"Preferential" Trade Agreements?

Sebastian Ahlstich[†] & Jan Stuckatz[†]

This draft: 26th March 2026

Abstract

We show that preferential trade agreements (PTAs) often fail to generate effective tariff preferences. Although PTAs offer tariffs below most-favored-nation (MFN) rates, gradual phase-outs combined with unilateral MFN reductions can eliminate these advantages. When unilateral MFN reductions undercut preferential tariffs, the negotiated advantage disappears until implementation catches up. We find that half of the 356 PTAs notified to the WTO do not adjust preferential rates after MFN cuts, making such reversals potentially common. Using Colombian transaction-level data on the U.S. PTA, we show that 35% of imports expected to benefit did not effectively receive preferences in early years. A triple-difference analysis indicates that affected imports were 34% lower than comparable imports from third countries. These findings challenge standard views of PTAs and carry important policy implications.

JEL: F10, F13, F14

[†] Copenhagen Business School - Department of International Economics, Government and Business

The authors declare no conflicts of interest. Sebastian Ahlstich gratefully acknowledges financial support from Innovationsfonden Denmark.

1 Introduction

We document that preferential trade agreements *often fail to generate tariff preferences in practice*. Preferential Trade Agreements (PTAs) grant businesses in member countries tariff rates below those applied on a most-favored-nation (MFN) basis. In many agreements, tariffs are not eliminated immediately but are instead phased out gradually from the prevailing MFN baseline at the moment of negotiation. However, governments may *unilaterally* reduce their MFN tariffs after negotiations are concluded. When such unilateral MFN cuts fall below the negotiated PTA tariff elimination schedule, the MFN rate can temporarily *undercut* the preferential rate. In these cases, the unilateral MFN changes eliminate the intended tariff advantage until phased PTA reductions over the implementation of the agreement eventually restore positive preference margins.

To the best of our knowledge, we are the first to document the absence of trade preferences throughout the implementation phase of PTAs. To demonstrate the prevalence of the phenomenon, we use two data sources. First, we collect data on the legal treatment of MFN changes within PTAs, and the extent to which PTAs phase out tariffs over time, from all 356 PTAs notified to the WTO as of March 2026. We show descriptively that 80% ($n = 283$) phase out tariffs over time. Out of those, 61% ($n = 174$) do foresee no updating of preferential tariffs when members unilaterally change MFN tariffs. Moreover, while updating and non-updating PTAs were similarly widespread until the late 2000s, the majority of the newest generation of PTAs foresees no updating of PTA base rates when MFN rates are reduced unilaterally.

Second, we use Colombian firm-transaction-level data between 2010 and 2022 and focus on the implementation of Colombia's PTAs with the United States, implemented in May 2012. We find that 35% of Colombian imports from the United States that were expected to receive preferential treatment did not, in practice, benefit from lower PTA tariffs in the early years of these agreements due to frequent unilateral MFN reductions in Colombia during the implementation phase. We then implement a triple-difference (DDD) design to test how the absence of preferences affected imports to Colombia from the U.S. throughout the implementation phase of the PTA. We focus on products that de facto received a negative or zero preference margin due to unilateral MFN reductions after the PTA had been concluded. Specifically, we compare imports in products with a zero or negative preference margin from the US, to imports in the same products from the rest of the world. Following the implementation of the PTA, U.S. imports with a negative or zero preference margin are 34% lower than imports in the same products from the rest of the world, on average. This is a large decrease in imports in products that formally should have

enjoyed preferential tariff treatment, according to the negotiated PTA elimination schedule. In addition, we show in event study estimations that the negative effect on U.S. imports in products where MFN reductions undercut, relative to imports from the rest of the world, increases over time and is persistent long after the PTA has been implemented.

Thus, we show that PTA tariffs, despite their name, do very often not grant "preferential" market access for importing firms in the member countries. The findings have important implications for our understanding of the economic gains from preferential trade agreements as well as the the political economy of drivers of preferential trade liberalization. They also yield important insights for policymakers regarding the institutional design of future PTAs.

The remainder of the paper proceeds as follows. First, we discuss the related literature on the dynamic effects of PTAs, preference erosion, and the interaction between multilateral and preferential trade liberalization. Second, we show conceptually how unilateral MFN changes affect preferential tariffs in PTAs under different institutional designs: static vs. updating tariff base rates. Third, we document the extent of the phenomenon using agreement-level and firm-transaction level data, and its effects on trade flows under the U.S.-Colombia PTA. Finally, we discuss the implications of our results and conclude.

2 Related Literature

This paper relates to several strands of research on PTAs and tariff liberalization more generally. It introduces an institutional feature of PTA design that has been overlooked in empirical work, but has significant implications for how preferential tariffs are measured and interpreted. As such, the paper speaks to the literature on phase-out tariff liberalization, the literature on preference erosion, and research on the interplay between preferential and multilateral tariff policy.

First, the paper builds on the literature on the dynamic effects of PTA implementation and the role of gradually phased-out tariffs. Baier and Bergstrand (2007) suggest that the gradual phase-out of tariffs may contribute to the delayed trade effects of PTAs. Building on this intuition, recent work explicitly models the gradual tariff liberalization of PTAs and studies how trade flows respond over the implementation period (e.g., Besedes, Kohl and Lake (2020); Khan and Khederlarian (2021); Dong and Jestrab (2022)). These studies highlight that the timing and structure of tariff reductions are central to understanding the trade effects of PTAs. However, they generally rely on negotiated tariff schedules and do not account for potential

changes in MFN tariffs during implementation. This paper complements that literature by showing that negotiated tariff schedules do not necessarily translate into effective preferential margins, as changes in MFN tariffs can eliminate the intended tariff advantage depending on how PTAs treat MFN reductions during the phase-out period.

Second, the paper relates to the literature on preference erosion. A large body of work, particularly in the context of the Doha Development Round, studies how multilateral MFN tariff reductions would have reduced the value of preferential market access granted to developing countries under unilateral schemes such as the Generalized System of Preferences (GSP), and the associated welfare effects (e.g., Alexandraki (2005); Francois, Hoekman and Manchin (2006); Hoekman, Will and Braga (2009); De Melo and Carrère (2010); Raimondi, Scoppola and Olper (2012)). We extend this literature by highlighting that preference erosion can arise beyond unilateral development schemes and by introducing a mechanism through which MFN tariff reductions can not only erode, but temporarily eliminate, effective tariff advantages within reciprocal PTAs.

Third, the paper builds on the literature on the interaction between preferential and multilateral tariff liberalization. Since Bhagwati (1991), a central question in trade research has been whether PTAs act as *building blocks* or *stumbling blocks* for multilateral trade liberalization. In response, a large theoretical literature has developed that studies how the formation of PTAs affects governments' incentives to adjust MFN tariffs and pursue further multilateral liberalization (e.g., Richardson (1993); Krishna (1998); Bagwell and Staiger (1999); Ornelas (2005); Saggi, Woodland and Yildiz (2013)). Empirically, studies such as Limão (2006) and Karacaovali and Limão (2008) find that MFN tariff reductions are smaller for PTA-covered products in large markets such as the United States and the European Union, whereas Estevadeordal, Freund and Ornelas (2008) document increased multilateral liberalization following PTA formation in Latin America. This paper asks the natural follow-up question: if preferential liberalization induces changes in MFN tariffs, what happens to preferential tariffs when MFN rates are adjusted after a PTA has been negotiated?

