Tariff Confusion*

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Abstract

Recent years have seen a rise in not only policy barriers to trade and uncertainty about future trade policy, but also in confusion about current barriers in place: Firms can be confused about the import tariffs due on cross-border transactions, especially in an environment with frequent revisions to a complex tariff schedule. We propose the first indicators of *tariff confusion*, document its impact on international trade, and inform mechanisms it operates through, using high-frequency data on US trade and trade policy over 2024-2025.

First, we build a new US Tariff Announcement Database (USTAD) for 2025, which we hand-collect from US presidential executive orders and proclamations. Second, we use USTAD to calculate monthly US statutory tariffs and novel measures of tariff confusion by origin country and product: the number of relevant announcements, the number of possible tariff calculations arising from these announcements, and bounds on the extent of tariff miscalculation. Third, we establish that both higher US import tariffs and greater confusion about tariff levels significantly reduced US imports during 2025, with confusion more than doubling the impact of higher tariffs. Finally, we show that during this period of policy turbulence, tariff confusion (i) was persistent, and more detrimental at higher tariff levels; (ii) acted entirely through lower import quantities with complete pass-through to importer prices; and (iii) depressed by less the imports of relationship-specific goods and from origins with strong trust systems regardless of formal contract institutions.

Our results point to previously unexplored effects of trade policy negotiations and the forces moderating their economic impact.

JEL codes: F13, F14, F15, F42, F53, F60

Keywords: Trade policy, trade war, tariff confusion, policy uncertainty, trade disruption.

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1 Introduction

Recent years have seen a rise in not only policy barriers to trade and uncertainty about future trade policy, but also in confusion about current barriers in place: Firms can be confused about the import tariffs due on cross-border transactions, especially in an environment with frequent revisions to a complex tariff schedule. We propose that *tariff confusion* about the present can have first-order detrimental effects on international trade, in addition to the well-established disruptive effects of actual tariff increases and uncertainty about the future policy stance.

US trade policy in 2025 was unprecedented in the frequency, nature and complexity of tariff interventions. Between February and December 2025, 68 announcements introduced, delayed, reinstated or changed tariffs, with different countries and products variably affected or exempted. Tariffs were enacted as US presidential executive orders and proclamations through two rarely used US federal laws, the International Emergency Economic Powers Act (IEEPA) and Section 232 of the Trade Expansion Act. Clarity about statutory import duties was tested, as illustrated by the US International Trade Commission (USITC) listing new tariffs under a separate rubric rather than organized by product (for Most-Favored Nation rates) or by country (for preferential trade agreements) as usual.

Business reactions across the globe reflected the rise in confusion about the US trade policy stance during this period. Appendix *** collates telling news stories around major US policy announcements. In April, *Fortune* ran the headline "Tariffs mean an economic hit for US firms – but also confusion and paperwork". Reportedly half the emails to customs broker Logistics Plus were "from importers scrambling to get shipments into the country as a crush of new levies came into effect," and half "from businesses simply trying to figure out what they had to do." By June, *Investopedia* alerted that "the economy is slowing down as companies can't figure out the rules of this tariff game." In July, *Reuters* summed the climate as the "tariff deadline delay brings hope, confusion to trade partners, businesses." In August, *CNBC* flagged that "confused and concerned, CEOs get to grips with [the] new tariff regime" and "a new era of tariff complexity", and quoted the CEO of German insurance giant Allianz, "If you are not confused, I don't know what confuses a human being." The Cato Institute capped the year in December with "Welcome to tariff complexity hell [...] Complexity is a tax, and today US companies are paying through the nose."

Motivated by these anecdotes, we examine the trade consequences of the fast pace and complexity of US trade policy in 2025. We propose the first indicators of tariff confusion, document its impact on international trade, and inform mechanisms it operates through, using high-frequency data on US trade and trade policy over 2024-2025. Our results point to previously unexplored effects of trade policy negotiations and the forces moderating their economic impact.

First, we build a new US Tariff Announcement Database (USTAD) for 2025, which we hand-collect from US presidential executive orders and proclamations. Second, we use USTAD to calculate monthly US statutory tariffs and novel measures of tariff confusion by origin country and product: the number of relevant announcements, the number of possible tariff calculations arising from these announcements, and bounds on the extent of tariff miscalculation. Third, we establish that both higher US import tariffs and greater confusion about tariff levels significantly reduced US imports during 2025, with confusion more than doubling the impact of higher tariffs. Finally, we show that during this period of policy turbulence, tariff confusion (i) was persistent, and more detrimental at higher tariff levels; (ii) acted entirely through lower import quantities with complete pass-through to importer prices; and (iii) depressed by less the imports of relationship-specific goods and from origins with strong trust systems regardless of formal contract institutions.

To be completed:

- Details on conceptualizing and measuring tariffs and tariff confusion (see Sections 2.2 and 2.3).

- Details on the impact of tariff levels, confusion about current tariffs and uncertainty about

future tariffs on importers' and exporters' decisions (see Sections 2.3, 2.4 and 3).

- Details on empirical strategy (see Sections 2 and 4).
- Details on empirical findings and economic interpretation in terms of information arrival and processing; impact of higher tariffs and greater confusion about tariff levels on buyer and seller productivity cut-offs for trading, trade volumes, and trade prices; role of hold-up problems and trust in buyer-supplier relationships during policy turbulence (see Sections 5 and 6).
- Literature positioning.

The rest of the paper is organized as follows. Section 2 overviews US trade policy developments in 2025, describes the new US Tariff Announcement Database, and introduces the concept and measures of tariff confusion. Section 3 outlines possible economic mechanisms through which statutory tariffs and tariff confusion can impact trade flows. Section 4 develops our empirical strategy. Section 5 presents the baseline estimated effects of US tariffs and tariff confusion on US imports. Section 6 provides additional empirical evidence to inform the mechanisms at play. The last section concludes.

