he oppose granting China permanent normal trade relations in 2000, but he also opposed the North American Free Trade Agreement (NAFTA) and, more recently, the USMCA.[36] While the selection of Senator Sanders as a reference legislator may look arbitrary, I arrived at this conclusion by categorizing all trade roll call votes on whether an affirmative vote was pro-trade or not,[37] and calculating which legislator historically voted in favor of or against trade. The resulting *Trade Ideology* score is plotted in Figure 4 in comparison to the *DW-NOMINATE* scores from the 101st to the 114th Congress.

[Figure 4 about here]

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[35]For a primer on the NOMINATE algorithm, please read Everson et al. (2016).

[36]Source. Last accessed 1/30/25.

[37]The coding of affirmative vote's position on trade relies on VoteView database; ambiguous roll call votes were not coded.

Figure 4: Distribution of DW-NOMINATE and Trade Ideology Across Time
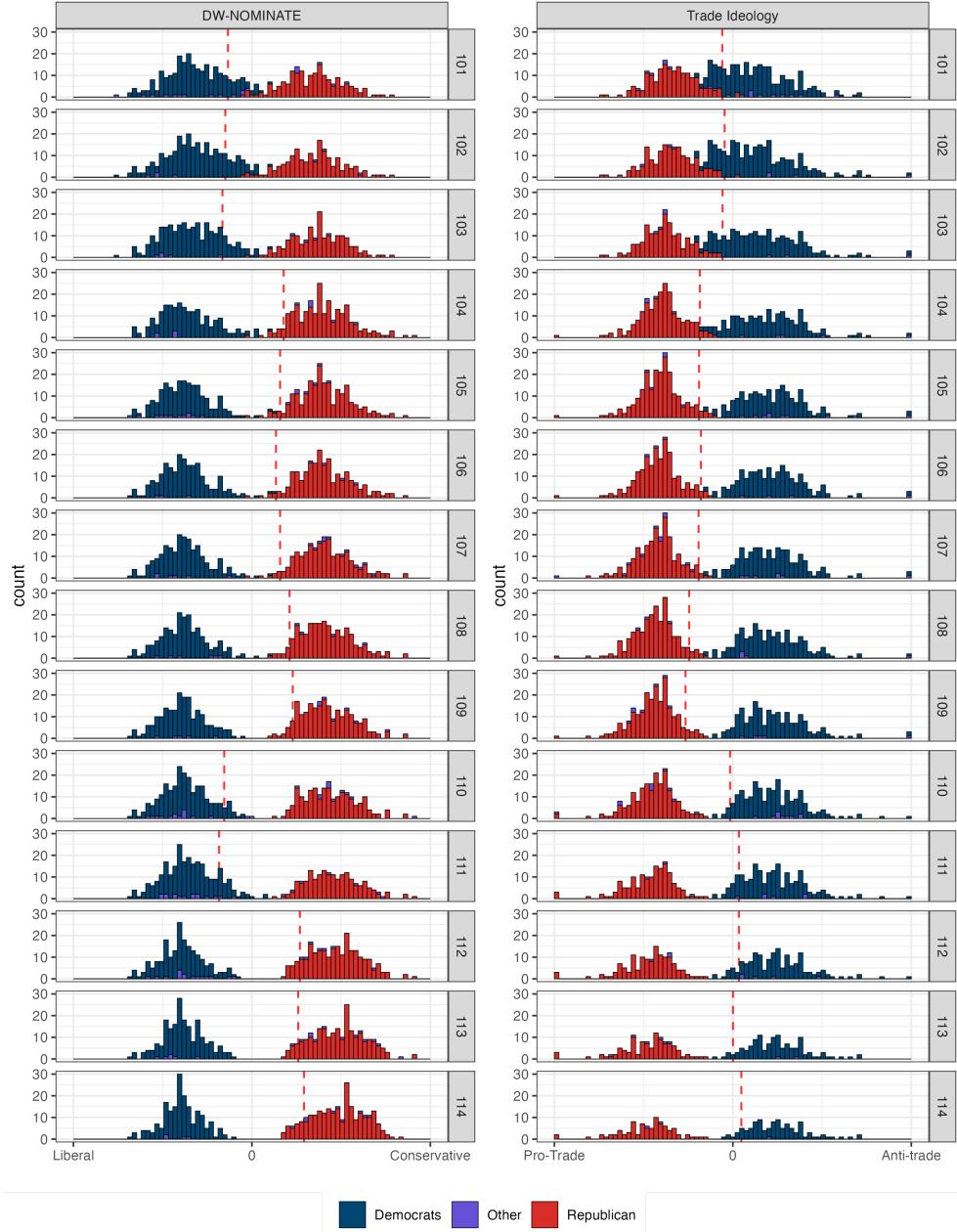
Note: Red dashed lines indicate the ideal point score of the median legislator for each Congress. Created by Author 5/18/25.

Using the *Trade Ideology* score, I measure the inverse ideological distance from the median — calculated for each congress — to capture the degree to which a legislator is the median. *Proximity to Median* ranges from 0, indicating a legislator is furthest away from the median, to 1, in which the legislator is the median. I construct two other variants, the first groups the ideological distance into five bins, each at an equal interval of 0.2. The

second measures the distance (in number of legislators) one is from the median.

4.3 Controls

4.3.1 District-Level Controls

The first set of controls focuses on district characteristics, such as import threat, congressional electoral competitiveness, unemployment rate, and the export activity of the district.

First, *District's Exposure to Import Threat* measures the import sensitivity of a district to specific trade partners based on the partner's ability to fulfill increased demand for imports once trade is liberalized. This is an important variable to construct, given the intuition that phaseouts are allocated based on the industry-specific threat a partner poses to American industries (See Figure A5). This variable should account for most of the variation in phaseout allocation, suggesting that other statistically significant covariates are equally strong predictors. Section A.1.3 describes the measurement creation in greater detail.

Second, *District Election Competitiveness* measures the inverse vote share distance of the *top two congressional candidates* to 50%, averaged over three previous congressional elections. Data on congressional election returns is from the MIT Election Data and Science Lab (2017*a*). A higher value indicates that the district is more competitive, i.e., the average vote share is closer to 50%

Third, *Unemployment rate* is the share of a district's labor force that is unemployed. I took employment data from the Bureau of Labor Statistics' Labor Force Data. I used the Missouri Census Data Center's county-district crosswalk files to map employment from the county to the district level.

Fourth, I measure the degree to which a district's industries are net exporters. To do so, I first calculate the total export and import for each industry using UNComTrade data. Next, I take the difference between logged exports and logged imports. Then, I aggregate it up to the district level, using the same formula as *Phaseout Coverage*.

4.3.2 Legislator-Level Controls

The second set of controls focuses on legislators' characteristics. First, *Corp PAC (ln)* is the logged corporate PAC donation to the winning candidate in office, averaged over three previous cycles, wherever applicable. Contribution data is from Database on Ideology,

Money in Politics, and Elections (DIME) (Bonica 2023). Second, *House Ways & Means* is an indicator for representatives who sit on the Ways and Means committee. Committee data is from Stewart III and Woon (2024). Additionally, I hand-coded the committee membership of legislators for the 102nd Congress (for NAFTA).

4.3.3 State-Level Controls

The final set of controls focuses on state-level characteristics. First, *Presidential Election Competitiveness* measures the inverse average *two-party* vote share distance to 50% over three previous presidential elections. Presidential election data is taken from the MIT Election Data And Science Lab (2017*b*). Second, I control for *Electoral College Vote* count the state has. Finally, *Union Membership Rate* is the share of workers who are union members. The union membership data is from Unionstats (Hirsch, MacPherson, and Even 2024).

Table A1 provides the summary statistics of all variables discussed so far. Figure A9 provides a simple correlation matrix heatmap, displaying the correlation among the co-variates.

4.4 Identification Strategy

The main goal of this paper is to study whether tariff phaseouts increase legislators' likelihood of ratifying trade agreements. A standard OLS would yield biased estimates because legislators who are unlikely to ratify may receive significantly more tariff phaseouts, even if they are not pivotal to the treaty's ratification. This relationship is evident in the "naive" OLS model in Table 4, which indicates that receiving more tariff phaseouts is associated with a lower likelihood of treaty ratification. To isolate the effect of trade concessions on buying legislative support, it is necessary to focus on the subset of legislators who are likely to be convinced and, as such, targeted by negotiators, as argued in previous sections. Therefore, I instrument districts' *Average Industry Phaseout Coverage* with representatives' proximity to the median.

While legislative speeches present a viable avenue for gauging support (Lee and Osgood 2019), talk is cheap. On the other hand, roll-call votes are politically costly and serve as a stringent test for my argument. By voting to ratify a treaty, legislators go on the record and declare their stance, which can be used as political ammunition by their opponents. Therefore, because free trade was highly controversial in the 2000s, as districts reeled from the Chinese import shock (Autor, Dorn, and Hanson 2013; Feigenbaum and Hall 2015), voting to ratify broad-ranging trade agreements that eliminate all trade barriers with low-income trade partners is politically costly.

The identification strategy relies on the exogenous legislative turnover from elections occurring every two years for the House of Representatives. Because representatives' latent trade preferences, estimated using W-NOMINATE, are time-invariant, legislators' entry and exit determine the chamber's ideological composition. Figure 4 illustrates the changing distribution of House members' liberal-conservative and trade ideology across 14 congressional sessions; moreover, the ideological median also varies across 14 congressional sessions. Elections, therefore, provide two sources of exogeneity: (1) the position of the median and (2) the legislator's relative position vis-á-vis the median. Figure 5 demonstrates the rotating identity of the "median district(s)" on trade — i.e., districts represented by the ideological median legislator — and districts' varying relative position to the median across congressional sessions under which FTAs were negotiated. The gray lines indicate a high degree of flux across many districts in legislators' positions relative to the median. The blue lines highlight districts represented by representatives who were the median in at least one congressional session.

[Figure 5 about here]

Figure 5: District's Distance to the Median Legislator on Trade Ideology
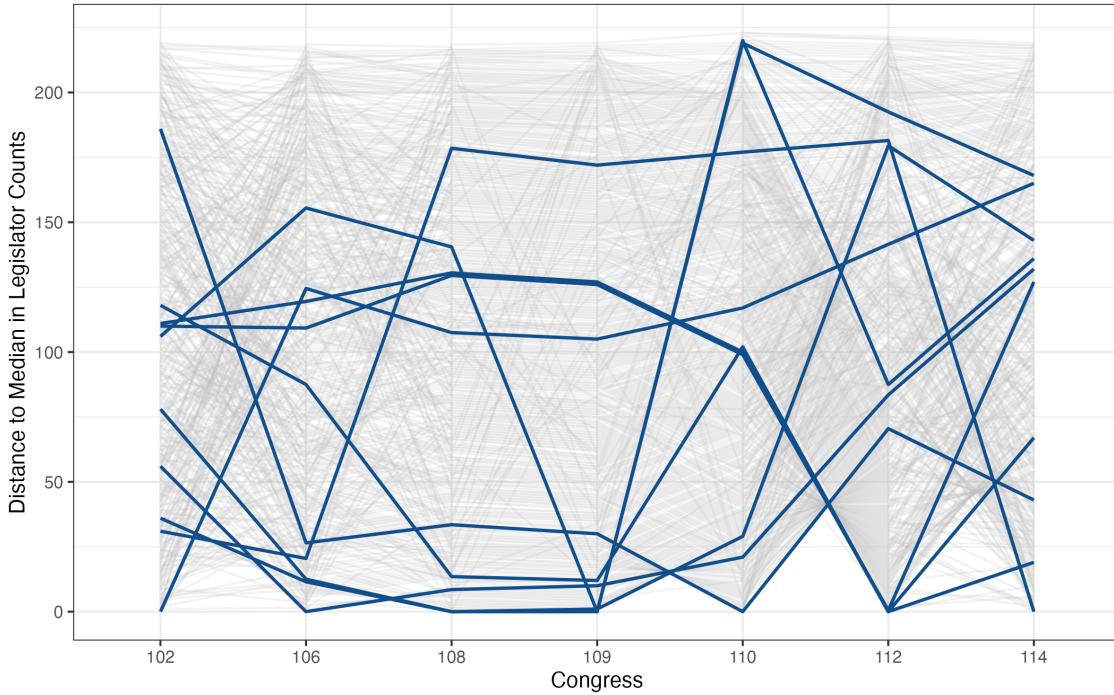
Note: Each grey line indicates individual House district changes in the representative's relative position to the median, by count of legislators to the median legislator. Blue lines highlight districts represented by representatives who were the median in at least one congressional session. Created by Author 12/18/24.