3 How MFN Rate Changes Affect Preferential Rates

Although PTAs aim to liberalize tariffs on *substantially* all trade, they rarely eliminate all tariffs immediately upon entry into force. Instead, most agreements define a tariff-elimination schedule that specifies whether tariffs for a given product are eliminated immediately or phased out gradually. For each product, the schedule de-

termines a base rate, which is typically the MFN rate applied to third-country goods at the time of negotiation, and a staging category that governs the phase-out timeline. In most cases, phase-outs follow a linear trajectory, with tariffs reduced in equal increments over a specified number of years.

Absent changes in MFN rates during implementation, preferential margins, that is, the tariff advantage granted to goods originating within the PTA over third-country goods, remain strictly positive and increase monotonically over time. Figure 1 illustrates this benchmark case for a product with an initial tariff of 20% eliminated in ten equal steps.

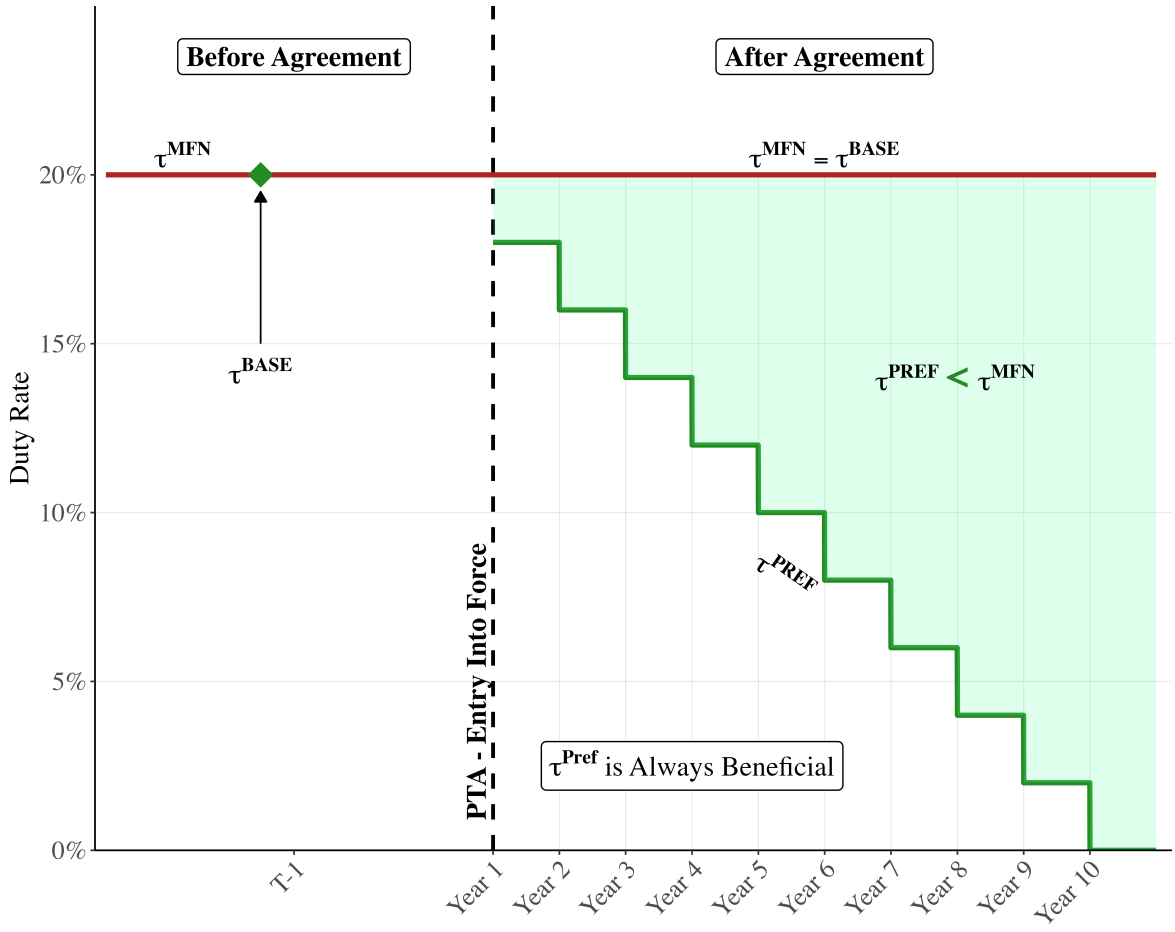


Figure 1

Gradual Tariff Elimination of a 20% Duty over 10 Years.

The elimination path is determined by two elements: the base rate, typically equal to the MFN rate at the time of negotiation, and the staging category, which specifies the phase-out period. In this benchmark case, the MFN rate remains unchanged, and the preferential margin increases linearly as the scheduled tariff reductions take effect.

However, MFN rates are not static. Governments retain the authority to *unilaterally* reduce MFN tariffs *after* a PTA has been concluded. When such reductions undercut

the preferential tariff implied by the elimination schedule, the intended tariff advantage can disappear. PTAs differ in how they address this risk. Most agreements can be classified into two categories. The first links preferential tariffs *dynamically* to the prevailing MFN rate, updating the base rate, and thus the entire preferential schedule, in response to MFN changes. The second defines preferential tariffs relative to a *static* base rate fixed at the time of negotiation and independent of subsequent MFN reductions.