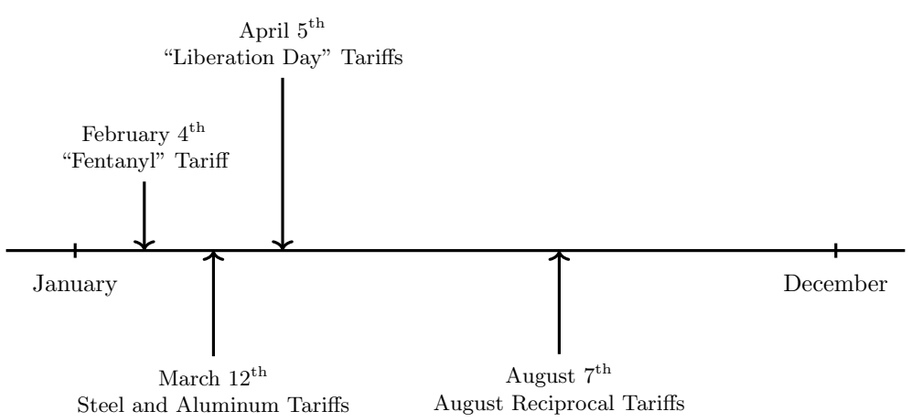
2 US Tariffs and Tariff Confusion in 2025

US trade policy in 2025 was unprecedented in the frequency, nature and complexity of tariff interventions. Below, we first provide a brief overview of key milestones and some revealing business anecdotes. This leads us to propose that both the actual rise in statutory tariffs and confusion about their precise level may have impacted US imports. We therefore build a database of US trade policy announcements in 2025, which we hand-collect from US presidential executive orders and proclamations and label the *US Tariff Announcement Database* (USTAD). We then use this database to calculate monthly US statutory tariffs and to introduce novel, high-frequency measures of tariff confusion that reflect the pace and intricacy of US trade policy developments in 2025.

2.1 US Trade Policy Timeline

The year 2025 marked a turn in US trade policy making. Given the vast number of tariff announcements, we highlight just four key events by way of illustration (Figure 1).[1] In between and after these specific events, many more announcements introduced, delayed, reinstated or changed tariffs, and different countries or products were variably affected or exempted.

Figure 1: Key US Tariff Announcements in 2025



[1] The Council of Foreign Relations and the Global Trade Alert provide useful tariff trackers respectively at www.cfr.org/articles/tracking-trumps-trade-deals and globaltradealert.org/blog/US-Tariff-Measures-Inventory.

Tariffs were enacted through two US federal laws, the International Emergency Economic Powers Act (IEEPA) and Section 232 of the Trade Expansion Act, which were used for origin-based and product-based duties, respectively. For example, the US Harmonized Tariff Schedule that sets out product-level import tariffs saw 32 revisions in 2025 alone, which is three times the annual average of 10.5 over the calm 2023-2024 period and almost twice the annual average of 18.5 over the 2018-2019 episode of trade tensions.[2]

The first major set of tariffs introduced were the so-called "fentanyl" tariffs on China, Canada and Mexico implemented through the International Emergency Economic Powers Act (IEEPA). For China, the tariff was immediately applied on February 4$^{\text{th}}$, where all Chinese imports became subject to an additional 10% tariff stacked on top of any tariffs previously imposed through Section 301. For Canada and Mexico, although announced at the same time, tariffs were only implemented as of March 4$^{\text{th}}$. All products that were non-USMCA compliant were subjected to an additional 25% tariff, while USMCA-compliant goods remained tariff-free.

A second major deck of tariffs were imposed on steel and aluminum products on March 12$^{\text{th}}$. These tariffs were implemented through Section 232 of the Trade Expansion Act, which authorizes the President to set tariffs under national security concerns. This announcement replaced any previous tariffs on steel and aluminum imports via Section 232, with a uniform additional tariff of 25% on top of any MFN tariff. This was particularly relevant for certain aluminum products that were previously facing a 10% tariff on top of MFN.

A third major wave of tariffs arrived on April 5$^{\text{th}}$, when an extensive list of country-specific rates were announced as the Liberation Day package. All countries were to face at least a 10% import duty, with a large set of countries receiving substantially higher duties. A few days later, these country-specific tariffs were postponed for 90 days, and later on further deferred to August 1$^{\text{st}}$. During this period, all countries would face the minimum 10%, and have the opportunity to pursue trade negotiations with the US. If a deal could be struck, the country would remain at the minimum 10% above MFN. Otherwise, it would face a higher tariff. Some countries, notably China, subsequently engaged in a retaliatory process, while others reached trade agreements and carve-outs.

The fourth and final major round of tariffs arrived on August 7$^{\text{th}}$ after the Liberation Day tariff postponement expired. The initial country-specific tariff rates announced in April were modified and reflected all successful trade negotiations with the US. For example, the announced EU Liberation Day tariff had been set at 20%. After successful negotiations with the US, the August reciprocal tariff on the EU was capped at 15%.[3]

It was not just the sheer number of tariffs announced that was unique to US trade policy in 2025, but also the complex rules embedded in them that dictated which tariffs were in effect. At face value, origin-based tariffs implemented through the IEEPA appeared to be applicable to all products. However, this was not the case, as certain products were exempted from these tariffs, and the exempted list of products varied across announcements.[4]. Furthermore, over the course of the year, different stacking rules were formulated to determine which tariffs compounded. For instance, if a US firm imported a steel product from China in May 2025, the stacking rules implied that this shipment would be subject to the China "fentanyl" and steel tariffs but not the Liberation Day tariffs. However, if the steel product were imported from Canada, then only the Canada "fentanyl" tariff would apply.[5].

[2]Revisions occur when new tariffs are introduced or old tariff policies updated, such as a change in the tariff rate or applicable set of products.