The second identifying assumption is the exclusion restriction, which requires that

the legislator's proximity to the median (the instrument) must affect their ratification vote (outcome) only through receiving more trade concessions (the endogenous variable). There are several ways in which this assumption is plausible. Logically, being closer to the chamber median should not make them more likely to vote in favor of ratification *unless* they receive concessions arising from their pivotal position, which vary exogenously across elections, as discussed above. If we regress ratification votes against trade ideology (as shown in Figure 6), it is clear that more protectionist legislators are less likely to ratify FTAs. Empirically, being closer to the median is associated with both a linear increase *and* decrease in ratification probability depending on whether one approaches from the anti-trade or pro-trade ends, respectively. Therefore, any effect of being closer to the median on FTA support would be biased or canceled by opposing statistical effects. Furthermore, when regressing the *Average Industry Phaseout Coverage* and legislative *Trade Ideology* (Figure 3), one can infer from the OLS line (red) that there is no relationship between the two; however, when fitted a LOESS curve (blue), however, the district's *Average Industry Phaseout Coverage* rises as one approaches the global median (marked by the dashed red line). Because of such a "concession bump" occurring near and peaking at the median for tariff phaseouts but not for ratification voting, we can reasonably conclude that any observed IV effect would indeed be driven by pivotal legislators receiving significantly more concessions than legislators further away from the median.

[Figure 6 about here]

5   Predicting District-Specific Trade Concessions

For the first stage, I estimate a simple OLS model with trade agreement fixed effect δ_j to hone in on the within-agreement differences across legislators' proximity to the median on trade and their correlation with *Average Industry Phaseout Coverage* or *Avg Phaseout* for short. $AvgPhaseout_{djc}$ is the average share of workers across industries in district d that is covered by tariff phaseout in agreement j negotiated in congress c. I log *Avg Phaseout* to normalize the right-skewed distribution. $ProximityMedian_{idc}$ is legislator i in district d's inverse distance to the median legislator in Congressional session c. $\mathbf{X}_{dc}$ denotes the district characteristics controls, $\mathbf{X}_{ic}$ — legislator characteristics, $\mathbf{X}_{sc}$ — state characteristics; all of which vary across congress, or time, denoted by c.

$$\ln(\text{AvgPhaseout}_{djc}) = \delta_j + \beta_1 \text{ProximityMedian}_{idc} + \beta_2 \mathbf{X}_{dc} + \beta_3 \mathbf{X}_{ic} + \beta_4 \mathbf{X}_{sc} + \eta_{djc} \quad (2)$$

28

Figure 6: Average Industry Phaseout Coverage And Trade Ideology
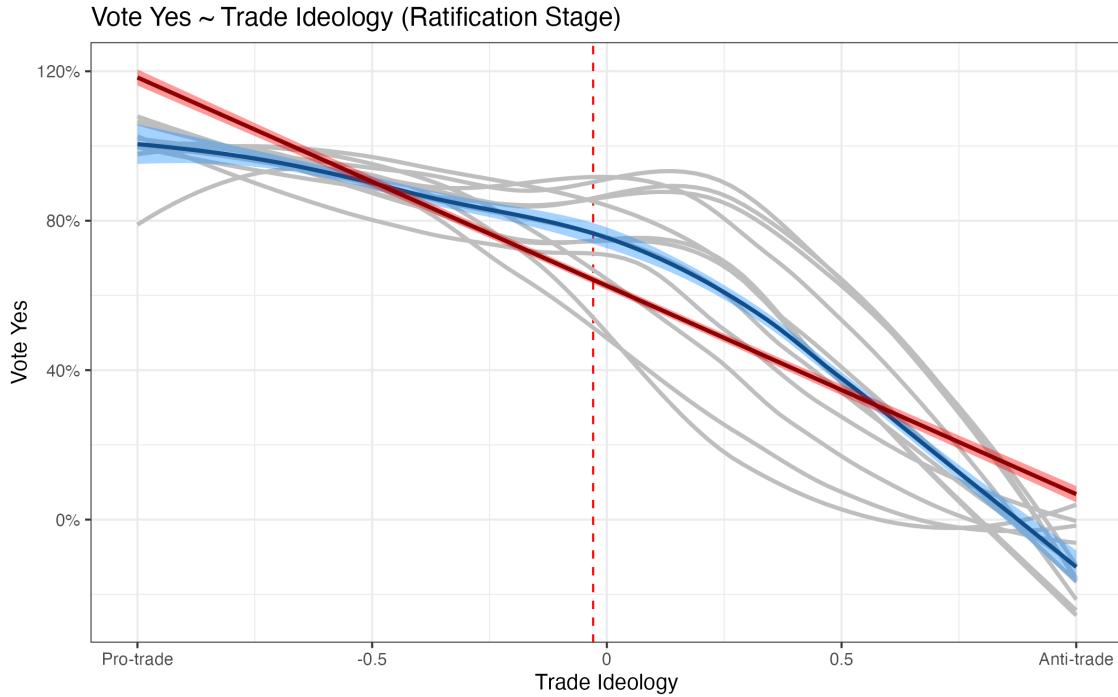
Note: The plot is fitted by individual FTA LOESS lines (grey), aggregated LOESS lines (blue), and linear regression lines (red). The red dashed vertical line indicates the global median Trade Ideology score. Created by Author 12/18/24.

Table 2 presents seven models. Since the US-Jordan FTA was ratified by voice vote and the Trans-Pacific Partnership was never put to a vote, they do not appear in the second stage. However, I include them in this stage to provide a more complete analysis. All covariates are standardized to improve interpretability. The standard errors are corrected for heteroskedasticity and clustered at the district level.

Model 1 is a simple bivariate regression between legislators' proximity to the median on trade ideology and *Phaseout Coverage*. This establishes a simple empirical relationship regarding the extent to which a median legislator's district's workforce is temporarily insulated from import competition. Model 2 adds in all of the controls, including *Trade Ideology* to account for directionality (since the score ranges from pro-trade (-1) to anti-trade (1)) and *District's Exposure to Import Threat*. Here, *Proximity to Trade Median* remains significant at the 99% confidence level, although the magnitude is reduced. Substantively, for every one standard deviation increase in a legislator's ideological proximity to the trade median, the district's *Average Industry Phaseout Coverage* is increased by a factor of 1.067, or 6.7%.[38] This result supports the *Allocation* hypothesis [H1].

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[38]6.7% is calculated by exponentiating the coefficient of 0.065.

This result is robust to various measurement variants. Model 3 displays the result when *Proximity to Trade Median* is grouped into five bins. Model 4 calculates the distance from the median in the number of legislators (thus, a negative coefficient is expected). Model 5 uses the DW-NOMINATE score to calculate the degree to which a legislator is ideologically moderate.

Model 6 is a placebo test that uses *Average Industry Exclusion Coverage* to demonstrate that median-legislator targeting is primarily limited to tariff phaseouts.[39] Exclusion is rare in US FTAs; hence, if used, exclusion would be reserved for truly exceptional cases where the threat of import competition is so significant that it may derail the trade deal. Negotiators often avoid using exclusion because it would open the floodgates for other stakeholders to demand it; hence, exclusion is not a tool to "buy" support from median legislators. In fact, only six FTAs have tariff-liberalization exclusions,[40] which explains the reduction in the sample size, as there would be no variation in FTAs without exclusion. Indeed, I find that a district's potential exposure to *Import Threat* is positively and significantly correlated with *Avg Exclusion*, whereas proximity to the median is not statistically significant.

Finally, Model 7 combines both *Average Industry Phaseout Coverage* and *Average Industry Exclusion Coverage* into *Total Protection*. Similar to other models, *Proximity to Trade Median* remains positive and highly significant.

[Table 2 about here]

One may suspect that the relationship observed above is a statistical artifact of the president targeting concessions to serve his or his copartisans' electoral prospects. This is a widely held convention in the American presidential particularism literature (Kriner and Reeves 2015*a*,*b*, 2012; Berry, Burden, and Howell 2010; Lowande, Jenkins, and Clarke 2018; Ha 2023). Scholars generally hypothesize that in policy areas where the president has broad discretion, the president is incentivized to distribute benefits in ways that serve their political interests. Trade agreements appear to meet this condition, as Congress delegates authority to negotiate trade agreements to the president. As a result, electorally inclined presidents may prefer to distribute tariff phaseouts to help swing-state industries adjust to free trade.

Indeed, scholars have found a litany of swing-state targeting with various protection-

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[39]*Average Industry Exclusion Coverage* is constructed in the same way as *Average Industry Phaseout Coverage* but with the share of products within an industry that are excluded from liberalization. See Figure A1 on the share of products within each FTA tariff schedule that were excluded from liberalization.

[40]These are US-Australia, CAFTA-DR, US-Colombia, US-Panama, US-Peru, and TPP.

Table 2: Legislators' Proximity to the Median and District's Exposure to Import Threat on Tariff Phaseout Coverage

Dependent Variables:		Avg Phaseout				Avg Exclusion	Total Protection
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables							
Proximity to Trade Median	0.121***	0.065***				0.040	0.065***
	(0.023)	(0.018)				(0.030)	(0.018)
Proximity to Trade Median (bins)			0.054***				
			(0.019)				
Distance from Median (n of L)				-0.057***			
				(0.019)			
Proximity to DW-NOMINATE Median					0.071***		
					(0.018)		
Trade Ideology		0.015	0.010	-0.014		0.037	0.018
		(0.023)	(0.023)	(0.022)		(0.040)	(0.022)
DW-NOMINATE					-0.014		
					(0.022)		
District's Exposure to Import Threat		0.497***	0.496***	0.493***	0.505***	0.658***	0.502***
		(0.057)	(0.057)	(0.057)	(0.055)	(0.130)	(0.056)
Controls		✓	✓	✓	✓	✓	✓
Fixed-effects							
FTA	✓	✓	✓	✓	✓	✓	✓
Fit statistics							
Observations	6,115	5,875	5,875	5,875	6,258	2,248	5,875
R^2	0.826	0.896	0.896	0.896	0.897	0.486	0.888
Within R^2	0.027	0.418	0.416	0.418	0.431	0.166	0.416
Dependent variable mean	-10.6	-10.6	-10.6	-10.6	-10.5	-13.5	-10.5

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

Note: Unit of observation is House of Representative district-FTA for all 14 FTAs negotiated. Standard errors are corrected for clustering at the district level. All covariates are standardized. See Table **??** for the full regression table.

ist instruments, such as unilateral tariff hikes (Lowande, Jenkins, and Clarke 2018; Kriner and Reeves 2015a), non-tariff trade barriers (Bown et al. 2024), and lower tariff cuts in multilateral trade rounds (Ma and McLaren 2018). Other scholars have found co-partisan and committee-member targeting effects in other policy areas (Berry, Burden, and Howell 2010; Ha 2023; Dynes and Huber 2015), but not in trade. Table 3 controls for presidential election competitiveness (a measure of a state's swing-ness), district competitiveness, whether the legislator is a copartisan, part of the majority, or is a member of the House Ways and Means committee.