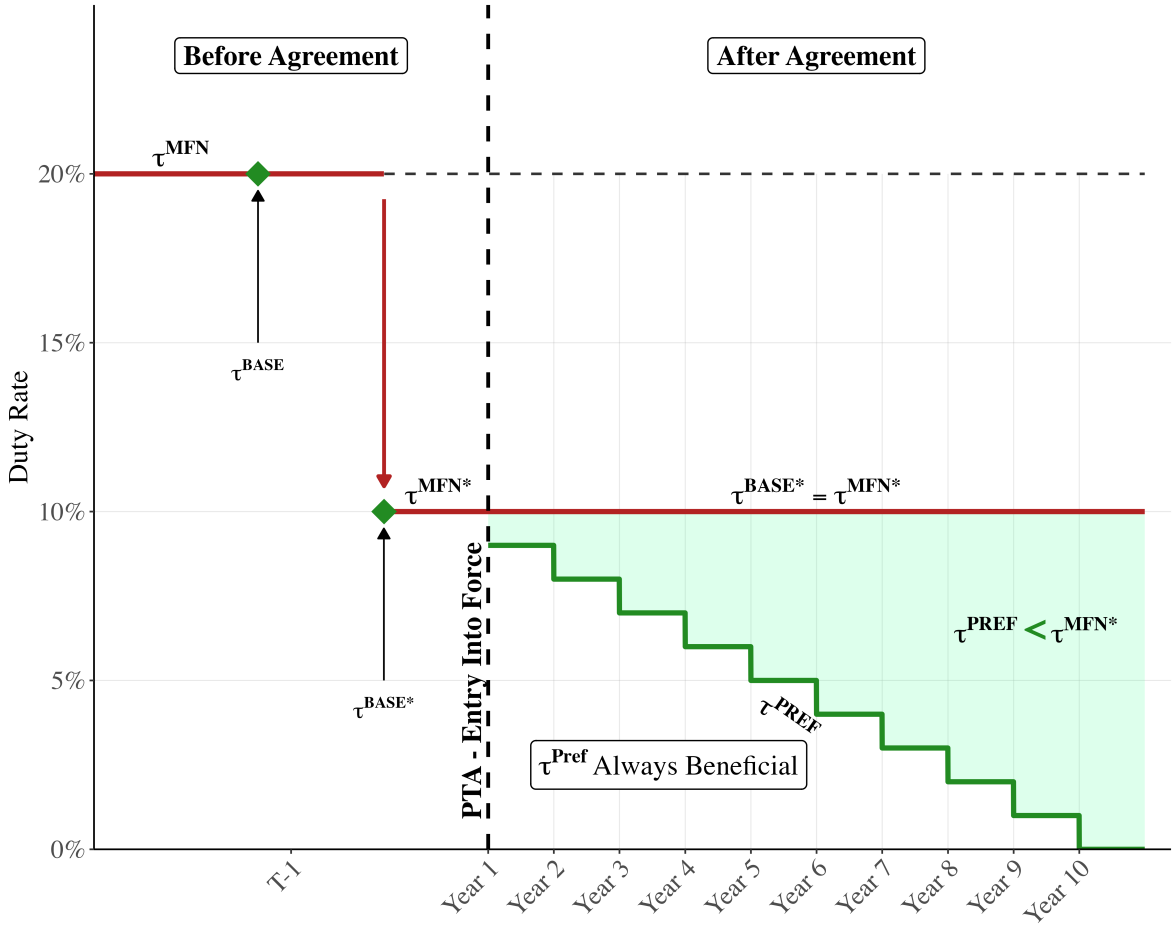


Figure 2

Tariff Elimination under MFN Changes - Updating Base Rate.

During the negotiations, the then-prevailing MFN rate, τ^{MFN}, is defined as the base rate, τ^{BASE}. At a later point, the MFN rate is reduced to τ^{MFN*}. The PTA stipulates that, in this case, the original base rate is updated to the new, lower MFN rate, τ^{BASE*}. Consequently, the annual preferential rate is calculated using the same preferential margin as originally intended, but now relative to τ^{BASE*}. In absolute terms, the annual tariff reductions are smaller; however, the relative tariff advantage over third countries is preserved throughout the implementation period.

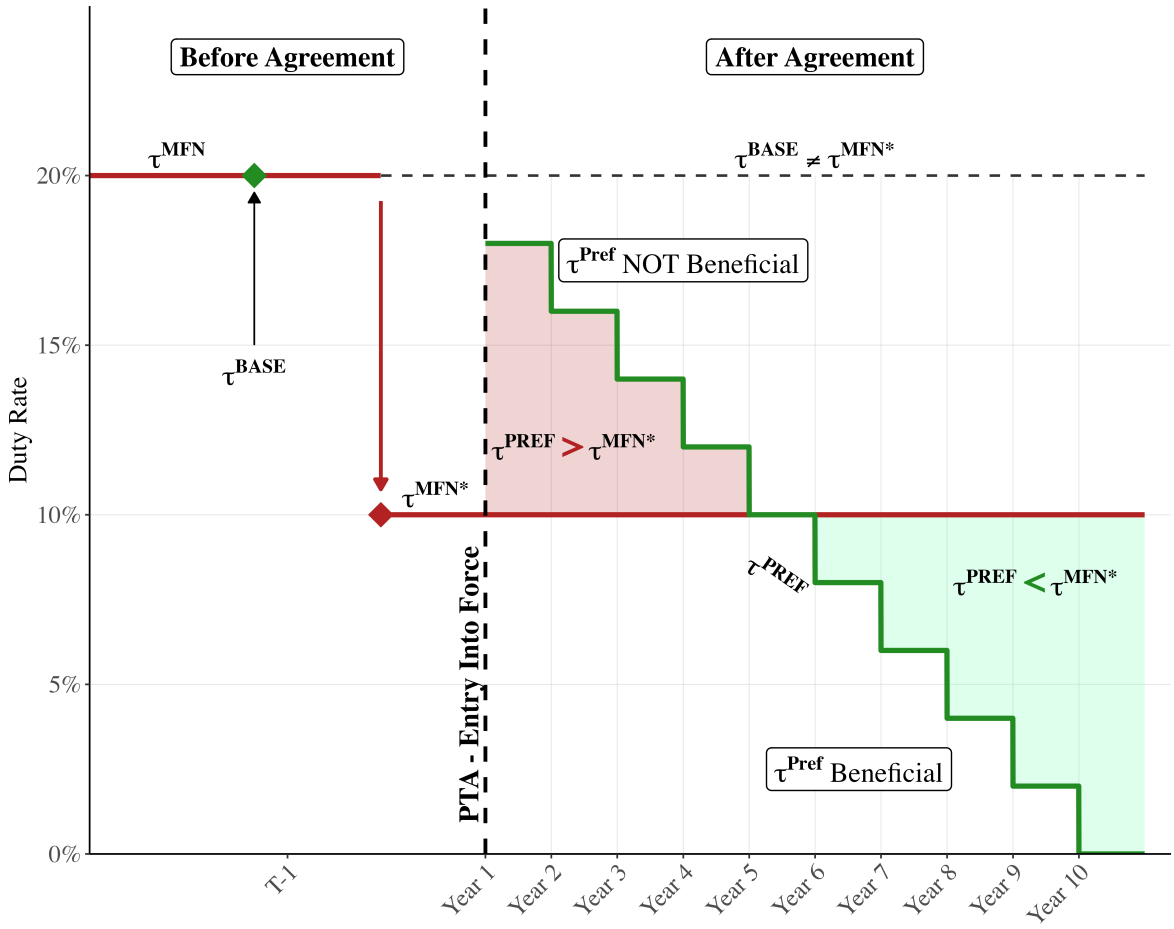


Figure 3

Tariff Elimination under MFN Changes - Static Base Rate.

During the negotiations, the then-prevailing MFN rate, τ^{MFN}, is defined as the base rate, τ^{BASE}. At a later point, the MFN rate is reduced to τ^{MFN*}. The PTA does not provide for an updating of the original base rate. Thus, the initial τ^{BASE}, on which the scheduled reductions are calculated, no longer corresponds to τ^{MFN*}. Consequently, the preferential rate, τ^{PREF}, exceeds τ^{MFN*} as long as the original elimination schedule has not yet caught up with the reduced MFN rate. In this case, the PTA confers no tariff advantage over third-country goods during the first six years of the agreement.

Whether a PTA adopts a dynamic or static base rate implies fundamentally different trajectories for effective tariff advantages. When base rates are updated, as in Figure 2, preferential tariffs remain below MFN rates and the negotiated preference margin is preserved. By contrast, under a static base rate, as in Figure 3, unilateral MFN reductions can undercut the preferential tariff. In such cases, the effective preference margin is eliminated, despite the agreement being formally in force. During these periods, a PTA ceases to confer any tariff advantage until scheduled reductions restore a positive margin. In economic terms, the agreement temporarily provides no discriminatory preferences relative to third-country imports, implying

that it need not generate additional trade in affected products. Despite its economic relevance, this institutional distinction between *static* and *updating* base rates has not been incorporated into the empirical trade literature. Existing studies rely on negotiated tariff schedules and typically assume a fixed MFN baseline during implementation (e.g., Besedes, Kohl and Lake (2020); Khan and Khederlarian (2021)). We document systematic cross-agreement differences in the treatment of MFN changes during phase-out periods and show that this feature has substantial implications for the measurement of effective tariff preferences and their trade effects.