[3]EU products with an MFN rate below 15% were subjected to an additional tariff, such that the MFN and August reciprocal rates sum to 15%. EU products with an MFN rate above 15% were not subject to an additional tariff.

[4]For example, smartphones were exempted from the Liberation Day tariffs.

[5]For full details of the stacking rules, see Appendix **

2.2 Tariff Announcements and Statutory Tariffs

The pace and complexity of US trade policy throughout 2025 mean that examining its impact requires careful tracking of policy announcements and calculation of applicable tariffs. We construct the statutory US import tariff $Tariff_{cpt}$ on origin country c and HS-10 product p in month t from two data sources: public information from the US International Trade Commission (USITC), and our novel hand-collected US Tariff Announcement Database (USTAD).

For the period prior to February 2025, we obtain comprehensive panel data on the schedule of statutory US import tariffs by country and product, $Tariff_{cpt}$, from the USITC.[6] This database reports the Most Favored Nation (MFN) rate for a given product, as well as country-product specific tariffs that account for bilateral or multilateral trade agreements (e.g. USMCA after 2020, China tariffs in 2018 under Section 301) and product-specific exemptions and proclamations (e.g. steel and aluminum tariff in 2018 and solar panels tariff in 2022 under sub-heading 99). We construct statutory tariffs $Tariff_{cpt}$ adjusting for any such relevant arrangements. The USITC does not account for other tariff measures such as anti-dumping duties.

Starting in February 2025, the USITC listed new US tariffs under sub-heading 99 rather than by product. US statutory tariffs by country-product at any point in time thus reflected a combination of the base USITC rate above as of January 2025 and a series of tariff impositions and exemptions announced as US presidential executive orders and proclamations.

We consistently hand-collected, digitized, and systematized US trade policy announcements in 2025 in the new USTAD. In total, we record 68 announcements that pertained to tariffs on 233 origin countries and 18,854 different HS-10 digit products. Appendix *** provides a brief overview of these announcements. That it is 20 pages long yet far from comprehensive is indicative of the degree of tariff confusion that firms, trade consultants, customs agents, and economic analysts alike might experience.

We track three dimensions of tariff announcements in USTAD, and then use it to build a panel of monthly US statutory tariffs by origin and product over February-December 2025. First, US trade policy announcements sometimes covered imports from specific countries regardless of product; sometimes imports of specific products regardless of origin; and sometimes specific origin-product pairs. For each announcement a in month t, we therefore create a binary variable I_{acpt} that indicates whether it is relevant to US imports of product p from country c. For example, $I_{acpt} = 1$ for all countries c for $p =$ *aluminium products* subject to tariffs announced in March 2025, while $I_{acpt} = 1$ for specific products p that were announced exempt from tariffs on $c = Canada$. Second, tariff announcements included both upward and downward revisions. We demarcate this with two additional indicators, Up_{acpt} and $Down_{acpt}$, where $I_{acpt} = Up_{acpt} + Down_{acpt}$.

Table 1: Summary Statistics (2025)

	Mean	Std.Dev	p10	Median	p90
$Tariff$	0.17	0.17	0.00	0.15	0.37
$\Delta Tariff$	0.13	0.15	0.00	0.10	0.30
$\#Announce$	3.41	2.42	0.00	3.00	6.00
$\#Up$	2.63	1.81	0.00	2.00	5.00
$\#Down$	0.79	0.93	0.00	1.00	2.00
$TariffMess$	57.37	213.59	1.00	8.00	64.00
$TariffMax$	0.33	0.36	0.03	0.24	0.70
$TariffMiss$	0.16	0.26	0.00	0.10	0.35
$\Delta TariffMax$	0.29	0.32	0.00	0.20	0.68
TPU (Liberation Day)	0.08	0.09	0.00	0.06	0.22

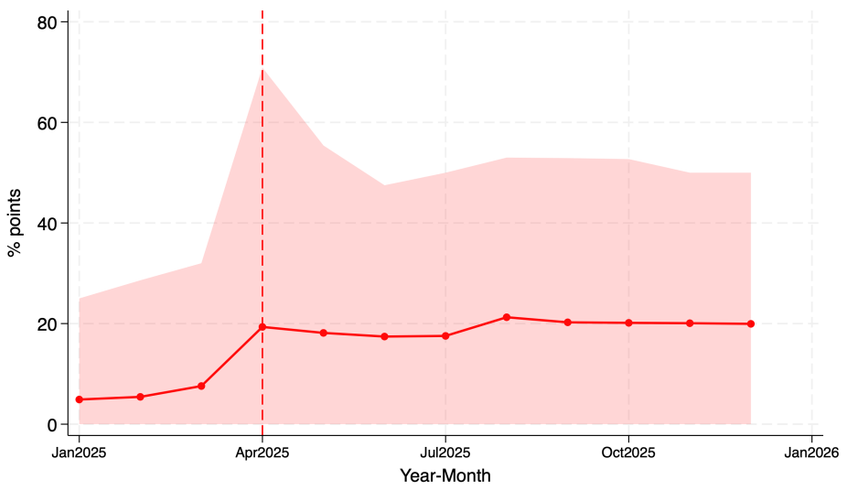
Notes: This table displays the summary statistics for our key variables across origins and products during January - December 2025.

[6] USITC data is available at https://hts.usitc.gov/. Tariff changes are often introduced in the middle of the month. In those instances, we compute a weighted average monthly tariff based on the number of days tariffs were active.

Lastly, tariff announcements sometimes replaced previously announced tariffs, and sometimes stacked on top of previous announcements. For instance, a 10% stackable tariff on top of an existing 50% tariff would add up to 60% = 50% + 10%. We process this quantitative and qualitative information, record the incremental change in tariffs $\Delta Tariff_{cpt}$, and manually calculate the US statutory tariff $Tariff_{cpt}$ for February-December 2025.