The results suggest that presidents are not particularistic in targeting phaseouts, nor tariff liberalization exclusion for electoral insulation (see Table A3). Table 3 presents the results for tariff phaseout. Each presidential particularism covariate is expected to have a positive coefficient; however, it becomes negative or statistically insignificant when included in the main specification in Models 7 and 8. Only *Proximity to Trade Median* and *Proximity to DW-NOMINATE Median* are positive and statistically significant. These results provide stronger credence that phaseouts are allocated to build a ratification coalition.

[Table 3 about here]

6   Effects of Trade Concessions on Ratification

Having demonstrated that the instrument predicts the level of concessions a legislator's district received under a trade agreement, I now test the causal effect of tariff phaseouts on the ratification vote outcome. The second stage is estimated as:

$$\text{Vote}_{idjc'} = \delta_j + \beta_1 \ln(\widehat{\text{AvgPhaseout}}_{djc}) + \beta_2 \mathbf{X}_{dc} + \beta_3 \mathbf{X}_{ic} + \beta_4 \mathbf{X}_{sc} + \varepsilon_{idjc'} \tag{3}$$

where Vote_{idjc} is the ratification vote for agreement j from legislator i who represent district d in congress c'. Some agreements, such as KORUS and US-Colombia, are ratified in a later congressional session; therefore, I denote congressional sessions with a c'. Roll-call votes on FTA ratification are sourced from the VoteView database (Lewis et al. 2023). All covariates are set to the negotiation stage since they predict the phaseout allocation $\ln(\widehat{Phaseout}_{djc})$. Because the US-Jordan FTA was ratified by voice vote and the TPP was never put to a vote, I omit these two FTAs when running the 2SLS. The first-stage results remain robust to such an omission.

Table 3: Testing Alternative Explanations

Dependent Variable:						Avg Phaseout		
			Bivariate			Multivariate	Trade Proximity	DW-NOMINATE Proximity
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables								
Proximity to Trade Median							0.072***	
							(0.021)	
Proximity to DW-NOMINATE Median								0.097***
								(0.023)
Trade Ideology							-0.006	
							(0.021)	
DW-NOMINATE								0.013
								(0.018)
Pres. Election Competitiveness	0.033					0.022	-0.060***	-0.062***
	(0.027)					(0.027)	(0.018)	(0.017)
District Election Competitiveness		0.049**				0.037	-0.008	-0.016
		(0.025)				(0.025)	(0.017)	(0.017)
Co-partisan			0.058			0.019	-0.055	-0.039
			(0.043)			(0.038)	(0.035)	(0.028)
Majority				0.164***		0.155***	-0.009	-0.094***
				(0.039)		(0.033)	(0.028)	(0.033)
House Ways & Means					-0.034	-0.038*	-0.011	-0.007
					(0.021)	(0.022)	(0.017)	(0.016)
Controls	No	No	No	No	No	No	Yes	Yes
Fixed-effects								
FTA	✓	✓	✓	✓	✓	✓	✓	✓
Fit statistics								
Observations	6,521	6,446	6,421	6,421	6,507	6,332	5,791	6,165
R^2	0.820	0.821	0.820	0.822	0.820	0.824	0.897	0.898
Within R^2	0.002	0.005	0.002	0.013	0.002	0.020	0.422	0.436
Dependent variable mean	-10.5	-10.5	-10.5	-10.5	-10.5	-10.5	-10.6	-10.5

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

Note: Unit of observation is House of Representative district-FTA for all 14 FTAs negotiated. Standard errors are corrected for clustering at the district level. All covariates are standardized.

Furthermore, the main 2SLS estimation will focus only on legislators present at both the negotiation and ratification stages to demonstrate the vote-buying effect. A large majority (82.3%) of districts retained their representative from the negotiation stage. Among the remaining 17.7% of districts that replaced their representative, receiving more tariff phaseouts does not translate to increased likelihood of ratification (Table 5).

Table 4 reports the main 2SLS results as specified in Equation 3. I report the standard first-stage F-statistics and Olea and Pflueger (2013)'s Effective F-statistics,[41] which accounts for heteroskedasticity and clustering structure. Both F-statistics exceed the standard minimum threshold of 10, alleviating concerns about weak instruments (Andrews, Stock, and Sun 2019; Lal et al. 2024).

Model 1 reports the naive regression, which regresses the ratification vote directly on covariates. Here, *Average Phaseout* is negatively correlated with support for FTA but only at the 90% confidence level. As discussed above, this estimate is biased because it does not explicitly account for concessions made to secure legislative support. Models 2 and 5 report reduced-form estimates in which legislators' proximity to the trade median (the instrument) is strongly and significantly associated with a higher linear likelihood of ratifying trade deals. Models 3 and 4 present the first and second stage estimates with no controls to compare to models with controls (Models 6 and 7); the IV estimates are positive and significant at a 99% confidence level with and without controls, suggesting that the instrument does not lose its causal power after accounting for confounding variables.

The main IV estimate is reported in Model 7. The coefficient for *Average Phaseout* is positive and significant, indicating that receiving trade concessions by virtue of being ideologically closer to the pivotal legislator in Congress does indeed swing legislators' decision toward ratification. In terms of magnitude, the estimates imply that a one percentage point increase in the predicted *Average Phaseout* increases the likelihood of ratification by 0.96 percentage points. Therefore, this result supports the *Ratification* hypothesis [H2].

The IV estimate is robust across (1) various bootstrapping methods for calculating uncertainty (See Figure A11), (2) different specification of the treatment and instrument (See Tables A4 and A5), and (3) almost all possible combination of controls (See Figure A12).

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[41] All Effective F-statistics calculated from Lal et al. (2024)'s `ivDiag` software.

Dependent Variables:	Ratification: Yes Naive	Reduced	Avg Phaseout IV 1st	Ratification: Yes IV 2nd	Reduced	Avg Phaseout IV 1st	Ratification: Yes IV 2nd
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables							
Avg Phaseout	-0.022*			1.64***			0.963***
	(0.012)			(0.338)			(0.317)
Proximity to Trade Median	0.335***	0.828***	0.506***		0.328***	0.340***	
	(0.046)	(0.044)	(0.095)		(0.046)	(0.097)	
Trade Ideology	-0.463***				-0.465***	0.075	-0.537***
	(0.020)				(0.020)	(0.056)	(0.053)
District's Exposure to Import Threat	-0.043***				-0.052***	0.444***	-0.480***
	(0.014)				(0.013)	(0.029)	(0.143)
Controls	✓	✗	✗	✗	✓	✓	✓
Fixed-effects							
FTA	✓	✓	✓	✓	✓	✓	✓
Fit statistics							
Observations	4,043	4,186	4,186	4,186	4,043	4,043	4,043
R^2	0.504	0.280	0.780	0.280	0.503	0.863	0.503
Within R^2	0.484	0.252	0.036	0.252	0.483	0.394	0.483
F-test (1st stage)			155.7			64.1	
F-test (1st stage), Avg Phaseout				155.7			64.1
Dependent variable mean	0.644	0.642	-10.9	0.642	0.644	-10.9	0.644
Effective F			28.6			12.3	

Clustered (legislator & District) standard-errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Note: Unit of observation is House of Representative district-FTA for all 12 FTAs negotiated and ratified. US-Jordon FTA was ratified with a voice vote and TPP was never voted on. Standard errors are corrected for clustering at the district and legislator level.

6.1 Mechanism Tests

The theory predicts that trade concession buys legislators' support for ratification. As such, the underlying mechanism requires that the district experience no legislative turnover, as demonstrated in the previous section. If there were a change in the district's representatives, there should be no visible second-stage effect even if the instrument is strong at predicting phaseout allocation in the first stage. Indeed, the 2SLS models with districts that experienced legislative turnover between the two stages indicate a strong instrument with no causal effect in the second stage. In other words, this test provides a scope condition under which the instrument affects the outcome through the treatment.

Table 5 displays results for two types of treatments, *Average Industry Phaseout Coverage* (Models 1 and 2) and *Total Protection* (Models 3 and 4).[42] *Proximity to Trade Median* predicts higher levels in the two treatments with the Effective F-statistic being 12.7 and 13.6, respectively. However, the treatments are not shown to statistically increase the likelihood

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[42]While controlling for *Average Industry Exclusion Coverage* does not change the main results, there is a trade-off between including its logged and non-logged form. The former reduces the sample size to 1623 and erases any causal effects. The latter would yield a large estimate because exclusions are rare. Table A8 demonstrates that the IV estimate is robust while controlling for exclusion in Models 1 and 2; in addition, Models 3 and 4 use the bundled treatment and replicate the main IV estimates.

of ratification votes in districts with different representatives during the ratification stage. This result likely suggests that new legislators do not vote in accordance with promises made by their predecessors to trade negotiators, which is intuitive. Instead, their votes align with their constituents' interests, consistent with the conventional wisdom (Stiller 2023; Baldwin and Magee 2000). For instance, legislators representing net-exporting constituent industries are more likely to ratify, whereas the opposite holds in states with higher union membership.

6.2 Contextualizing the Local Average Treatment Effects

The estimates in Table 4 capture the local average treatment effects (LATE) for the "compliers," the subset of legislators who receive more phaseouts for their industries, given their pivotal positions in the chamber (Imbens and Angrist 1994). Are they fundamentally different from non-compliers in that such causal estimates cannot be generalized to an average treatment effect (ATE)? And if such differences exist, how does that contextualize the LATE?

Applying Marbach and Hangartner (2020)'s methods of profiling compliers, never-takers, and always-takers, Figure 7 graphs the profiles for nine covariates.[43] First, it is central to contextualize the complier framework to this empirical setting, which may sound and feel counterintuitive. Compliers are median legislators who secure trade concessions through ratification leverage. Never-takers are legislators who do not receive trade concessions even when they are pivotal to ratification. This group can be understood as legislators who do not require convincing to ratify. Always-takers are legislators who get trade concessions even when they *do not* have leverage (i.e., far from the median).

[Figure 7 about here]

What are the characteristics of these non-compliers? Never-takers are more conservative, pro-trade, and republican. They represent districts with a relatively low share of manufacturing workers, yet they are relatively more net exporters and thus have low levels of import exposure. We infer that these districts have a higher share of agricultural employment, given the US's comparative advantage in agriculture. Furthermore, their seats are more competitive, which may explain why they generally receive more corporate PAC dollars. Finally, their unemployment is relatively low compared to both compliers and always-takers.

Always-takers are more liberal, anti-trade, and democratic. They represent districts

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[43]Figure A13 provides the profiles of a more comprehensive list of covariates.

Table 5: Robustness Check: Different Legislators Between Negotiation and Ratification Stages

Dependent Variables:	Avg Phaseout	Ratification: Yes	Total Protection	Ratification: Yes
IV stages	First	Second	First	Second
Model:	(1)	(2)	(3)	(4)
Variables				
Avg Phaseout		0.328		
		(0.263)		
Total Protection				0.320
				(0.257)
Proximity to Trade Median	0.350***		0.359***	
	(0.098)		(0.097)	
Trade Ideology	0.026	-0.295***	0.042	-0.300***
	(0.060)	(0.044)	(0.059)	(0.045)
District's Exposure to Import Threat	0.311***	-0.100	0.303***	-0.095
	(0.025)	(0.091)	(0.024)	(0.087)
District Election Competitiveness	-0.128	0.050	-0.030	0.018
	(0.293)	(0.240)	(0.280)	(0.231)
Net Export	-1.56**	1.17**	-1.56**	1.16**
	(0.642)	(0.589)	(0.650)	(0.581)
Unemployment %	4.67**	-0.232	4.30**	-0.077
	(2.17)	(2.04)	(2.14)	(1.97)
Corp PAC (ln)	0.014	0.015	0.009	0.017
	(0.027)	(0.022)	(0.025)	(0.022)
House Ways & Means	-0.072	0.015	-0.068	0.013
	(0.072)	(0.066)	(0.068)	(0.064)
Seniority	0.003	0.002	0.003	0.002
	(0.007)	(0.006)	(0.007)	(0.006)
Legislative Effectiveness Score	-0.023	0.009	-0.023	0.009
	(0.019)	(0.019)	(0.018)	(0.019)
Pres. Election Competitiveness	-2.03***	0.574	-2.12***	0.587
	(0.667)	(0.740)	(0.632)	(0.744)
Electoral College Vote	-0.007***	0.002	-0.007***	0.002
	(0.002)	(0.003)	(0.002)	(0.003)
Union membership Pct	-0.192	-0.757*	0.080	-0.845**
	(0.512)	(0.398)	(0.479)	(0.401)
Fixed-effects				
FTA	✓	✓	✓	✓
Fit statistics				
Observations	832	832	832	832
R^2	0.921	0.211	0.916	0.211
Within R^2	0.400	0.142	0.408	0.142
F-test (1st stage)	17.6		19.7	
F-test (1st stage), Avg Phaseout		17.6		
F-test (1st stage), Total Protection				19.7
Dependent variable mean	-10.7	0.657	-10.5	0.657
Effective F	12.7		13.6	

Clustered (legislator & District) standard-errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Note: Unit of observation is House of Representative district-FTA for all 12 FTAs negotiated and ratified. US-Jordon FTA was ratified with a voice vote and TPP was never voted on. Standard errors are corrected for clustering at the district and legislator level.