4 Data

4.1 Agreement-Level Data

We construct a novel database covering all 356 PTAs notified to the WTO and manually document (i) whether tariff liberalization is phased in gradually, and (ii) whether agreements update base rates and preferential rates following MFN reductions or instead rely on static base rates. The relevant provisions are typically located in a PTA's chapter on *Trade in Goods* or in the annex containing the tariff-elimination schedule. Table 1 illustrates the key difference in legal formulations underlying this classification:

Updating Base Rate	**Static Base Rate**
If a Party reduces its applied most-favoured-nation customs duty rate ("MFN rate"), the schedule in Annex 2 of that Party shall apply to the reduced rates. If a Party lowers its applied MFN rate to a level below the base rate [...], that Party shall ***calculate the preferential applicable rate [...] on the lowered applied MFN rate, maintaining the relative margin of preference*** *[...]* EU–Chile (Advanced Framework Agreement), Chapter 2, Article 2.5, Paragraph 3	*Where a Party reduces its most-favoured-nation applied rate of customs duty, that duty rate shall apply to an originating good of the other Party* ***if, and for as long as, it is lower than the customs duty rate on the same good calculated in accordance with Annex 2-A.*** EU–Japan (Economic Partnership Agreement), Chapter 2, Section B, Article 2.8, Paragraph 2

Table 1

Classification of PTAs in *Updating* vs. *Static* Base Rates

The table shows examples of how different PTAs treat the base rate, τ^{BASE}, when MFN rates are unilaterally adjusted. The left panel depicts the legal clause in the EU-Chile PTA, which foresees that the base rate is updated when MFN rates are changed. On the right, the EU-Japan PTA foresees no updating of τ^{BASE}.

The clause in the EU–Chile agreement stipulates that preferential rates are recalculated based on reduced MFN rates, thereby **maintaining** the relative margin of preference. In other words, the tariff-elimination schedule is updated in line with MFN reductions, ensuring that the originally negotiated tariff advantage is preserved. By contrast, the EU–Japan agreement provides that the reduced MFN rate applies as long as it remains below the preferential rate calculated from the original base rate. The base rate is therefore static, and when the MFN rate undercuts the preferential rate, the agreement ceases to confer any tariff advantage.

While formulations differ slightly across agreements, most can be classified as either *static* or *updating* base rate regimes. This distinction allows us to identify agreements in which unilateral MFN liberalization may (temporarily) eliminate negotiated preference margins. For agreements that lack a dedicated clause, we distinguish two cases. PTAs that do not include such a clause but specify a base rate in the tariff-elimination schedule are coded as *static*. By contrast, agreements that lack both a clause and explicit base rates, but instead define product-level margins of preference, are classified as *updating*. The final dataset will be made available for future research.

4.2 Colombia Transaction-Level Data

To assess the practical relevance of the described phenomenon, we use monthly transaction-level import data at the 10-digit national nomenclature level collected by Colombian customs (DIAN) for the period 2010–2022. Colombia concluded a PTA with the United States that entered into force on 15 May 2012. The agreement relies on *static* base rates and thus entails a risk of temporary preference elimination in the presence of unilateral MFN reductions.

Preferential rates for U.S.-originating imports are constructed using base rates and staging categories specified in Annex 2.3 of the U.S.–Colombia Trade Promotion Agreement. While the first phase-out step occurred upon entry into force, subsequent tariff reductions took effect on January 1 of each year. To account for potential intra-year changes in MFN rates, we compile a monthly series directly from the tariff portal of the Colombian customs authority.

Comparing preferential and contemporaneous MFN tariffs at the product–month level allows us to identify instances in which unilateral MFN reductions undercut preferential rates, thereby eliminating the effective preference margin. By constructing tariff-data from primary sources we mitigate concerns related to missing observations and aggregation in standard tariff datasets (Teti, 2024).

5 Empirics

In this section, we empirically investigate how unilateral MFN changes affect preferential rates granted in PTAs. First, we show to what extent legal formulations in all PTAs notified to the WTO foresee updating or static base rates (τ^{BASE}). Second, we use Colombian transaction-level data and the PTA with the U.S. as an example of an agreement with static base rates. We show how much trade is affected when MFN rates undercut preferential rates, resulting in negative preference margins, during the implementation phase of the PTA. Finally, we use a triple difference design to demonstrate to what extent trade gets diverted from PTA partners to imports from non-PTA countries in products affected by negative preference margins during the implementation of the PTAs.

5.1 Agreement-level

Figure 4 presents descriptive evidence on the prevalence of gradual tariff phase-outs and the different treatment of changes in MFN rates across PTAs. Gradual tariff phase-outs are a pervasive feature of PTAs, present in about 80% of all agreements (Panel A). Among agreements with gradual phase-outs, 61% define preferential tariffs relative to a static base rate and do not provide for updating in response to unilateral MFN reductions (Panel B). As a result, negotiated preference margins are not protected against subsequent MFN cuts in roughly half of all PTAs. Panel C further shows that this static design has become increasingly prevalent in recent agreements, including those still being phased in today. Taken together, these patterns indicate that most agreements phase out tariffs over time, while a substantial share rely on static base rates. Consequently in these cases, MFN reductions may eliminate preferential margins, so that the presence of a PTA does not automatically imply an effective tariff preference. Accounting for this distinction is therefore important in empirical analyses of PTAs' trade effects.