Table 1 provides summary statistics on the US statutory import tariff across origins and products during January - December 2025. US tariffs averaged 17% over this period, with a standard deviation of 17% in the panel. Figure 2 in turn plots the evolution of the average tariff across country-product pairs over time. A clear spike is visible around Liberation Day in April 2025, after which the average rate settles with minor fluctuations and only a moderate uptick in August 2025. The wide interquartile band around this average, however, highlights the sizable dispersion in tariff incidence across origins and products at any given point in time: In April 2025, for example, this band spans the $0\% - 71\%$ range around a mean of 20%. By the end of December 2025, US tariffs had increased by 13 percentage points for the average country-product, with a proportionately large standard deviation of 0.15 percentage points around this mean.

Figure 2: Average US Statutory Tariffs in 2025



Notes: Red line plots the average in a month across origin country-HS10 product pairs. Red shaded area displays the the inter-quartile range.

2.3 Tariff Confusion

We propose four measures of tariff confusion $Confusion_{pct}$, which we think of as confusion during month t about the contemporaneous statutory US tariff applicable to imports of product p from country c in month t. We explicitly focus on *confusion* about *actual current* tariff levels, as distinct from *uncertainty* about *hypothetical future* tariff levels. We explore the relationship between confusion and uncertainty in the next subsection.

The premise of the confusion measures is that, unlike times of stable trade policy, periods of frequent, unpredictable and complex trade policy announcements require firms to continuously *monitor* and *process* the arrival of new information. Confusion about prevailing tariff rates can therefore arise for several reasons. Firms may altogether miss an announcement, or overlook an announcement's relevance to their home country and product (for exporters to the US) or their source country and product (for importers in the US). Even when firms are aware of a relevant announcement, they may struggle to determine how exactly it affects the import duty given the complexity and changeability of tariff coverage, stacking, and up-down reversals.

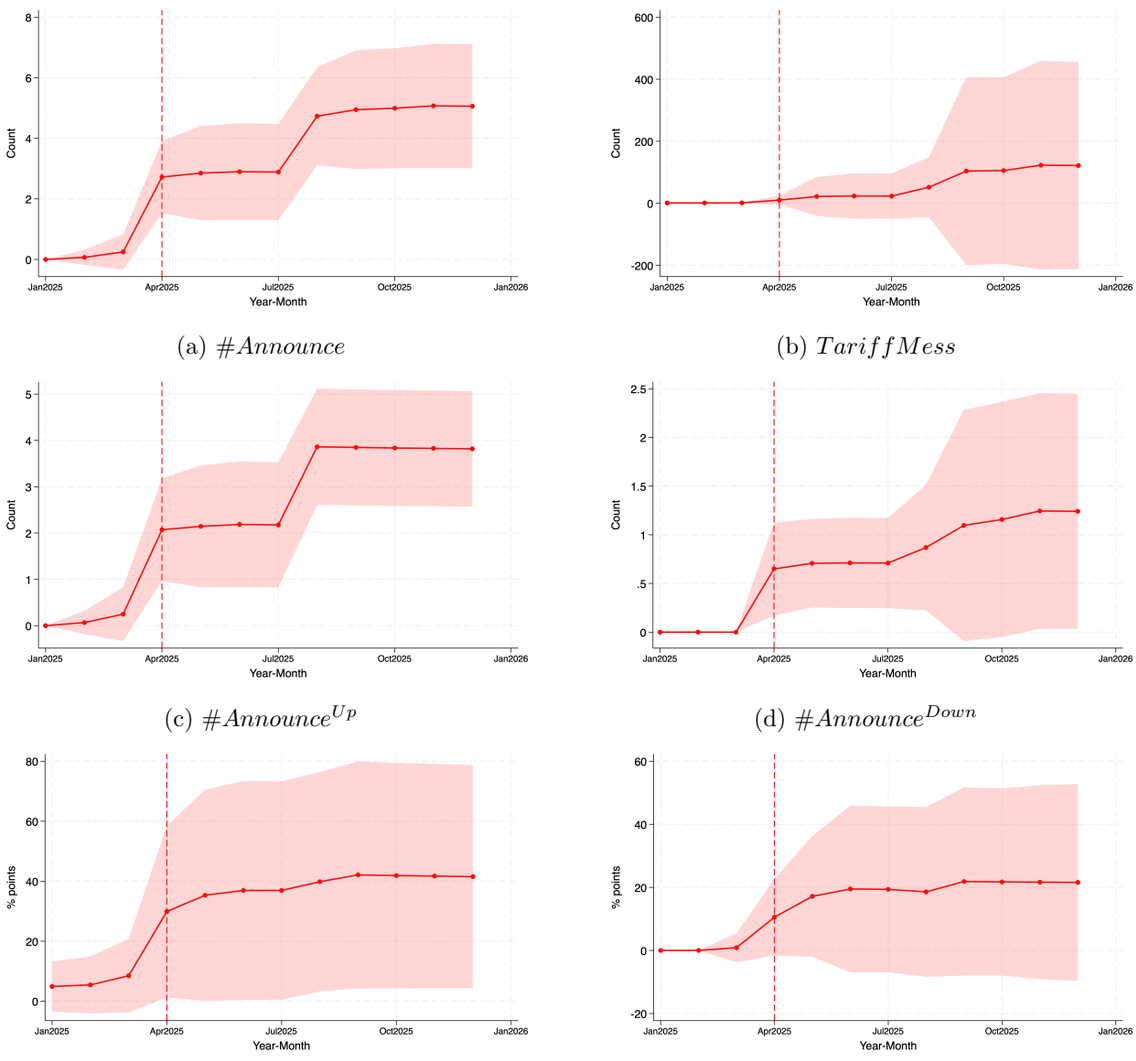
We posit that firms' information acquisition and processing problem becomes progressively more difficult as more announcements arrive and cumulate over time. This motivates four measures of tariff confusion that capture the extensive margin of announcement arrival and the intensive margin of announcement implications. We believe these measures can effectively reflect confusion

over short horizons of policy turbulence, and discuss confusion persistence and belief updating over the longer run in Section 6.1. We set $Confusion_{pct} = 0$ from January 2023 until the first trade policy interventions under the Trump administration in February 2025.