Figure 7: Covariate Profiles of Compliers vs Non-Compliers
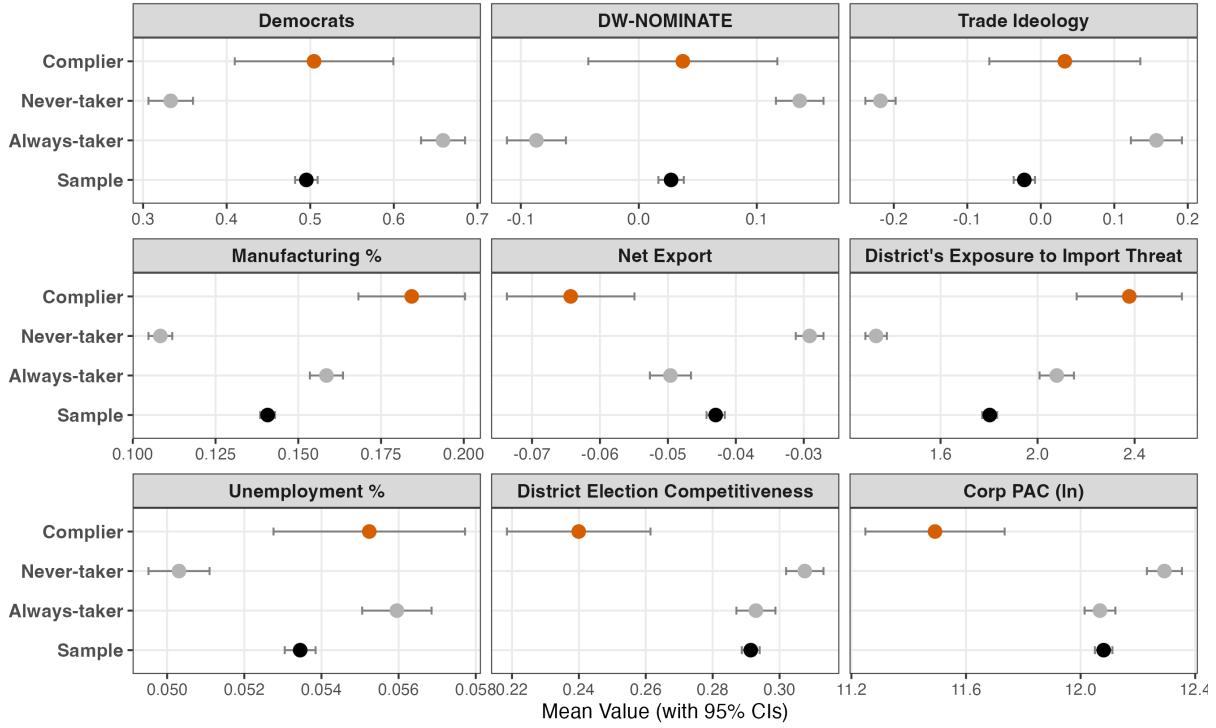
Note: The treatment and instrumental variable are dichotomized at the median. IV estimates are robust with binary coding. Estimates derived using Marbach and Hangartner (2020)'s methodology. Created by Author 12/18/24.

that are intermediate between compliers and never-takers in manufacturing share, import sensitivity, and net exports. Finally, their unemployment rate is relatively high compared with that of compliers and the sample mean.

Compliers, by contrast, are generally ideologically moderate. They represent districts with exceptionally high levels of manufacturing employment and are more net importing, making them more susceptible to import competition. Compared with never-takers, compliers have a higher unemployment rate but are not statistically different from the sample mean or from always-takers. Surprisingly, their seats are much less competitive, leading them to receive significantly less corporate PAC dollars.

Given these differences, the local average treatment effect cannot be generalized to an average treatment effect. Therefore, the causal effect found is largely only applicable to a subset of "swing" or "on the fence" legislators. Moreover, the context of these compliers from this profiling exercise provides additional evidence on the political utility of tariff phaseouts.

Given higher unemployment rates in their districts, these pivotal legislators may find FTAs politically favorable, as they may help boost export jobs in their districts or at least provide them with rhetorical ammunition. In an analysis of Congressional speeches, Lee and Osgood (2019) find that the language surrounding FTAs is overwhelmingly positive; Congressional testimonies tend to highlight job creation rather than the negative consequences, such as offshoring. For a constituent-minded legislator, FTAs are utility-maximizing for both constituents and the legislator, even when the legislator's seat is not competitive. However, given the existing import sensitivity of their constituent industries, they stand on the fence between boosting export jobs and increasing import competition. Job losses from a trade agreement would likely be linked to legislators' voting records, which may prove to be a net negative rather than a net positive. To offset the expected net-negative utility, my argument predicted that negotiators would offer concessions on tariff phaseouts to facilitate workers' transition from import-sensitive to export-oriented industries, or at least to help them adjust. Having now offset — or given the impression of minimizing — the potential harmful effects of free trade, these pivotal legislators should have less reservation about ratifying the FTA.

6.3 Isolating Situational Leverage: A Residual Instrument Approach

A primary threat to the identification strategy is the concern that the instrument, *Proximity to Trade Median*, may proxy for structural characteristics, such as a legislator's ideology, party affiliation, or regional interests, rather than capturing specific negotiation leverage. If moderate legislators vote "yes" out of intrinsic preferences rather than as a transactional concession, the exclusion restriction would be violated.

To address this, I employ an orthogonalization strategy to isolate the "situational leverage" legislators may possess during negotiations, based on their chamber position. I regress the raw instrument on a vector of structural covariates (including trade ideology, majority-party status, manufacturing employment share, and census region, among others) and then extract the residuals. The resulting residual instrument ($\widehat{v}_{idc}$) contains only the variation in *Proximity to Trade Median* that is mathematically uncorrelated with these structural traits.

Theoretically, this residual captures exogenous variation in legislative positioning — cases in which a legislator becomes pivotal due to the shifting composition of the chamber, independent of their static preferences or district characteristics. This procedure introduces a preliminary residualization stage before the standard 2SLS estimation:

$$\text{ProximityMedian}_{idc} = \alpha_j + \beta_1 \mathbf{X}_{dc} + \beta_2 \mathbf{X}_{ic} + \beta_3 \mathbf{X}_{sc} + v_{idc} \tag{4}$$

where the residuals $(\widehat{v}_{idc})$ from Equation 4 serve as the orthogonalized instrument in the First Stage. The Second Stage remains identical to the primary specification (Equation 3).

$$\ln(\text{AvgPhaseout}_{djc}) = \delta_j + \beta_1 \widehat{v_{idc}} + \beta_2 \mathbf{X}_{dc} + \beta_3 \mathbf{X}_{ic} + \beta_4 \mathbf{X}_{sc} + \eta_{djc} \tag{5}$$

To rigorously test the validity of this approach, I conduct a Specification Curve Analysis (SCA) (Simonsohn, Simmons, and Nelson 2020). Figure 8 displays the Second Stage IV estimates from over 34,000 unique models. In each iteration, the instrument is orthogonalized against a different combination of the 15 structural covariates listed in Panel B, ranging from parsimonious models to fully saturated specifications.

Panel A demonstrates that the causal effect of phaseouts on ratification is remarkably stable. The coefficient is positive and statistically significant at the 95% confidence level across virtually the entire universe of specifications. Panel B confirms that the result does not hinge on the inclusion or exclusion of any specific control variable. Whether the instrument is "purged" of ideology, partisanship, or regional effects, the remaining variation in positional leverage consistently predicts voting behavior. This suggests that the mechanism is truly transactional and distinct from the structural characteristics related to the legislator.

[Figure 8 about here]

To ensure that the residualized IV results capture a legislator's position in the chamber, I run a second SCA with *Distance from the Median* in the number of legislators in the residualization stage. This variable captures the legislator's position relative to the median by counting legislators rather than by measuring ideological distance. Figure 9 showcases that the IV estimates from the orthogonalized instrument are also positive and significant across all 34,000 specifications in controls explaining the instrument.

[Figure 9 about here]

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Figure 8: Specification Curve Analysis of Residual IV Estimates
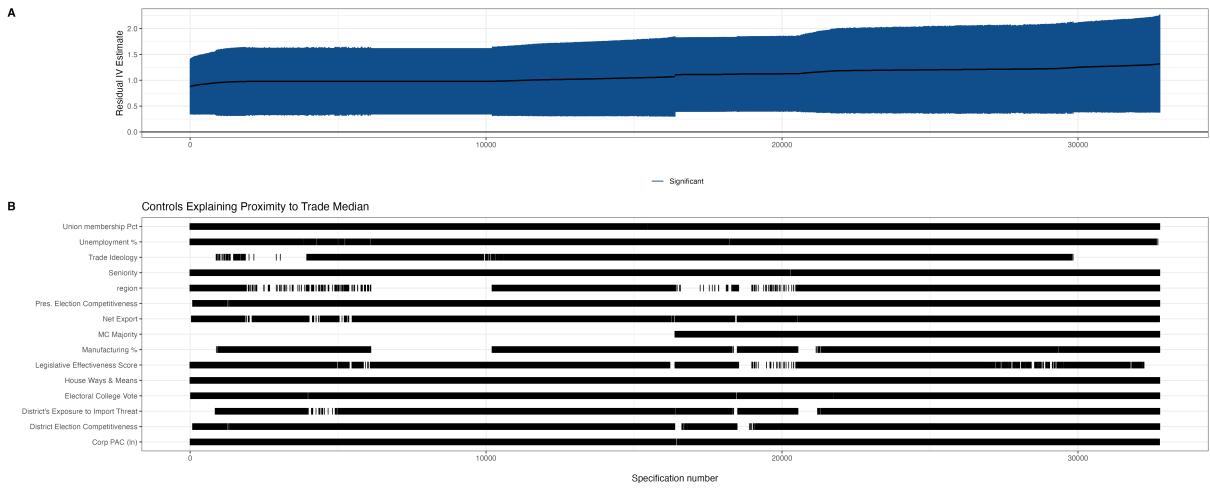
Note: Panel A displays the point estimates (black line) and 95% confidence intervals (blue ribbon) for the Second Stage IV coefficient of logged phaseout coverage on ratification. The models are sorted by the magnitude of the estimate. Panel B indicates which structural variables were included in the Zero Stage residual regression (Equation 4) to 'clean' the instrument for that specific model. The analysis demonstrates that the positive causal effect is robust to over 34,000 unique combinations of orthogonalization controls. Created by Author 12/23/24.