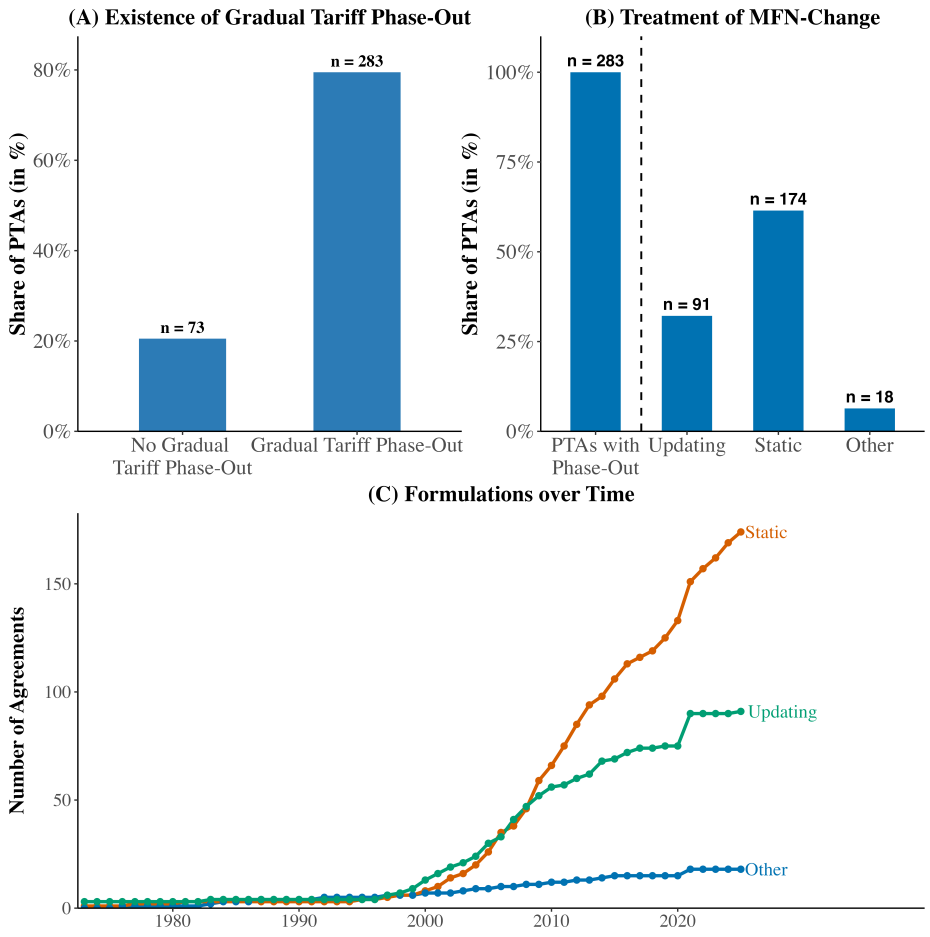


Figure 4

Treatment of MFN Reductions in Preferential Trade Agreements

Panel A shows that around 80% of all PTAs notified to the WTO contain some sort of gradual tariff phase-out. Of these agreements, around 60% do not update τ^{BASE} when MFN rates are adjusted (Panel B). Lastly, Panel C shows how the different treatment of MFN changes has developed across PTAs over time.

5.2 Transaction-level

We assess the economic relevance of this mechanism in practice by examining Colombia's PTA with the United States (2012). The PTA relies on static base rates and does not provide for dynamic updating following MFN reductions. Figure 5 illustrates the tariff-elimination schedule for U.S.-originating imports into Colombia as specified by the agreement. Based on pre-PTA trade-weighted import values, around 60% of imports from the United States would have faced immediate tariff elimination upon entry into force in May 2012. For the remaining 40% of imports, tariffs are phased out over 5, 7, and 10 years. This share of trade is therefore potentially exposed to the elimination of preferential margins through unilateral MFN reductions by Colombia.

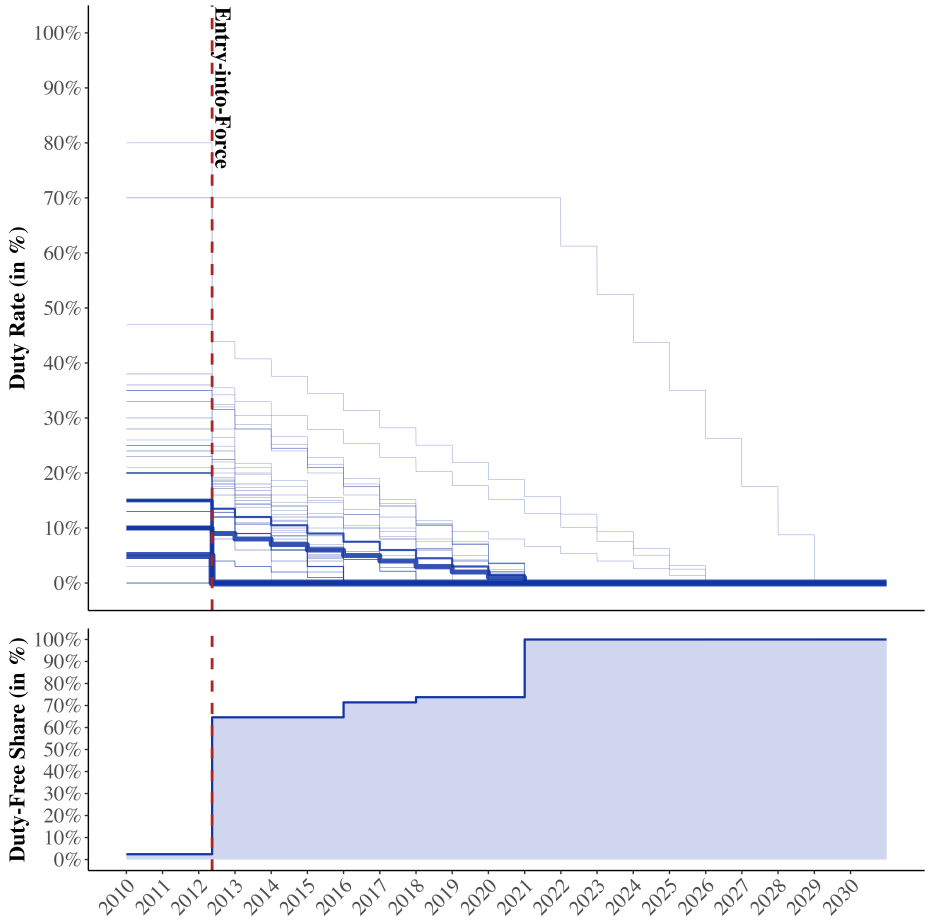


Figure 5

Colombia-US Elimination Schedule

The figure illustrates the tariff-elimination schedule for U.S.-originating imports into Colombia as defined in the US–Colombia Trade Promotion Agreement. Line thickness reflects the pre-PTA trade-weighted share of imports (January 2010–April 2012) across base rate–staging categories. Approximately 60% of pre-PTA imports are subject to immediate tariff elimination upon entry into force, while the remaining 40% are phased out over 5, 7, and 10 years. This latter share of trade is potentially exposed to the elimination of preferential margins through unilateral MFN reductions.

While Figure 5 describes the share of trade that was *potentially* exposed to the elimination of preferential margins, we now quantify how much trade was *actually* affected. The practical relevance is assessed by calculating the share of imports, across products i at time t, that received a tangible preferential tariff advantage, i.e., a positive preference margin:

$$\text{Tangible Preferential Share}_t = \frac{\sum_i Imports_{i,t}\, \mathbf{1}\left(\tau_{i,t}^{\text{PREF}} < \tau_{i,t}^{\text{MFN}}\right)}{\sum_i Imports_{i,t}\, \mathbf{1}\left(\tau_{i,t}^{\text{MFN}} > 0\right)}. \tag{1}$$

The denominator is restricted to imports facing a strictly positive MFN tariff, as preferential margins can only arise when MFN tariffs are positive.

Figure 6 plots the monthly share of U.S.-originating imports into Colombia that receive a tangible preference after entry into force of the U.S.–Colombia PTA. As outlined in Section 3, unilateral MFN reductions by Colombia between negotiation and implementation lowered tariffs on third-country goods below the preferential rates implied by the agreement's elimination schedule. As a result, negotiated preference margins for many products were effectively eliminated. Consequently, during the first three years of the PTA, between 20 and 35% of U.S.-originating imports facing positive MFN tariffs did not receive a tangible tariff advantage, despite being covered by the agreement.