Our first measure of $Confusion_{pct}$ aims to gauge the flow of trade policy information that needs monitoring. We proxy confusion about the US tariff on product p from country c at time t with the cumulative number of relevant announcements that have been made up to that month, $\#Announce_{pct} = \sum_{t'=t_0}^{t'=t} I_{acpt'}$ where t_0 denotes February 2025.

Our other measures in turn reflect the range and accuracy of alternative tariff calculations that firms might make when processing policy updates. Our second measure targets the number of possible announcement combinations firms may have tracked, which we label $TariffMess_{pct}$. We define $TariffMess_{pct} = 2^{\#Announce_{pct}}$, on the presumption that firms may either correctly interpret an announcement, or instead miss or misinterpret it.[7]

Figure 3: Average US Tariff Confusion in 2025



(a) $\#Announce$ (b) $TariffMess$

(c) $\#Announce^{Up}$ (d) $\#Announce^{Down}$

(e) $TariffMax$ (f) $TariffMiss$

Notes: Red line plots the average in a month across origin country-HS10 product pairs. Red shaded area displays the the +/- 1 standard deviation band.

Our third measure identifies the worst-case scenario among all possible tariff calculations, or the highest possible import tariff that firms would infer if they processed all tariff hikes and no tariff cuts. We set this upper bound to $TariffMax_{pct} = \sum_{t'=t_0}^{t'=t} Up_{acpt'} \Delta Tariff_{cpt'}$.[8] Our fourth and final measure of tariff confusion quantifies how far off this upper bound is from the statutory tariff. We compute $TariffMiss_{pct} = TariffMax_{pct} - Tariff_{pct}$ to proxy how much firms might

[7] $TariffMess_{pct}$ likely provides a lower bound for the number of possible tariff calculations firms might make in that firms can misinterpret a given announcement in multiple ways.

[8] $TariffMax_{pct}$ might be a lower bound for the highest possible tariff calculation to the extent that firms might wrongly add up tariff hikes.

overestimate the true import duty.

Figure 3 reveals the dramatic rise in our measures of confusion about US tariffs over the span of 2025. For the average origin country and product, the number of tariff announcements $\#Announce_{pct}$ firms had to take into account reached 2.7 by April 2025, increased to 4.7 by August 2025, and then stabilized to end the year at 5.1 in December 2025 (Figure 3a). On average, about 75% of all announcements entailed a rise in statutory tariffs, with the remaining 25% associated with tariff reductions (Figures 3c and 3c).

The pace and complexity of US trade policy announcements in 2025 implies that firms could arrive at 52 different possible tariff calculations $TariffMess_{pct}$ for the average country and product by August 2025, depending on how many updates they followed and correctly interpreted (Figure 3b). This number quickly grew to 122 by December 2025. This had stark implications for the maximum possible tariff firms could have inferred: $TariffMax_{pct}$ jumped from about 10% to about 30% for the average country-product in April 2025, hit 40% in August 2025, and hovered at that level for the rest of the year (Figure 3e). As a result, the extent to which firms could have overestimated actual statutory tariffs $TariffMiss_{pct}$ jumped from 0 to 10 percentage points in April 2025 and fluctuated around 20 percentage points for the rest of the year (Figure 3f). This corresponds to firms potentially believing tariffs are twice as high as they actually were.

The trends in Figure 3 reveal significant scope for tariff confusion and miscalculation for the average country and product. The dispersion in tariff confusion across countries and products is even more staggering, especially as announcements cumulate over time. This is apparent from the summary statistics in Table 1 and the wide 1-standard-deviation bands around the means in Figure 3. For instance, $TariffMess_{pct}$ averaged 57.4 across country-product-month triplets, with a median of 8 and standard deviation of 213.6. These metrics stand at 16%, 10% and 26% for $TariffMiss_{pct}$.[9]

Table 2 shows that measured tariff confusion does not correlate strongly with statutory tariffs across countries, products and months in 2025. This is consistent with the two capturing different aspects of trade policy developments during this period. Appendix Figure 1 illustrates that this relationship moreover weakens significantly over time as trade policy announcements pile up. Notably, the correlation of actual tariff rates with the number of possible tariff estimates is as low as 0.12 in the full panel of country-product-months, and *** across country-products in December 2025. The correlation between tariff levels and announcement counts stands at 0.46 in the panel and *** at the end of 2025. While our proxy for the highest possible tariff estimate tracks actual tariffs quite closely with a panel correlation of 0.73, this intuitively reflects the lower frequency of tariff reductions than tariff hikes. On the other hand, the potential tariff overestimate is significantly less correlated with tariff levels at a moderate 0.35 in the panel and *** in December 2025.

Table 2: US Tariff Level, Confusion & Uncertainty Correlations (2025)

	$Tariff$	$\#Announce$	$TariffMess$	$TariffMax$	$TariffMiss$	TPU
$Tariff$	-	0.46	0.12	0.73	0.35	-0.02
$\#Announce$	0.46	-	0.55	0.69	0.64	0.08
$TariffMess$	0.12	0.55	-	0.39	0.46	-0.08
$TariffMax$	0.73	0.69	0.39	-	0.89	-0.08
$TariffMiss$	0.35	0.64	0.46	0.89	-	-0.09
TPU	-0.02	0.08	-0.08	-0.08	-0.09	-

Notes: This table displays all pairwise correlations between the statutory import tariff and confusion measures across origin and products during January - December 2025.