Figure 9: Specification Curve Analysis of Residual IV Estimates (Distance from Median in Number of Legislator)
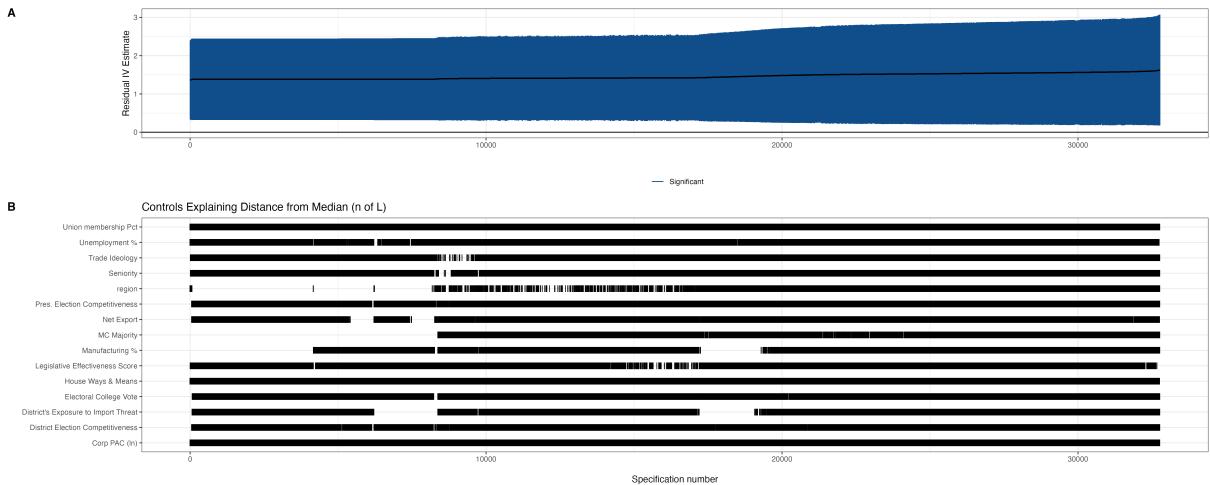
Note: Panel A displays the point estimates (black line) and 95% confidence intervals (blue ribbon) for the Second Stage IV coefficient of logged phaseout coverage on ratification. The models are sorted by the magnitude of the estimate. Panel B indicates which structural variables were included in the Zero Stage residual regression (Equation 4) to 'clean' the instrument for that specific model. The analysis demonstrates that the positive causal effect is robust to over 34,000 unique combinations of orthogonalization controls. Created by Author 12/23/24.

7 Concluding Remarks

This article has argued that trade agreements are strategically designed to build a majority coalition for domestic ratification. Specifically, by negotiating tariff phaseouts for industries represented by pivotal legislators, the president can sway critical votes in favor of trade liberalization. I test this argument using an Instrumental Variable approach that leverages exogenous variation in a legislator's proximity to the chamber median.

I find strong evidence of this vote-buying mechanism. A legislator's proximity to the median significantly predicts the allocation of tariff phaseouts, which, in turn, causally increases the likelihood that they will ratify the FTA. Critically, this effect is detected only in districts that retained the same representative from the negotiation to the ratification stage, confirming that the transaction is personal to the incumbent rather than a structural feature of the district. Furthermore, the result remains robust when the instrument is orthogonalized against over 34,000 combinations of structural covariates, dispelling concerns that the instrument merely proxies for ideology, party, or regional interests.

The local average treatment effect (LATE) derived from this estimation is specific to "complier" legislator — those whose receipt of tariff phaseouts was determined by their negotiation leverage. These legislators would likely have been ignored had they been on the ideological fringe, but were granted concessions precisely because their pivotal status made them necessary for majority coalition-building. The profiles of these compliers suggest that they represent districts with relatively higher unemployment rates, thereby making the FTA an attractive policy for boosting job creation. However, at the same time, their districts tend to be import-sensitive, creating an opportunity for negotiators to allocate tariff phase-outs to help workers adjust. In other words, negotiators use tariff phaseouts as a strategic compensation device for this group, allowing them to support free trade while shielding their vulnerable constituents.

A central implication from this paper is that other provisions in which targeting cannot be observed are similarly targeted to pivotal voters. Interview evidence from former trade negotiators often emphasizes the importance of extracting specific concessions for specific influential legislators, such as beef provisions for Senator Baucus. Of course, when it comes to broader provisions such as labor, investment, and the environment, their vote-buying potential is diffused among all potential beneficiaries, making it challenging to identify the intended recipient. This paper provides evidence on one issue area that can proxy for the targeting of other provisions.

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A.1 Online Appendix

A.1.1 Tariff Phaseouts

[Figure A1 about here]

Figure A1: Proportion of Products Phased Out in US Tariff Schedules
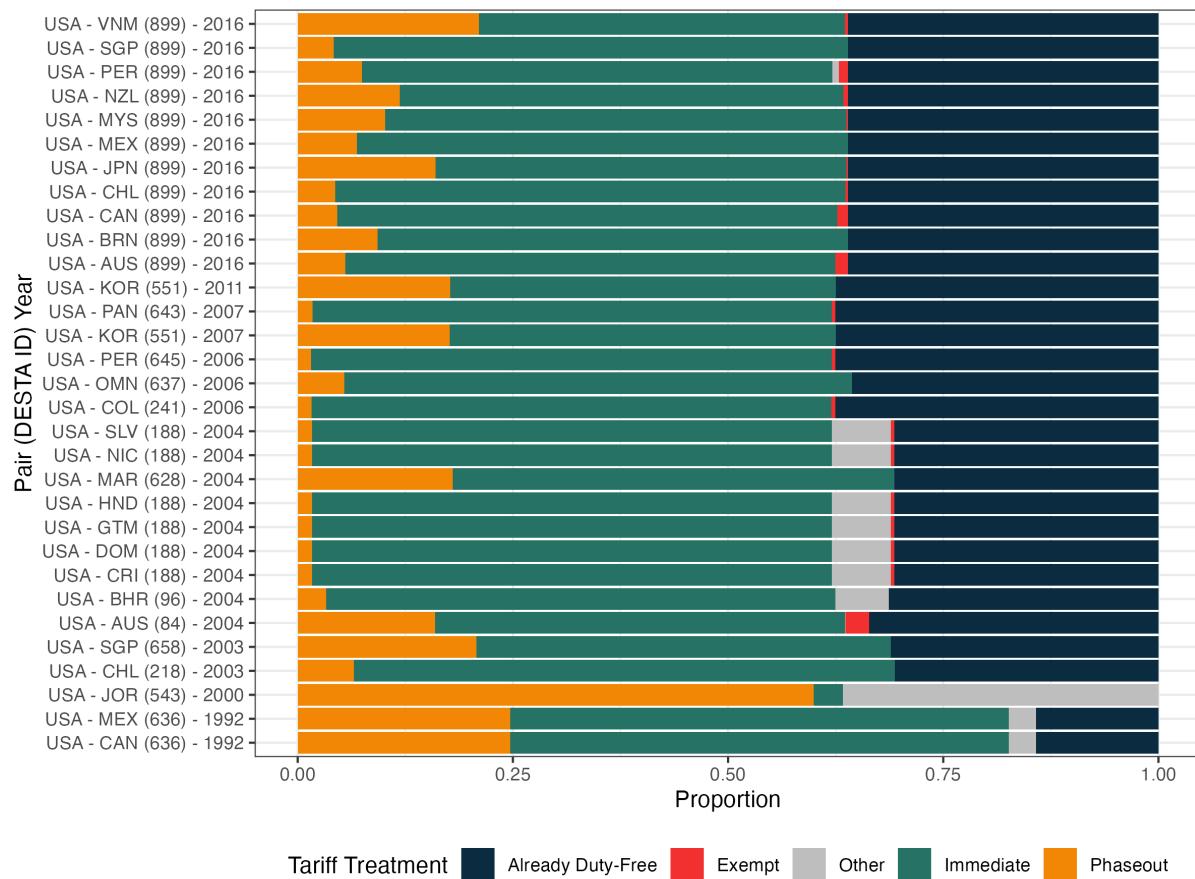
Note: Country pair is formatted as home-partner, where the home country sets tariff treatment toward the partner country. "Other" indicates that the product's tariff reduction is governed by other means, such as the WTO commitment. Created by Author 5/27/24.

[Figure A2 about here]

Figure A2: 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: Screenshot is taken from the US-Autralia Free Trade Agreement's Tariff Schedule Annex.

[Figure A3 about here]

Figure A3: 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: Screenshot is taken from the US-Autralia Free Trade Agreement's Market Access chapter.

[Figure A4 about here]

Figure A4: Description of US-Specific Staging Categories from the Head Note of US-Australia FTA

4. <u>Staging</u>. 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: Screenshot is taken from the US-Autralia Free Trade Agreement's Head Note section of the Tariff Schedule.

[Figure A5 about here]

Figure A5: Distribution of Tariff Phaseout Duration from USA FTAs Across 8-digit Product Codes

Note: Each line 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 line on the x-axis demarcates a 2-digit chapter. Important 2-digit chapters are displayed. Refer to the USITC on the title of HS chapters. Created by Author 5/27/24.
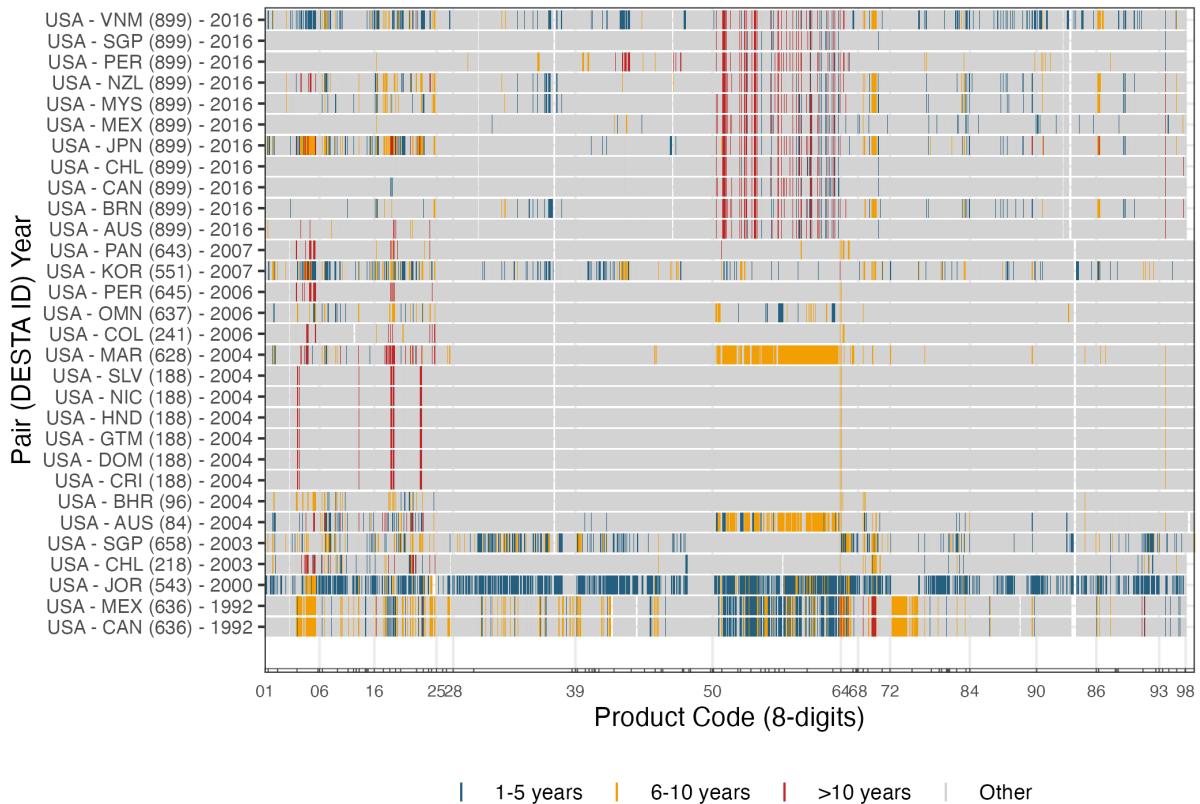
[Figure A6 about here]