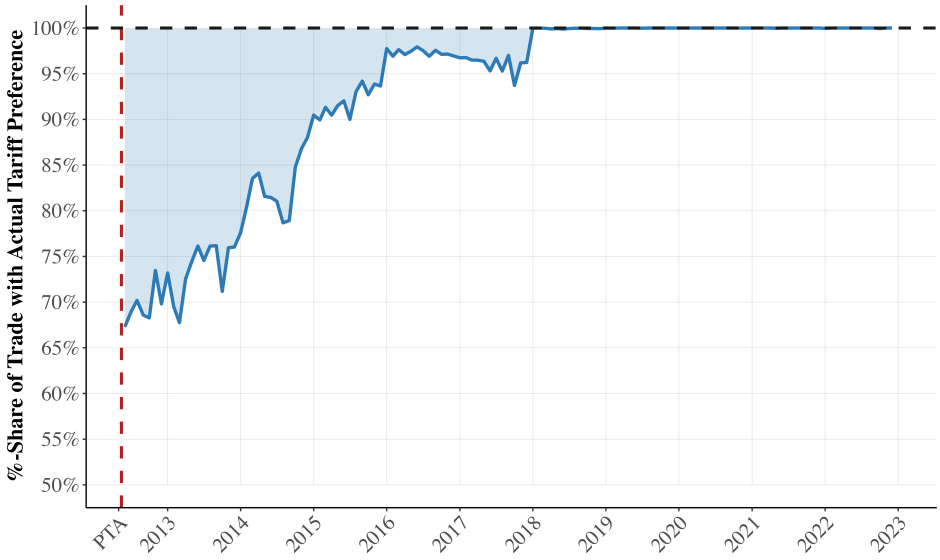


Figure 6

Effective Tariff Preferences under the U.S.–Colombia PTA

The figure plots the monthly share of U.S.-originating imports into Colombia that receive a positive preference margin following the entry into force of the U.S.–Colombia Trade Promotion Agreement. The share is calculated over imports facing strictly positive MFN tariffs. Due to unilateral MFN reductions by Colombia between negotiation and implementation, preferential rates implied by the agreement exceeded MFN rates for a substantial share of products and trade, eliminating effective tariff advantages. As implementation progressed and preferential rates declined below reduced MFN levels, preference margins were gradually restored.

Only as implementation progressed and preferential rates declined sufficiently to fall below prevailing MFN rates did negotiated "preferences" translate into effective tariff advantages. In practice, it took six years after entry into force for the PTA to deliver positive tariff advantages across all covered products. These patterns indicate

that a substantial share of trade is affected by the elimination of effective preferences, underscoring the importance of accounting for this mechanism when assessing the trade effects of PTAs.

5.3 Research Design

First, in order to estimate the effect of negative preference margins on diversion of trade from within the partnering PTA countries, we estimate the following linear model:

$$\log(Imports_{ict} + 1) = \beta \left(US_c \times Post_t \times NegMargin_i\right) + \alpha_{ic} + \gamma_{it} + \delta_{ct} + \varepsilon_{ict}. \tag{2}$$

where the outcome is logged imports in product i from country c in year t. US_c is an indicator equal to one if country c is the United States and zero otherwise and $Post_t$ is an indicator for the post-PTA period, when $t \geq 2012$. $NegMargin_i$ is an indicator equal to one for products that experience zero or negative preference margins at any point after the implementation of the US-Colombian PTA. The specification includes fixed effects for the product-country α_{ic}, and fixed effects for product-year γ_{it} and country-year, δ_{ct}.[1] As control units we use never-treated country-product pairs, that never have a PTA with Colombia. Thus, the coefficient β captures the trends for U.S. imports in products where preferences are (temporarily) eliminated due to MFN reductions after 2012, compared to imports in the same products from non-U.S. countries that never have preferential market access in Colombia. We expect that Colombian imports from the U.S. will be no more attractive than imports from the rest of the world during agreement implementation, resulting in either a negative or non-significant β coefficient. Note that this differs sharply from standard assumptions that lower, negotiated preferential tariffs would boost imports from the U.S., compared to non-PTA partners, over time. (Besedes, Kohl and Lake, 2020; Baier and Bergstrand, 2007).

Second, we expect that the negative or null effect of MFN rates undercutting preferential rates should change over time as the agreement is phased in, preferential tariffs are lowered sequentially, and positive preferential margins are fully restored. This is visible in Figure 6, which shows that positive preference margins are com-

[1] Main effects and lower-order interaction terms are absorbed by the fixed effects. In further specifications, we include product-year and country-year fixed effects to account for idiosyncratic trends in imports from specific countries or in specific products. These fixed effects absorb the remaining lower order interactions.

pletely restored after 2018. Thus, we would expect the coefficient β_t to be null or negative for the first years of the implementation of the PTA, and turn positive once effective preference margins under the agreement are restored, around 2018. To test this expectation, we estimate the following event study specification:

$$\log(Imports_{ict}+1) = \sum_{\substack{t=2010 \\ t\neq 2011}}^{2022} \beta_t \left(US_c \times \mathbf{1}\{t=\tau\} \times NegMargin_i\right) + \alpha_{ic} + \gamma_{it} + \delta_{ct} + \varepsilon_{ict}. \tag{3}$$

where US_c is an indicator equal to one if country c is the United States and zero otherwise, and $NegMargin_i$ is an indicator equal to one for products that experience zero or negative preference margins at any point after the implementation of the US-Colombian PTA. The coefficients β_t trace the differential evolution of U.S. imports for products with negative preference margins in year t, relative to the last pre-PTA year 2011, compared to imports in the same products from non-PTA countries. The specification includes again product-country fixed effects, α_{ic}, as well as product-year fixed effects, γ_{it}, and country-year fixed effects, δ_{ct}. In all specifications, we cluster standard errors at the country–product level.

5.4 Regression Results

Table 2 reports the estimated coefficients from Equation 2. While column (1) includes no controls, columns (2)–(4) progressively introduce product–country, country–year, and product–year fixed effects. The coefficient of interest is the triple interaction, $US_c \times Post_t \times NegMargin_i$, which compares the change in Colombian imports from the U.S. after the PTA's entry into force relative to imports in the same products from countries trading under MFN rates. Crucially, we compare imports in products where preferences under the U.S.-Colombia PTA are eliminated due to MFN reductions relative to imports in products for which a purely positive preference margin materializes. The estimated coefficient on the triple interaction is negative and statistically significant across all specifications, and remains economically meaningful even in the most stringent specification that absorbs product–country, product–year, and country–year variation. In column (4), the coefficient is approximately -0.42, implying that, following the PTA, the relative performance of U.S.-originating imports vis-à-vis imports from the rest of the world is about 34% percent worse in products where the agreement fails to deliver a tariff advantage than in products where a positive preferential margin materializes as negotiated.

	$\log(\textbf{Imports}_{ict}+1)$			
	(1)	(2)	(3)	(4)
$Post_t$	0.131***	−0.098***		
	(0.036)	(0.037)		
US_c	−0.003			
	(0.063)			
$NegMargin_i$	0.009			
	(0.034)			
$US_c \times Post_t$	0.058	−0.288***		
	(0.079)	(0.102)		
$US_c \times NegMargin_i$	2.424***			
	(0.075)			
$Post_t \times NegMargin_i$	−0.058	0.112***	0.201***	
	(0.039)	(0.040)	(0.039)	
$\mathbf{US_c \times Post_t \times NegMargin_i}$	**-0.867*** **	**-0.901*** **	**-1.051*** **	**-0.422*** **
	(0.091)	**(0.109)**	**(0.110)**	**(0.117)**
Num. Obs.	271 285	271 285	271 285	271 285
Adj. R^2	0.036	0.749	0.758	0.786
Ctry × Prod FE		✓	✓	✓
Ctry × Year FE			✓	✓
Prod × Year FE				✓

Table 2 Trade Effects of Preference Elimination on US imports into Colombia
The table shows the regression results from Equation 2 above. The outcome is the logged import amount of product c from country i in year t. The coefficient of interest is the triple interaction $US_c \times Post_t \times NegMargin_i$, which measures the following triple difference: [US - ROW imports Pre-Post PTA in products that ever have negative margin (for the US)] - [US - ROW imports Pre-Post PTA in products that have a positive margin (for the US)]. Standard errors are clustered at the product-country level. * p <0.1, ** p <0.05, *** p <0.01

This finding is in line with our expectations, as the PTA does not confer any tariff advantage in these products relative to third countries. However, it goes contrary to existing empirical work on the effect of PTAs on trade, based on negotiated elimination schedules (Besedes, Kohl and Lake, 2020; Baier and Bergstrand, 2007; Dong and Jestrab, 2022). The elimination schedules would suggest that these products are formally covered by the agreement and would typically be expected and treated as receiving preferential treatment. De facto, there is no preferential treatment if one takes into account *unilateral* changes in MFN changes *after* negotiations have been concluded.