Table 2 also demonstrates that the four measures of tariff confusion capture different features of trade policy complexity. The two-way panel correlations among them are in the 39%-69%

[9]Much of the variation in measured tariff confusion comes from the time series, especially in the case of $\#Announce_{pct}$. Cross-sectionally in a given month, there is more variation across countries than across products within countries. We illustrate this in Appendix Table A1, where we report the R-squared from regressions of each confusion measure on different sets of fixed effects.

range, except for the expected tighter mapping between $TariffMax_{pct}$ and $TariffMiss_{pct}$ at 0.89. $TariffMess_{pct}$ stands out as the least correlated with the other confusion metrics. Appendix Figure 1 confirms that the four confusion indicators diverge more over time, as with their relationship with tariff levels above.

2.4 Current Confusion and Future Uncertainty

Our measures of tariff confusion aim to capture the difficulty of estimating statutory tariffs when there are frequent and complex policy announcements such as during 2025. How does such confusion about actual current tariff levels relate to uncertainty about potential future tariff changes?

Conceptually, confusion about contemporaneous tariffs can be seen as an unusual manifestation of trade policy uncertainty (TPU) in real time. A large literature has studied TPU in the context of prolonged trade negotiations whose ultimate outcome and timeline is uncertain, but there is no uncertainty about the current state of affairs per se (e.g. Freeman et al. (2025), Handley (2014), and Handley and Limão (2015, 2017)). For example, US-China trade arrangements required annual renewal before China joined the WTO in 2001. This exposed firms to the risk of US tariffs on Chinese imports suddenly jumping, potentially up to the significantly higher Smoot-Hawley rates of 1930. More recently, UK-EU trade flows remained tariff-free after the 2016 Brexit Referendum, but firms faced significant uncertainty over the nature, magnitude and start date of possible future trade barriers. This uncertainty lasted up until the Trade and Cooperation Agreement was finally agreed and came into effect in 2021. During both episodes, trading irms operated in an environment of known, low tariff rates with the threat that tariffs might (or might not) rise to unknown levels, at an unknown future date.

In comparison, US trade policy in 2025 in principle presented firms with tariff changes that typically took immediate effect. Yet tariff confusion arguably arose as firms were uncertain about these contemporaneous tariff rates. Given the frequency, complexity and changeability of tariff updates, uncertainty about the future evolution of trade policy undoubtedly grew as well, but we emphasize confusion about the current over uncertainty about the future.

Empirically, our measures of confusion about contemporaneous tariffs are backward looking, and reflect the cumulative information that has arrived over a period of intensive trade-policy making up to the current point in time. By construction, $Confusion_{pct}$ thus varies across countries, products and time. While $\#Announce_{pct}$, $TariffMess_{pct}$ and $TariffMax_{pct}$ can remain unchanged or rise within a country-product over time, $TariffMiss_{pct}$ can and does move both up and down. In contrast, standard TPU measures are forward looking, and generally based on higher default tariffs such as Most-Favored Nation (MFN) rates, or the difference between this fall-back and current rates. Such proxies are meant to provide an upper bound for how (much more) restrictive trade policy might become, and are by design constant over time within a country and/or product. They capture both the worst-case tariff level and the range of other possible levels below it.

De Souza et al. (2026) propose the difference between announced Liberation Day tariffs and the 10% baseline tariff as a measure of US trade policy uncertainty in 2025, which we denote TPU_{cpt}.[10] Tables 1 and 2 show that this $TPU_{cpt} = 0$ measure is only weakly correlated with our $Confusion_{pct}$ measures, and varies significantly less across countries and products than tariffs and tariff confusion. Appendix Figures A1 - A2 illustrates that they are almost orthogonal across country-products in snapshot scatterplots for April, August, and December 2025.

We revisit the relationship between confusion about current trade policy and uncertainty about its future in Section 6.1 below, where we also discuss the possibility that our metric of $Confusion_{pct}$ may be related to both in the US context of 2025.

[10] While TPU_{cpt} is generally fixed at the country level, there is some variation across products and over time due to product-specific tariffs and exemptions that were separately introduced. TPU_{cpt} is set to 0 for Canada, Mexico and countries with no Normal Trade Relations status with the US, as they were not subject to the Liberation Day reciprocal tariffs. For China, $TPU_{cpt} = 0$ from May onward when the Liberation Day tariffs were removed.

3 Mechanisms

To be completed.

4 Empirical Design

We next use monthly data on US trade and trade policy over the 2023-2025 period to evaluate the impact of the 2025 US tariffs and tariff confusion on US imports.

4.1 Data

We exploit data on US trade flows, tariffs and tariff confusion merged at the country-product-month level. We obtain information on the universe of monthly US imports over the 2023-2025 period from the US Census Bureau.[11] We extract import values and quantities by origin country c, HS 10-digit product p and month t, and compute import unit values. We denote these monthly import values, volumes and prices X_{cpt}, Q_{cpt} and P_{cpt}, respectively. We combine these trade statistics with the schedule of US import tariffs $Tariff_{cpt}$ and measured tariff confusion $Confusion_{cpt}$, constructed from USITC and USTAD data as described above.