Figure A6: 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

Figure A7: Example of Linear and Backloaded Phaseout "Shape"
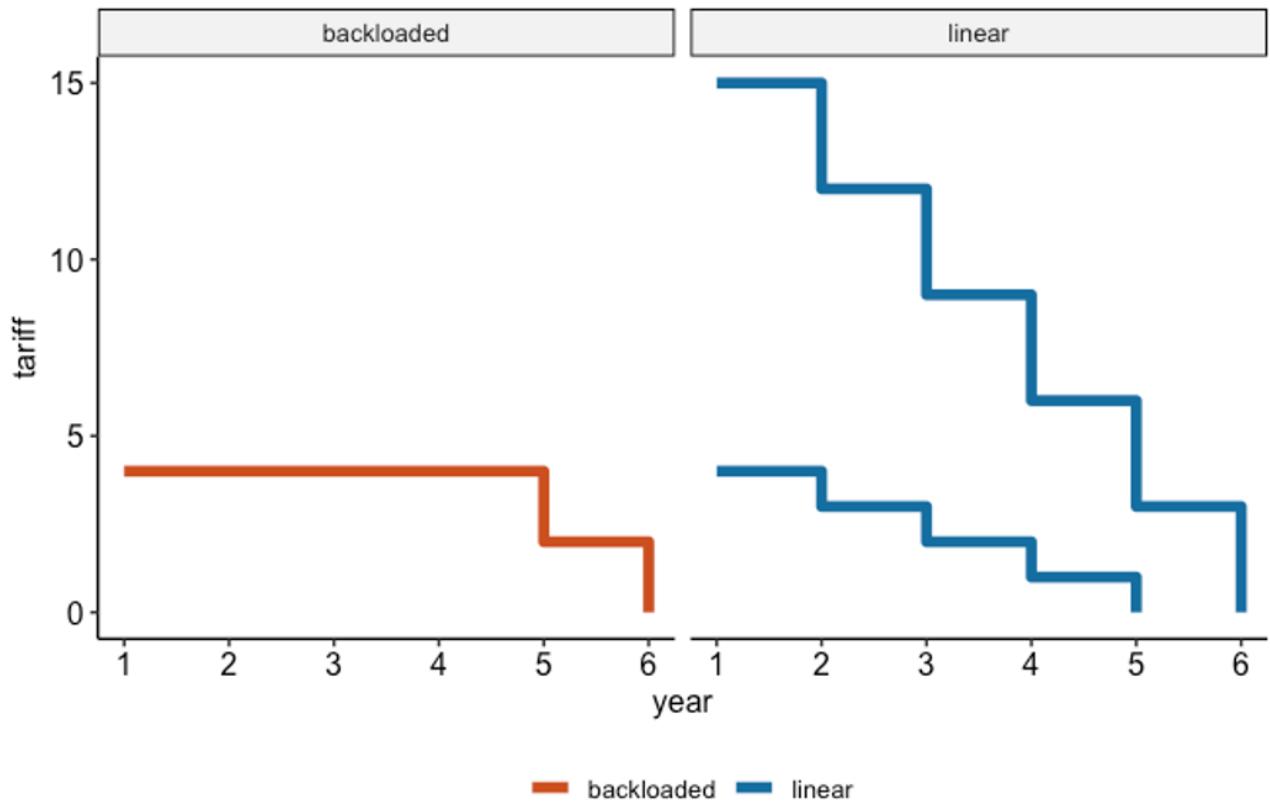
Note:

A.1.2 Descriptive Statistics

[Figure A8 about here]

Figure A8: Map of KORUS (2011 version) Phaseout Coverage Overlaid on 112nd Congressional Districts Boundaries
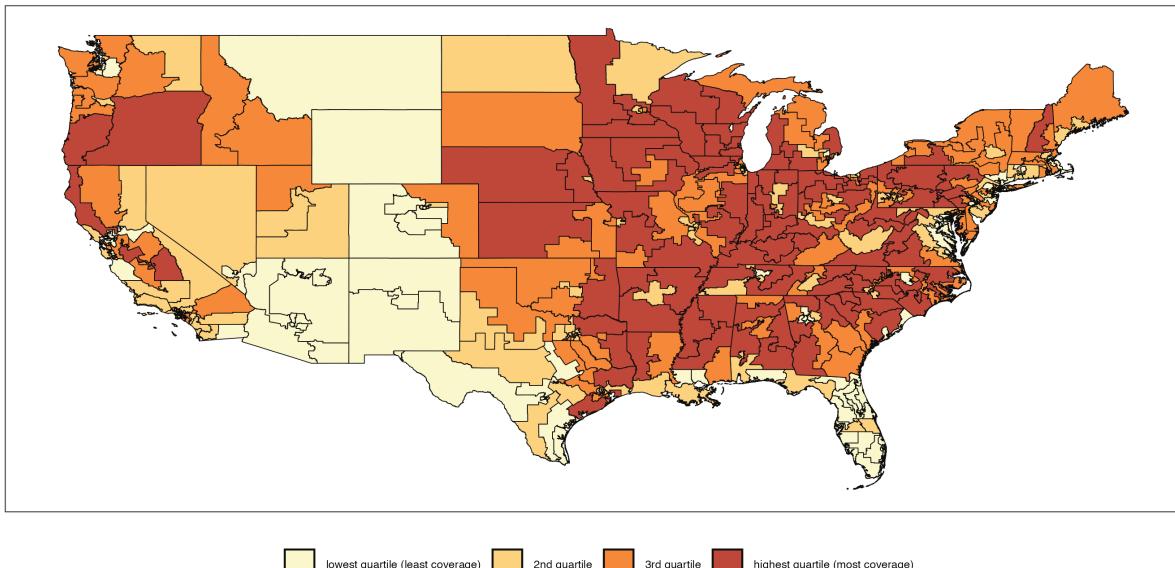
Note: Phaseout coverage is grouped into quartiles. Congressional District boundaries are drawn from Lewis et al. (2013). Created by Author 9/4/25.

[Figure A9 about here]

Table A1: Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Max
Ratification: Yes	5,097	0.646	0.478	0	1
Average Industry Phaseout Coverage	6,086	0.0001	0.0001	0.00000	0.001
Average Industry Exclusion Coverage	6,086	0.00000	0.00000	0.000	0.00005
Average Industry Total Protection	6,086	0.0001	0.0001	0.00000	0.001
Trade Ideology	5,814	−0.022	0.553	−1.000	1.000
Proximity to Trade Median	5,814	0.499	0.282	−0.239	1.000
Proximity to Trade Median (bins)	6,088	3.144	1.313	1.000	5.000
Distance from Median (n of L)	6,088	109.087	63.233	0.000	223.000
DW-NOMINATE	6,088	0.034	0.421	−0.766	0.863
Proximity to DW-NOMINATE Median	6,088	0.613	0.234	−0.014	1.000
District's Exposure to Import Threat	6,086	1.791	1.194	0.105	10.216
District Election Competitiveness	6,408	0.295	0.108	0.000	0.500
Unemployment Net Export	6,086	−0.043	0.051	−0.440	0.516
Corp PAC (ln)	6,018	12.117	1.164	0.000	15.936
House Ways and Means	6,282	0.091	0.287	0	1
Seniority	6,088	5.706	4.017	1	27
Legislative Effectiveness Score	6,088	1.005	1.516	0.000	18.686
Pres. Election Competitiveness	6,478	0.441	0.041	0.265	0.499
Electoral College Vote	6,478	20.824	14.897	3	55
Union membership Pct	6,478	0.128	0.063	0.016	0.287

Figure A9: Correlation Heatmap
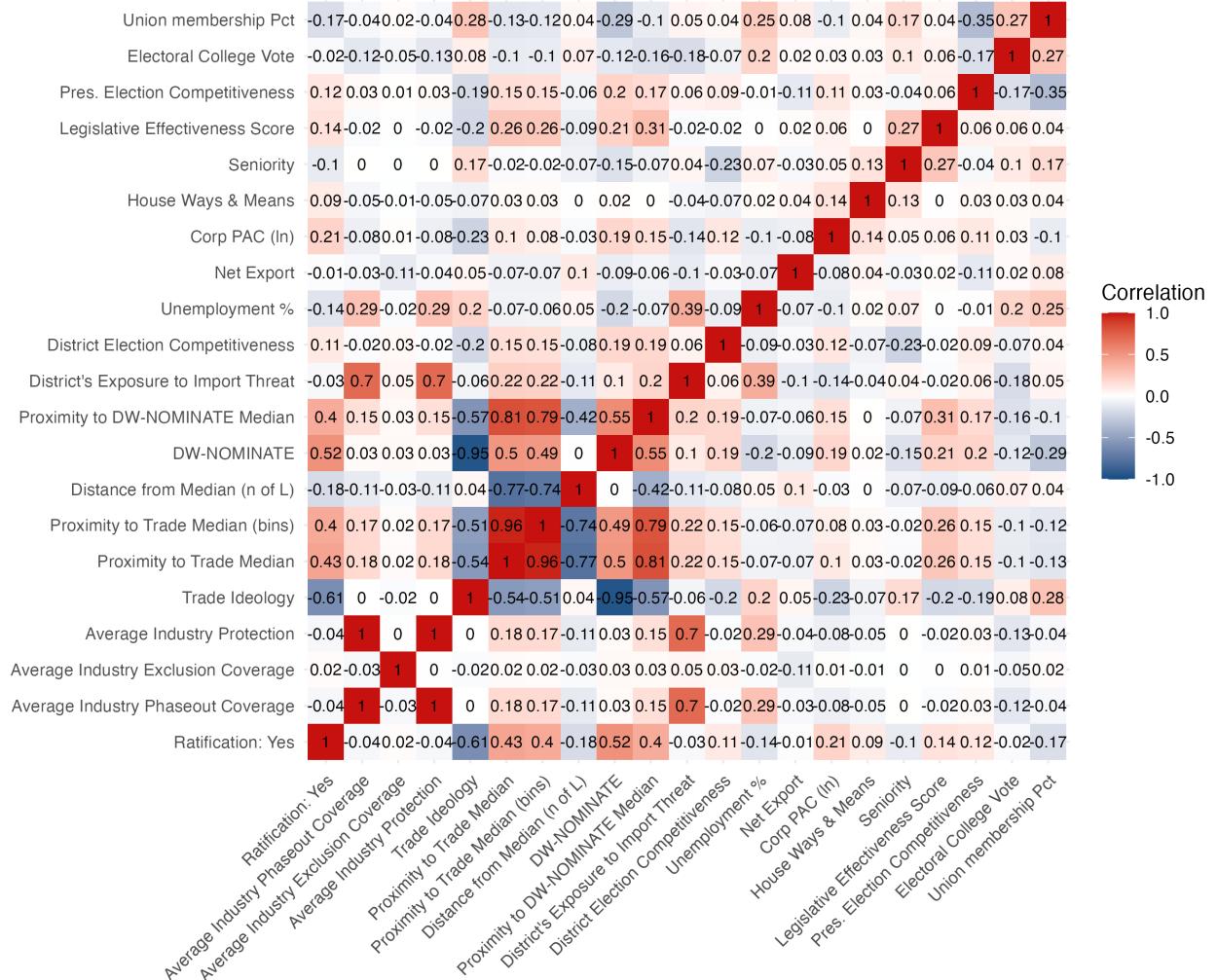
Note: Created by author on 9/3/25

[Figure A10 about here]

Figure A10: Average Distance from the Median Across Time
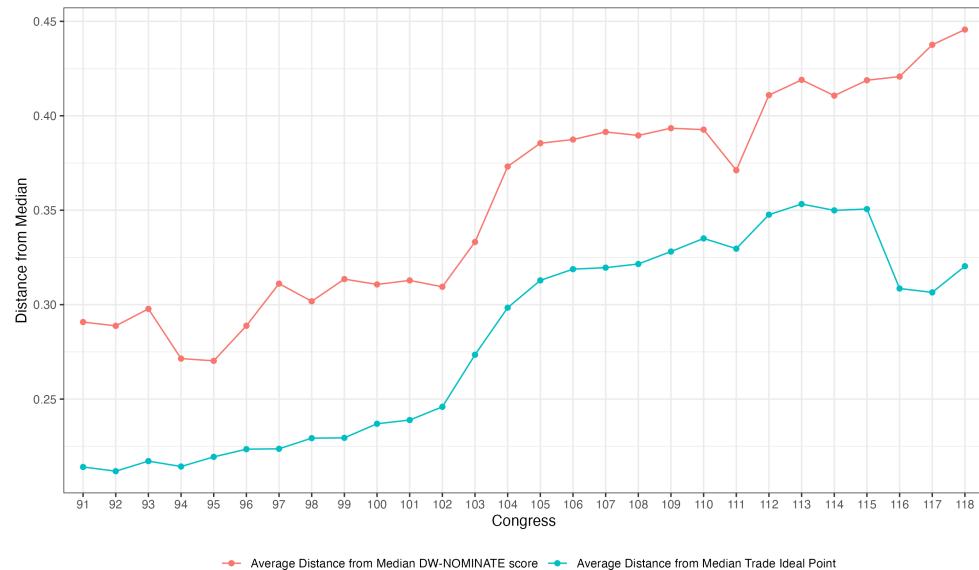
Note: Created by Author 5/18/25.