Figure 7 depicts the results of the event study specification in Equation 3. In the pre-PTA period, when imports from both the United States and other countries are subject exclusively to MFN tariffs, we find no significant differences between products that subsequently receive a positive preferential margin and those that, despite being formally covered by the U.S.-Colombia PTA, do not confer an effective

tariff advantage due to unilateral MFN reductions by Colombia.

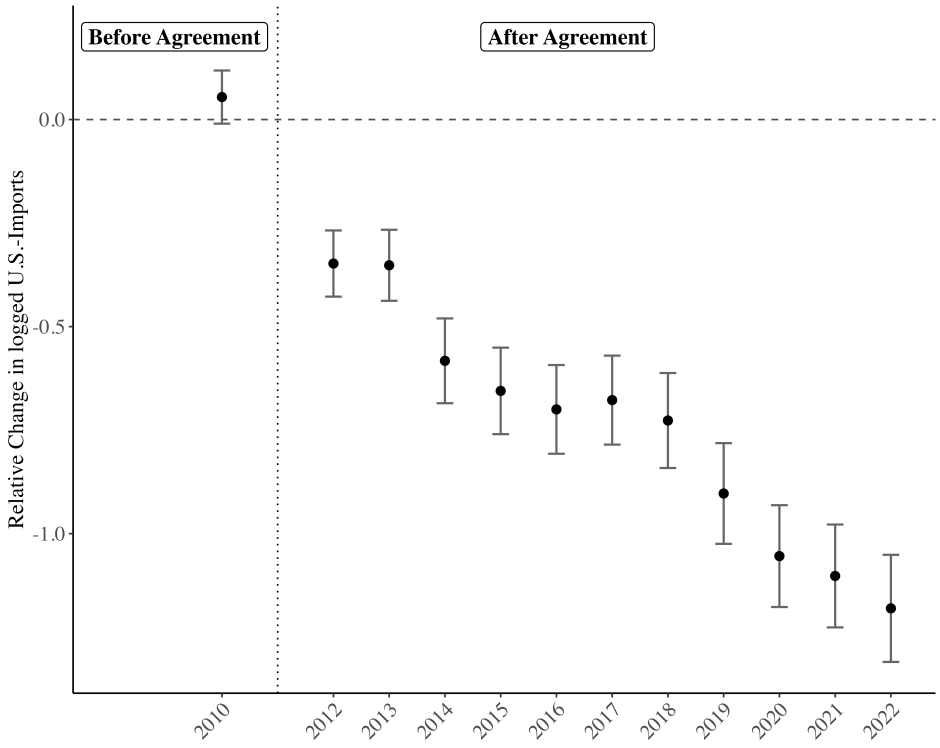


Figure 7

Time-Varying Homogeneous DDD-estimates

The figure plots coefficients from the event study specification in Equation 3, with 2011 as the omitted baseline year. The estimates capture the differential evolution of Colombian imports from the United States relative to imports from countries trading under MFN rates, comparing products that do not receive an effective preferential margin to products in which a positive preferential margin materializes. Whiskers indicate 95% confidence-intervals. Standard errors are clustered at product-country level.

Following the entry into force of the PTA, we observe a persistent negative effect on the import performance of U.S.-originating products without an effective preferential margin. Strikingly, this underperformance persists even after preferential margins are restored, suggesting that the temporary elimination of effective preferences has lasting, negative consequences for intra-PTA trade flows.

6 Discussion

These results highlight that PTAs do not uniformly confer effective tariff advantages across products during their implementation. In particular, we show that products which are formally covered by a PTA but for which unilateral MFN reductions tem-

porarily eliminate the preferential margin exhibit significantly weaker import performance. This finding is economically intuitive: where no tariff advantage exists, trade should not respond. However, it has important implications for empirical work. Standard approaches typically rely on negotiated tariff schedules and implicitly treat all covered products as effectively receiving preferential treatment. Our results suggest that the principal assumption, that a PTA transfers a discriminatory tariff advantage over third countries, does not necessarily hold (Viner, 1950). As a consequence, including products that are nominally liberalized but do not confer an effective preference introduces a mismeasure of tariff preferences and may substantially downward bias estimates of PTA-induced trade growth. More broadly, the heterogeneous treatment, static vs. updating, of MFN changes during phase-out periods implies that PTAs can generate fundamentally different trajectories of effective tariff advantages. Accounting for these differences is therefore essential when comparing trade effects across agreements.

A similar issue arises for ex-ante evaluations of trade agreements. Quantitative models, such as CGE simulations, typically map negotiated tariff reductions into expected changes in trade (Hertel, 1996). In doing so, they implicitly assume that preferential tariff schedules translate into actual tariff advantages throughout the implementation period. Our findings indicate that this need not be the case. In agreements with static base rates, unilateral MFN reductions can temporarily eliminate effective preferences, implying that simulated tariff reductions overstate the true extent of preferential liberalization. As a result, ex-ante estimates that abstract from this mechanism are likely to be upward biased, particularly in settings where MFN tariffs are adjusted during the implementation phase.

Finally, the distinction between static and updating PTAs has direct policy implications and connects to the broader debate on whether PTAs act as building blocks or stumbling blocks to multilateral trade liberalization (Bhagwati, 1991). In agreements with static base rates, policymakers effectively accept that preferential advantages may erode, or even disappear, if a party to the PTA unilaterally reduces its MFN tariffs. By contrast, PTAs with updating provisions preserve the relative margin of preference, thereby maintaining the intended tariff advantage for intra-PTA products even in the face of multilateral liberalization. Thus, this institutional design feature of PTAs reflects different policy objectives: whether to lock-in a tariff benefit for national export-interests regardless of changes in MFN rates in the partner country, or to accommodate broader multilateral tariff reductions. As such, the interaction between preferential and multilateral liberalization is not only a question of tariff levels, but also of how agreements are designed to respond to tariff changes towards third countries.

7 Conclusion

We document a previously overlooked institutional feature of preferential trade agreements: whether preferential base rates are updated following unilateral MFN tariff reductions during implementation or whether PTAs rely on static base rates. We show that this distinction is economically consequential. In agreements without base-rate updating, unilateral MFN cuts can temporarily eliminate negotiated preference margins, depriving intra-PTA trade of an effective tariff advantage during the early years of implementation. For the U.S.–Colombia PTA, we find that for over 30% of U.S.-originating imports, the agreement effectively did not deliver any tariff advantage in its initial phase.