We also examine the role of country and product characteristics related to trust, customization and reputation in buyer-supplier relationships. We obtain product-level indicators for product differentiation from Rauch (1999), relationship specificity from Nunn (2007), and relationship stickiness from Mejean et al (2023).[12] At the country-year level, we consider the strength of formal contract enforcement from the World Bank Doing Business Database, as well as average self-reported trust in foreigners from the World Values Survey.[13]

4.2 Empirical Specification

We identify the effects of US tariff changes and tariff confusion on US imports by capitalizing on the variation in their incidence across countries, products and time. We estimate variants of the following two specifications:

$$\log X_{cpt} = \alpha \log(1 + Tariff_{cpt}) + \beta Confusion_{cpt} + \delta_{cp} + \delta_{pt} + \varepsilon_{cpt}, \quad (1)$$

$$\Delta \log X_{cpt} = \alpha \Delta \log(1 + Tariff_{cpt}) + \beta \Delta Confusion_{cpt} + \delta_{cp} + \delta_{pt} + \varepsilon_{cpt}, \quad (2)$$

where $logX_{cpt}$ is log US imports from country c of HS 10-digit product p in month t, and $Confusion_{cpt}$ is one of the four metrics of tariff confusion introduced above.

Specification 1 aims to capture the contemporaneous level effects of US trade policy announcements. The main coefficients of interest, α and β, quantify the impact respectively of the actual statutory tariff and of confusion about its level. We include a full set of product-month fixed effects δ_{pt}, which absorb shocks to demand, domestic supply, and local competition that all exporters face in the US market. We also condition on country-product fixed effects δ_{cp}, to allow for stable differences in supply potential across origin countries.[14] The impact of tariff changes and tariff confusion is thus identified from changes in the US trade policy stance within country-products over time and its cross-sectional variation across countries within a product-month. We cluster

[11] US Census data is available at https://www.census.gov/foreign-trade/index.html.

[12] We access product differentiation by *** product at *econweb.ucsd.edu/ jrauch/rauch_classification.html*; relationship specificity by SITC product at *nathannunn.arts.ubc.ca/data/*; and relationship stickiness by *** product at ***. We map these measures to HS-10 products using concordance tables at ***.

[13] We take the average response to Question 63 "Trust in people of another nationality" across respondents in a country-year, available at https://www.worldvaluessurvey.org/WVSDocumentationWV7.jsp.

[14] Data limitations make it difficult to directly account for potential high-frequency changes in countries' export supply potential, e.g. monthly data on output or exports by country-product is not systematically available for many countries or not available for 2025. That said, export supply conditions arguably move sufficiently slowly to allow us to identify the impact of high-frequency movements in US trade policy in 2025.

errors by HS 8-digit product as standard in the literature, to accommodate correlated shocks all exporters to the US face in a given product market.

We estimate equation 1 in the sample of 24 months from January 2024 through December 2025. This period allows us to compare the full first year of the second Trump administration to the full year immediately preceding it. The product-time fixed effects implicitly account for seasonal fluctuations, while the relatively short 2-year window dampens concerns about differential trends in export supply potential across origin countries.

Two threats to the identification of coefficients α and β are multi-collinearity and reverse causality. The weak correlation between tariffs and tariff confusion in Table 2 above alleviates concerns about multi-collinearity, except potentially in the case of the maximum possible tariff that firms might mis-calculate if they process only upward tariff revisions. The fast pace and complex institutional context of US trade policy in 2025 make it unlikely that it would respond to developments in US imports, especially at the monthly frequency.

Equation 2 provides an alternative, more stringent way of estimating the impact of US tariffs and tariff confusion by specifying the problem in differences while maintaining the same fixed effects. In particular, we now study 12-month changes in US imports, statutory rates and tariff confusion, $\Delta \log X_{cpt}$, $\Delta \log(1+Tariff_{cpt})$ and $\Delta Confusion_{cpt}$.[15] We continue to include country-product and product-time fixed effects, δ_{cp} and δ_{pt}. This means that we now explicitly allow for country-product specific changes in export supply potential over time, rather than only stable cross-sectional differences as in equation 1. We also accommodate differential growth rates in US demand and supply conditions, rather than only level shocks as in equation 1. We keep the sample to the January 2024 - December 2025 period, and continue to cluster by HS-8 product.

The coefficients of interest in specification (2), α and β, identify the impact respectively of US tariff hikes and announcement confusion on the annualized growth rate of US imports. These growth effects may differ from the level effects estimated in specification (1) if US import growth is driven by country-product supply trends that are correlated with tariff changes or our confusion measures.

Specifications (1) and (2) guide all parts of our empirical analysis, and deliver robust conclusions. We introduce several extensions to these regressions as we go along.

5 Trade Effects of Tariffs and Tariff Confusion

5.1 Baseline Results

We first present empirical evidence that both higher US import tariffs and greater confusion about tariff levels significantly reduced US imports during 2025. Moreover, these forces exerted largely independent effects, such that confusion about the US policy stance more than doubled the total import decline caused by changes in US trade policy.

We report our baseline results from estimating equation (1) for the level effects of US trade policy in Panel A of Table 3. In Column 1, we first estimate the consequences of higher tariff barriers, ignoring any associated tariff confusion. We find that tariff increases led to lower US imports, with an elasticity of -0.47.

We next introduce each of our alternative measures of tariff confusion one at a time alongside the statutory tariff level. We consistently observe large and highly statistically significant negative effects of tariff confusion that manifest in addition to those of any tariff movements themselves. Holding the actual tariff rate constant, doubling the number of trade policy announcements reduces US imports by an extra 6.3% based on the coefficient point estimate for $\#Announce_{pct}$ in Column 2, and a whopping 109% based on the implied quadrupling in possible tariff calculations $TariffMess_{pct}$ in Column 3.[16] Moreover, the elasticity of US imports with respect to $Tariff_{pct}$ is

[15] In practice, $\Delta Confusion_{cpt} = Confusion_{cpt}$, since we assume no tariff confusion prior to February 2025.

[16] We calculate these comparative statics as $6.3\% = exp(2 \times 0.0308) - 1$ and $109\% = exp(2^2 \times 0.184) - 1$.

of the same order of magnitude as that with respect to its potential overestimate $TariffMiss_{pct}$ in Column 5.[17] In fact, the highest possible tariff firms could have calculated had they heard only upward revisions can fully explain the impact of actual tariff hikes in Column 4, though we caution that this may reflect multicollinearity given the 0.73 correlation between $Tariff_{pct}$ and $TariffMax_{pct}$ (Table 2).