Table A2: Count of Districts with Ideology Score Across 14 US Free Trade Agreements

DESTA ID	Year	Partner	Trade Ideology Score	DW-NOMINATE Score
899	2016	TPP	194	435
551	2011	KOR	303	435
551	2007	KOR	432	435
643	2007	PAN	415	435
241	2006	COL	432	435
637	2006	OMN	432	435
645	2006	PER	432	435
188	2004	CAFTA-DR	435	435
628	2004	MAR	435	435
84	2004	AUS	435	435
96	2004	BHR	435	435
218	2003	CHL	435	435
658	2003	SGP	435	435
543	2000	JOR	433	434
636	1992	NAFTA	434	434

A.1.3   Import Threat

Each FTA trade partner poses a different degree of threat to specific industries, and such threat is more painful to districts housing various import-competitive industries. Contrary to traditional import penetration measure, which uses pre-existing aggregated import data, I argue that such measures may be biased or attenuated toward zero due to existing tariffs that may bar certain imports from entering. A clear example is the 25% tariff on light trucks that the U.S. imposes on the rest of the world, which is so astronomically high that firms abroad have little reason to produce light trucks to be exported into the U.S. Instead, I propose that a partner poses more of an import threat when they can fulfill the changes in import demand when tariffs are eliminated.

Equation 6 outlines how *Import Threat* is constructed as a function of demand change when the tariff for product p at time t is eliminated in country i, i.e., the U.S., $(1 - (1 + BaseRate_{ipt})^{-\sigma_{ip}})$ and the FTA partner's j total export value of product p to the rest of the world $Export_{jip\tau, i \neq USA}$. I specify the partner's export number to exclude their export into the United States to avoid any endogeneity because of the existing barriers that disincentivize trade. Here, τ specifies that the export numbers are rolling averages of three years prior to the agreement's signing. Export data is aggregated to the 4-digit level to minimize missing data at the 6-digit level from 16% to 5%.

$$ImportThreat_{jpt} = log(Export_{jip\tau, i \neq USA} \times (1 - (1 + BaseRate_{ipt})^{-\sigma_{ip}})) \tag{6}$$

The demand change is characterized as the inverse of the demand level when prices are higher due to tariffs. First, $(1 + BaseRate_{ipt})$ 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_{ip} is the import demand elasticity. Put together $(1 + BaseRate_{ipt})^{-\sigma_{ip}}$ computes the demand level when there is 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 greater changes in demand levels.

For example, the demand for imported light trucks with a 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 is no tariff.[44] If demand for light trucks is highly elastic, the elimination of tariffs would increase demand by 59%, as captured by the difference with 1, or 100%.

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

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.

I then aggregate the product-level *Import Threat* measure to the district level in Equation 7:

$$\text{District's Exposure to Import Threat}_{dj} = \sum_{k \in \mathcal{K}d} \left(\frac{E_{dkt}}{E_{dt}} \times \frac{\sum_{p \in \mathcal{P}k} ImpthreatThreat_{pj}}{|\mathcal{P}_k|} \right), \quad (7)$$

where I first take the average industry-level import threat $\frac{\sum_{p \in \mathcal{P}k} ImpthreatThreat_{pj}}{|\mathcal{P}_k|}$ and weigh it with industry employment share of the district $\frac{E_{dkt}}{E_{dt}}$. Then, I take the summation across all industries within a district.

A.1.4 Results

Table A3: Testing Alternative Explanations (Exclusion)

Dependent Variable:						Avg Exclusion		
			Bivariate			Multivariate	Trade Proximity	DW-NOMINATE Proximity
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables								
Proximity to Trade Median							0.054	
							(0.042)	
Proximity to DW-NOMINATE Median								0.061
								(0.063)
Trade Ideology							-0.0009	
							(0.051)	
DW-NOMINATE								-0.017
								(0.038)
Pres. Election Competitiveness	-0.043					-0.063*	-0.022	-0.034
	(0.038)					(0.038)	(0.041)	(0.038)
District Election Competitiveness		0.102***				0.108***	0.052	0.044
		(0.034)				(0.034)	(0.036)	(0.034)
Co-partisan			-0.032			-0.060	-0.100	-0.032
			(0.065)			(0.058)	(0.082)	(0.053)
Majority				0.075		0.106***	-0.006	-0.062
				(0.048)		(0.035)	(0.065)	(0.114)
House Ways & Means					0.0002	-0.004	0.0009	0.004
					(0.032)	(0.032)	(0.031)	(0.029)
Controls	No	No	No	No	No	No	Yes	Yes
Fixed-effects								
FTA	✓	✓	✓	✓	✓	✓	✓	✓
Fit statistics								
Observations	2,607	2,577	2,563	2,563	2,607	2,533	2,210	2,459
R^2	0.362	0.370	0.360	0.361	0.360	0.374	0.485	0.474
Within R^2	0.002	0.013	0.0003	0.002	7.72×10^{-8}	0.021	0.164	0.172
Dependent variable mean	-13.5	-13.5	-13.5	-13.5	-13.5	-13.5	-13.5	-13.5

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

Note: Unit of observation is House of Representative district-FTA for all 14 FTAs negotiated. Standard errors are corrected for clustering at the district level. All covariates are standardized.

[Figure A11 about here]

[Figure A12 about here]

[Figure A13 about here]

Table A4: Robustness Check: Tariff Phaseout and Variants of Instruments

Dependent Variable:	Ratification: Yes			
Instrument	Prox. Trade Median	Prox Trade Median (Bins)	Distance from Median	Prox. DW-NOMINATE Median
Model:	(1)	(2)	(3)	(4)
Variables				
Avg Phaseout	0.963***	1.01**	1.34***	1.12***
	(0.317)	(0.402)	(0.506)	(0.381)
Trade Ideology	-0.537***	-0.537***	-0.532***	
	(0.053)	(0.055)	(0.071)	
District's Exposure to Import Threat	-0.480***	-0.500***	-0.650***	-0.550***
	(0.143)	(0.181)	(0.226)	(0.172)
District Election Competitiveness	-0.007	-0.003	0.030	0.112
	(0.218)	(0.225)	(0.285)	(0.253)
Net Export	0.907	0.957	1.34	1.23
	(0.717)	(0.798)	(1.00)	(0.841)
Unemployment %	-6.15**	-6.38**	-8.12*	-8.26**
	(2.93)	(3.20)	(4.18)	(3.34)
Corp PAC (ln)	0.032	0.032	0.032	0.052**
	(0.019)	(0.020)	(0.025)	(0.024)
House Ways & Means	0.137	0.139	0.153	0.203**
	(0.086)	(0.090)	(0.116)	(0.098)
Seniority	0.008	0.008	0.012	0.005
	(0.007)	(0.007)	(0.010)	(0.008)
Legislative Effectiveness Score	-0.003	-0.003	-0.004	0.007
	(0.011)	(0.012)	(0.015)	(0.014)
Pres. Election Competitiveness	1.86**	1.94**	2.54**	2.25**
	(0.822)	(0.954)	(1.20)	(0.937)
Electoral College Vote	0.003	0.003	0.004	0.004*
	(0.002)	(0.002)	(0.003)	(0.002)
Union membership Pct	2.38***	2.47**	3.19**	2.50**
	(0.852)	(1.01)	(1.29)	(0.986)
DW-NOMINATE				0.539***
				(0.083)
Fixed-effects				
FTA	✓	✓	✓	✓
Fit statistics				
Observations	4,043	4,043	4,043	4,046
R^2	0.503	0.498	0.516	0.406
Within R^2	0.483	0.478	0.496	0.382
F-test (1st stage), Avg Phaseout	64.1	45.8	51.9	41.9
Dependent variable mean	0.644	0.644	0.644	0.644
Effective F	12.3	8.08	8.02	11.6

Clustered (legislator & District) standard-errors in parentheses
Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Note: Unit of observation is House of Representative district-FTA for all 12 FTAs negotiated and ratified. US-Jordon FTA was ratified with a voice vote and TPP was never voted on. Standard errors are corrected for clustering at the district and legislator level.

Table A5: Robustness Check: Total Protection and Variants of Instruments

Dependent Variable:	Ratification: Yes			
Instrument	Prox. Trade Median	Prox Trade Median (Bins)	Distance from Median	Prox. DW-NOMINATE Median
Model:	(1)	(2)	(3)	(4)
Variables				
Total Protection	0.941***	0.988**	1.33***	1.10***
	(0.300)	(0.383)	(0.494)	(0.365)
Trade Ideology	-0.545***	-0.544***	-0.542***	
	(0.051)	(0.053)	(0.070)	
District's Exposure to Import Threat	-0.465***	-0.486***	-0.640***	-0.536***
	(0.134)	(0.171)	(0.219)	(0.163)
District Election Competitiveness	-0.025	-0.021	0.007	0.091
	(0.212)	(0.220)	(0.281)	(0.248)
Net Export	0.783	0.831	1.19	1.09
	(0.658)	(0.730)	(0.929)	(0.782)
Unemployment %	-5.59**	-5.81*	-7.45*	-7.60**
	(2.79)	(3.03)	(4.03)	(3.20)
Corp PAC (ln)	0.031	0.031	0.032	0.051**
	(0.019)	(0.020)	(0.025)	(0.023)
House Ways & Means	0.138	0.140	0.155	0.205**
	(0.084)	(0.088)	(0.114)	(0.096)
Seniority	0.008	0.008	0.012	0.005
	(0.007)	(0.007)	(0.010)	(0.008)
Legislative Effectiveness Score	-0.002	-0.002	-0.004	0.007
	(0.011)	(0.012)	(0.015)	(0.014)
Pres. Election Competitiveness	1.69**	1.77**	2.34**	2.06**
	(0.765)	(0.883)	(1.13)	(0.873)
Electoral College Vote	0.003*	0.003	0.004	0.004*
	(0.002)	(0.002)	(0.003)	(0.002)
Union membership Pct	2.02***	2.10**	2.73**	2.09**
	(0.738)	(0.866)	(1.13)	(0.859)
DW-NOMINATE				0.554***
				(0.080)
Fixed-effects				
FTA	✓	✓	✓	✓
Fit statistics				
Observations	4,043	4,043	4,043	4,046
R²	0.503	0.498	0.516	0.406
Within R²	0.483	0.478	0.496	0.382
F-test (1st stage), Total Protection	69.5	49.2	54.4	45.1
Dependent variable mean	0.644	0.644	0.644	0.644
Effective F	13.2	8.63	8.36	12.3

Clustered (legislator & District) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Total Protection is an aggregated measure between Average Phaseout Coverage and Average Exclusion Coverage (logged after combining). Unit of observation is House of Representative district-FTA for all 12 FTAs negotiated and ratified. US-Jordon FTA was ratified with a voice vote and TPP was never voted on. Standard errors are corrected for clustering at the district and legislator level.