Beyond its empirical relevance, our findings raise important questions about the political economy of PTA design. One possibility is that these design choices reflect the preferences of domestic constituents, such as exporters or import-competing sectors, in line with the political economy literature on trade policy formation (Grossman and Helpman, 1994; Kim, 2017). Alternatively, they may arise from institutional inertia, with legal provisions replicated across agreements without fully accounting for their economic implications (Aischner, Seiermann and Skougarevskiy, 2017; Allee and Elsig, 2019). Distinguishing between these explanations is important, as our results show that seemingly technical differences in legal formulation can have substantial effects on trade outcomes.

The negotiation of PTAs often spans many years and binds significant bureaucratic resources. In addition, firms incur administrative costs to comply with complex rules-of-origin requirements in order to access the tariff benefits enshrined in these agreements (Head, Mayer and Melitz, 2024; Anson et al., 2005). These costs and resources are typically justified by the expectation that PTAs confer meaningful preferential access. Our results suggest that this expectation is not always met in practice.

References

Aischner, Wolfgang, Julia Seiermann and Dmitriy Skougarevskiy. 2017. Text-as-data analysis of preferential trade agreements: Mapping the PTA landscape. Technical report UNCTAD.

Alexandraki, Katerina. 2005. "Preference Erosion: Cause for Alarm?" *Finance & Development* 42(001). ISBN: 9781451953909.
URL: *https://www.elibrary.imf.org/view/journals/022/0042/001/article-A010-en.xml*

Allee, Todd and Manfred Elsig. 2019. "Are the Contents of International Treaties Copied and Pasted? Evidence from Preferential Trade Agreements: RESEARCH NOTE." *International Studies Quarterly* 63(3):603–613.
URL: *https://www.jstor.org/stable/48618678*

Anson, José, Olivier Cadot, Antoni Estevadeordal, Jaime de Melo, Akiko Suwa-Eisenmann and Bolormaa Tumurchudur. 2005. "Rules of Origin in North–South Preferential Trading Arrangements with an Application to NAFTA." *Review of International Economics* 13(3):501–517. _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1467-9396.2005.00520.x.
URL: *https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-9396.2005.00520.x*

Bagwell, Kyle and Robert W. Staiger. 1999. Regionalism and Multilateral Tariff Cooperation. In *International Trade Policy and the Pacific Rim*, ed. John Piggott and Alan Woodland. London: Palgrave Macmillan UK pp. 157–190.

Baier, Scott L. and Jeffrey H. Bergstrand. 2007. "Do free trade agreements actually increase members' international trade?" *Journal of International Economics* 71(1):72–95.
URL: *https://www.sciencedirect.com/science/article/pii/S0022199606000596*

Besedes, Tibor, Tristan Kohl and James Lake. 2020. "Phase out tariffs, phase in trade?" *Journal of International Economics* 127:103385.
URL: *https://www.sciencedirect.com/science/article/pii/S0022199620301008*

Bhagwati, Jagdish N. 1991. *The World Trading System at Risk*. Princeton University Press.
URL: *https://www.jstor.org/stable/j.ctt7ztmjp*

De Melo, Jaime and Céline Carrère. 2010. "The Doha Round and Market Access for LDCs: Scenarios for the EU and US Markets." *Journal of World Trade* 44(Issue

1):251–290.
URL: *https://kluwerlawonline.com/journalarticle/Journal+of+World+Trade/44.1/TRAD2010008*

Dong, Xiuming and Ross Jestrab. 2022. "The Effect of Phase-in Tariffs on Import Growth." *US International Trade Comission: Economics Working Paper Series* (Working Paper 2022–03–B).

Estevadeordal, Antoni, Caroline Freund and Emanuel Ornelas. 2008. "Does Regionalism Affect Trade Liberalization Toward Nonmembers?*." *The Quarterly Journal of Economics* 123(4):1531–1575.
URL: *https://doi.org/10.1162/qjec.2008.123.4.1531*

Francois, Joseph, Bernard Hoekman and Miriam Manchin. 2006. "Preference Erosion and Multilateral Trade Liberalization." *The World Bank Economic Review* 20(2):197–216.
URL: *https://www.jstor.org/stable/40282327*

Grossman, Gene M. and Elhanan Helpman. 1994. "Protection for Sale." *The American Economic Review* 84(4):833–850.
URL: *https://www.jstor.org/stable/2118033*

Head, Keith, Thierry Mayer and Marc Melitz. 2024. "The Laffer curve for rules of origin." *Journal of International Economics* 150:103911.
URL: *https://www.sciencedirect.com/science/article/pii/S0022199624000357*

Hertel, Thomas W., ed. 1996. *Global Trade Analysis: Modeling and Applications*. Cambridge: Cambridge University Press.
URL: *https://www.cambridge.org/core/books/global-trade-analysis/0A602D64B647F80E903C532CB4C7A9C7*

Hoekman, Bernard, Martin Will and Carlos A. Primo Braga. 2009. *Trade preference erosion : measurement and policy response*. Washington D.C.: World Bank.
URL: *https://documents.worldbank.org/en/publication/documents-reports/documentdetail/866991468163170618*

Karacaovali, Baybars and Nuno Limão. 2008. "The clash of liberalizations: Preferential vs. multilateral trade liberalization in the European Union." *Journal of International Economics* 74(2):299–327.
URL: *https://www.sciencedirect.com/science/article/pii/S0022199607001134*

Khan, Shafaat Yar and Armen Khederlarian. 2021. "How does trade respond to anticipated tariff changes? Evidence from NAFTA." *Journal of International Economics*

133:103538.
URL: *https://linkinghub.elsevier.com/retrieve/pii/S0022199621001185*

Kim, In Song. 2017. "Political Cleavages within Industry: Firm-level Lobbying for Trade Liberalization." *American Political Science Review* 111(1):1–20.
URL: *https://www.cambridge.org/core/product/identifier/S0003055416000654/type/journal$_a$rticle*

Krishna, Pravin. 1998. "Regionalism and Multilateralism: A Political Economy Approach." *The Quarterly Journal of Economics* 113(1):227–251.
URL: *https://www.jstor.org/stable/2586990*

Limão, Nuno. 2006. "Preferential Trade Agreements as Stumbling Blocks for Multilateral Trade Liberalization: Evidence for the United States." *The American Economic Review* 96(3):896–914.
URL: *https://www.jstor.org/stable/30034078*

Ornelas, Emanuel. 2005. "Trade creating free trade areas and the undermining of multilateralism." *European Economic Review* 49(7):1717–1735.
URL: *https://www.sciencedirect.com/science/article/pii/S0014292104000601*

Raimondi, Valentina, Margherita Scoppola and Alessandro Olper. 2012. "Preference erosion and the developing countries exports to the EU: a dynamic panel gravity approach." *Review of World Economics* 148(4):707–732.
URL: *https://doi.org/10.1007/s10290-012-0134-1*

Richardson, Martin. 1993. "Endogenous protection and trade diversion." *Journal of International Economics* 34(3):309–324.
URL: *https://www.sciencedirect.com/science/article/pii/002219969390052Y*

Saggi, Kamal, Alan Woodland and Halis Murat Yildiz. 2013. "On the Relationship between Preferential and Multilateral Trade Liberalization: The Case of Customs Unions." *American Economic Journal: Microeconomics* 5(1):63–99.
URL: *https://www.jstor.org/stable/23358352*

Teti, Feodora. 2024. "Missing Tariffs." *CESifo Working Paper Series* 11590.

Viner, Jacob. 1950. *The Customs Union Issue*. Carnegie Endowment for International Peace.
URL: *https://doi.org/10.1093/acprof:osobl/9780199756124.001.0001*