Table A6: Robustness Check (Different Legislators): Tariff Phaseout and Variants of Instruments

Dependent Variable:	Ratification: Yes			
Instrument	Prox. Trade Median	Prox Trade Median (Bins)	Distance from Median	Prox. DW-NOMINATE Median
Model:	(1)	(2)	(3)	(4)
Variables				
Avg Phaseout	0.328	0.426	0.345	3.17
	(0.263)	(0.349)	(0.283)	(4.29)
Trade Ideology	-0.295***	-0.294***	-0.295***	
	(0.044)	(0.047)	(0.045)	
District's Exposure to Import Threat	-0.100	-0.131	-0.106	-1.02
	(0.091)	(0.119)	(0.097)	(1.38)
District Election Competitiveness	0.050	0.057	0.051	0.438
	(0.240)	(0.258)	(0.243)	(1.04)
Net Export	1.17**	1.34*	1.20**	6.07
	(0.589)	(0.720)	(0.599)	(7.80)
Unemployment %	-0.232	-0.627	-0.303	-10.7
	(2.04)	(2.32)	(2.14)	(17.7)
Corp PAC (ln)	0.015	0.014	0.015	-0.028
	(0.022)	(0.024)	(0.023)	(0.121)
House Ways & Means	0.015	0.021	0.016	0.211
	(0.066)	(0.071)	(0.067)	(0.360)
Seniority	0.002	0.002	0.002	-0.017
	(0.006)	(0.006)	(0.006)	(0.030)
Legislative Effectiveness Score	0.009	0.010	0.009	0.037
	(0.019)	(0.020)	(0.020)	(0.073)
Pres. Election Competitiveness	0.574	0.775	0.611	6.43
	(0.740)	(0.891)	(0.761)	(9.03)
Electoral College Vote	0.002	0.003	0.002	0.021
	(0.003)	(0.003)	(0.003)	(0.029)
Union membership Pct	-0.757*	-0.729*	-0.752*	0.214
	(0.398)	(0.428)	(0.404)	(2.32)
DW-NOMINATE				0.319
				(0.239)
Fixed-effects				
FTA	✓	✓	✓	✓
Fit statistics				
Observations	832	832	832	859
R²	0.211	0.211	0.212	0.204
Within R²	0.142	0.142	0.143	0.127
F-test (1st stage), Avg Phaseout	17.6	10.4	19.1	0.786
Dependent variable mean	0.657	0.657	0.657	0.668
Effective F	12.7	7.31	10.4	0.574

Clustered (legislator & District) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Unit of observation is House of Representatives district-FTA for all 12 FTAs negotiated and ratified. US-Jordon FTA was ratified with a voice vote and TPP was never voted on. Standard errors are corrected for clustering at the district and legislator level.

Table A7: Robustness Check (Different Legislators): Total Protection and Variants of Instruments

Dependent Variable:	Ratification: Yes			
Instrument	Prox. Trade Median	Prox Trade Median (Bins)	Distance from Median	Prox. DW-NOMINATE Median
Model:	(1)	(2)	(3)	(4)
Variables				
Total Protection	0.320	0.397	0.339	2.96
	(0.257)	(0.322)	(0.278)	(3.57)
Trade Ideology	-0.300***	-0.300***	-0.300***	
	(0.045)	(0.046)	(0.045)	
District's Exposure to Import Threat	-0.095	-0.119	-0.101	-0.925
	(0.087)	(0.107)	(0.093)	(1.12)
District Election Competitiveness	0.018	0.015	0.017	0.099
	(0.231)	(0.241)	(0.234)	(0.869)
Net Export	1.16**	1.30*	1.19**	5.82
	(0.581)	(0.682)	(0.592)	(6.70)
Unemployment %	-0.077	-0.360	-0.149	-9.03
	(1.97)	(2.15)	(2.07)	(14.1)
Corp PAC (ln)	0.017	0.016	0.017	-0.009
	(0.022)	(0.023)	(0.022)	(0.093)
House Ways & Means	0.013	0.018	0.014	0.194
	(0.064)	(0.067)	(0.065)	(0.305)
Seniority	0.002	0.002	0.002	-0.013
	(0.006)	(0.006)	(0.006)	(0.024)
Legislative Effectiveness Score	0.009	0.009	0.009	0.035
	(0.019)	(0.019)	(0.019)	(0.063)
Pres. Election Competitiveness	0.587	0.752	0.629	6.39
	(0.744)	(0.863)	(0.770)	(8.06)
Electoral College Vote	0.002	0.003	0.003	0.021
	(0.003)	(0.003)	(0.003)	(0.026)
Union membership Pct	-0.845**	-0.844**	-0.845**	-0.684
	(0.401)	(0.423)	(0.406)	(1.61)
DW-NOMINATE				0.369*
				(0.216)
Fixed-effects				
FTA	✓	✓	✓	✓
Fit statistics				
Observations	832	832	832	859
R^2	0.211	0.211	0.212	0.204
Within R^2	0.142	0.142	0.143	0.127
F-test (1st stage), Total Protection	19.7	12.7	21.1	0.973
Dependent variable mean	0.657	0.657	0.657	0.668
Effective F	13.6	8.63	11.2	0.734

Clustered (legislator & District) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Total Protection is an aggregated measure between Average Phaseout Coverage and Average Exclusion Coverage (logged after combining). Unit of observation is House of Representatives district-FTA for all 12 FTAs negotiated and ratified. US-Jordon FTA was ratified with a voice vote and TPP was never voted on. Standard errors are corrected for clustering at the district and legislator level.

Table A8: Robustness Checks: Controlling for Average Exclusion vs Bundled Treatment

Dependent Variables:	Avg Phaseout Exclusion Controlled	Ratification: Yes Bundled Treatment	Total Protection Exclusion Controlled	Ratification: Yes Bundled Treatment
Model:	(1)	(2)	(3)	(4)
Variables				
Avg Phaseout		1.01***		
		(0.324)		
Proximity to Trade Median	0.327***		0.348***	
	(0.091)		(0.096)	
Trade Ideology	0.076	-0.542***	0.085	-0.545***
	(0.052)	(0.050)	(0.056)	(0.051)
District's Exposure to Import Threat	0.423***	-0.476***	0.439***	-0.465***
	(0.028)	(0.139)	(0.029)	(0.134)
Average Exclusion Coverage	54,358.5***	-61,798.9***		
	(6,668.6)	(19,684.6)		
District Election Competitiveness	-0.157	0.021	-0.122	-0.025
	(0.174)	(0.215)	(0.186)	(0.212)
Net Export	-1.08**	1.03	-0.901*	0.783
	(0.481)	(0.723)	(0.492)	(0.658)
Unemployment %	5.70**	-6.22**	5.41**	-5.59**
	(2.41)	(2.81)	(2.66)	(2.79)
Corp PAC (ln)	-0.003	0.033*	-0.002	0.031
	(0.016)	(0.019)	(0.017)	(0.019)
House Ways & Means	-0.044	0.137	-0.048	0.138
	(0.074)	(0.085)	(0.078)	(0.084)
Seniority	-0.011**	0.008	-0.012*	0.008
	(0.006)	(0.007)	(0.006)	(0.007)
Legislative Effectiveness Score	-0.005	-0.003	-0.006	-0.002
	(0.010)	(0.011)	(0.011)	(0.011)
Pres. Election Competitiveness	-1.87***	1.94**	-1.74***	1.69**
	(0.512)	(0.820)	(0.557)	(0.765)
Electoral College Vote	-0.002	0.003	-0.003	0.003*
	(0.002)	(0.002)	(0.002)	(0.002)
Union membership Pct	-2.34***	2.65***	-1.86***	2.02***
	(0.439)	(0.906)	(0.460)	(0.738)
Total Protection				0.941***
				(0.300)
Fixed-effects				
FTA	✓	✓	✓	✓
Fit statistics				
Observations	4,043	4,043	4,043	4,043
R^2	0.869	0.504	0.851	0.503
Within R^2	0.420	0.484	0.389	0.483
F-test (1st stage)	61.8		69.5	
F-test (1st stage), Avg Phaseout		61.8		
F-test (1st stage), Total Protection				69.5
Dependent variable mean	-10.9	0.644	-10.8	0.644
Effective F	12.3		13.2	

Clustered (legislator & District) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Unit of observation is House of Representative district-FTA for all 12 FTAs negotiated and ratified. US-Jordon FTA was ratified with a voice vote and TPP was never voted on. Standard errors are corrected for clustering at the district and legislator level.

Figure A11: Robustness of Instrumental Variable Across

OLS and 2SLS Estimates with 95% CIs
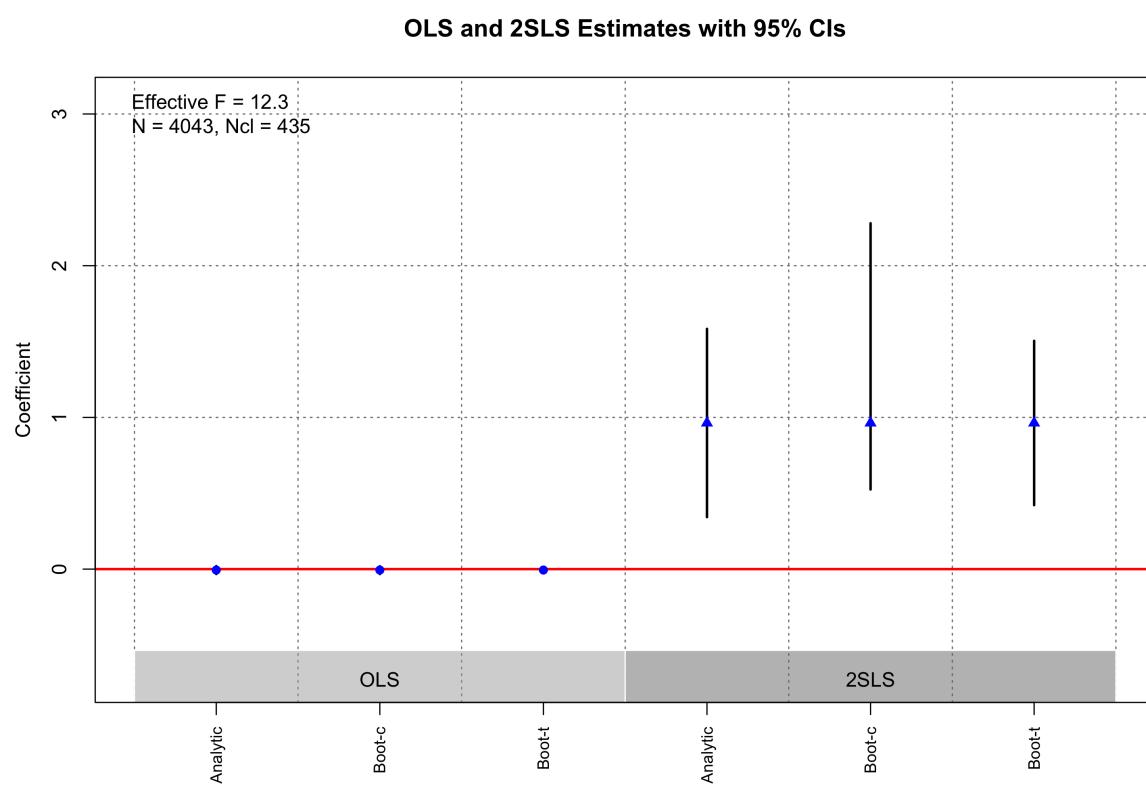
Note: Created by Author 12/18/24.

Figure A12: Specification Curve Analysis: Treatment: Phaseout | Instrument: Proximity to Trade Median

Note: Created by Author 12/23/24.

Figure A13: Covariate Profiles of Compliers vs Non-Compliers