Table 3: US Tariff and Tariff Confusion Effects on US Imports

	(1) $\log(1+Tariff)$	(2) $\#Announce$	(3) $TariffMess$	(4) $\log(1+TariffMax)$	(5) $TariffMiss$
Panel A: Levels					
$\log(1+Tariff)$	-0.467***	-0.319***	-0.493***	-0.000748	-0.438***
	(0.0225)	(0.0222)	(0.0220)	(0.0236)	(0.0215)
$Confusion$		-0.0308***	-0.184***	-0.547***	-0.290***
		(0.00126)	(0.0116)	(0.0145)	(0.00716)
$\Delta\overline{\log(1+Tariff)}$	-5.93	-4.09	-6.25	-0.01	-5.58
$\Delta\overline{Confusion}$		-14.44	-2.20	-14.09	-6.06
R-squared	0.870	0.870	0.870	0.870	0.870
Panel B: First Differences					
$\Delta\log(1+Tariff)$	-0.495***	-0.331***	-0.522***	0.0536	-0.470***
	(0.0261)	(0.0270)	(0.0259)	(0.0281)	(0.0253)
$Confusion$		-0.0333***	-0.171***	-0.651***	-0.348***
		(0.00175)	(0.0140)	(0.0186)	(0.00924)
$\Delta\overline{(\Delta)\log(1+Tariff)}$	-6.37	-4.31	-6.71	0.72	-6.07
$\Delta\overline{Confusion})$		-15.50	-2.04	-16.53	-7.23
R-squared	0.237	0.237	0.237	0.238	0.238
Exporter-HS10 FE	Yes	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes	Yes
N	2720608	2720608	2720608	2720608	2720608

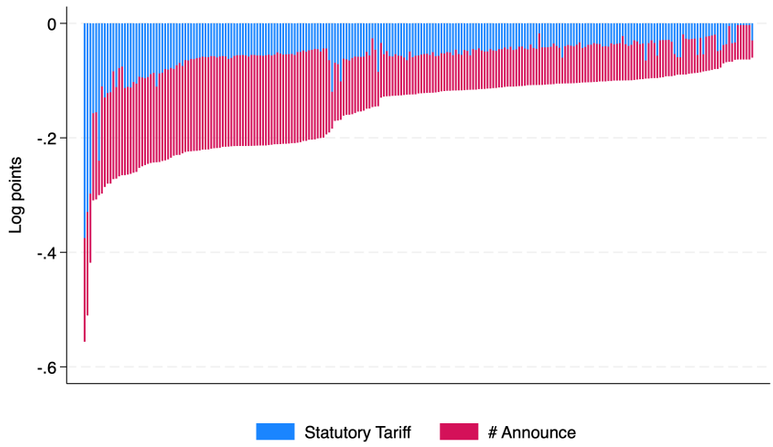
Notes: Standard errors are clustered at the HTS 8-digit level. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Dependent variable is log import values. Panel A estimates the regression in levels. Panel B estimates the regression in (12-month) first differences. In each panel, column 1 estimates the effect of the statutory tariff as baseline comparison. Columns 2-5 estimates the effects of 4 measures of confusion whilst controlling for the statutory tariff. Column 2 - Total number of tariffs announcements ; Column 3 - Total number of tariff calculations Column 4 - Log of maximum perceived tariff and; Column 5 - Tariff overestimate. Coefficient in column 3 ($tariff^{mess}$) is per 1000 permutations. All regressions include Exporter-HTS10 and HTS10-Time fixed effects. Row one and two in the lower panel indicates the percentage change in US imports from the average change in the (log) statutory tariff and confusion, respectively, from December 2024 to December 2025.

We obtain qualitatively and quantitatively very similar results when we estimate the impact of US trade policy announcements on US imports with the 12-month-difference specification (2). Across the board, the coefficient estimates from these first-difference regressions in Panel B of Table 3 are of comparable economic and statistical significance to those from the levels regressions in Panel A. Recall that these regressions include the same set of country-product and product-year fixed effects, but these play a much more stringent role in the specification in differences. This helps alleviate concerns with differential growth rates in country-product supply potential driving the baseline results in levels. In other words, our findings are consistent with exporter country-product supply conditions remaining relatively stable short-term.

In Appendix ***, we confirm that the baseline results in Table 3 are robust to a series of specification checks. In particular, we obtain similar findings when we (i) condition on country-product and country-month fixed effects instead of the baseline country-product and product-month fixed effects; (ii) use an unbalanced panel instead of the baseline balanced panel of country-product pairs over the 24-month period; (iii) cluster by country-HS8 product instead of HS8 product; or (iv) drop individual countries that received a disproportionate share of attention in trade policy announcements such as China, Mexico or Canada.

[17] For example, a 10-percentage-point rise in $Tariff_{pct}$ and $TariffMess_{pct}$ would imply respectively *** and *** lower imports.

Figure 4: Peak US Import Decline by Exporting Country



Notes: This figure plots the change in U.S. import by origin country where each bar denotes an origin country. The change in imports is decomposed by the effect from the statutory tariff and number of announcements and is in reference to the month where the statutory tariff is highest for each origin country. The change in imports are calculated by using the coefficient estimates from column 3 in Table **.

5.2 Quantifying Baseline Effects

We can use our baseline results to quantify the impact of US trade policy developments in 2025 on US imports. One caveat to this quantification is that it captures short-term, high-frequency trade adjustments during an unusual period of intensive trade policy making. Exporters and importers may behave differently over longer horizons. A second caveat is that our estimation strategy is difference-in-differences in spirit, and thus identifies only relative effects rather than geneal-equilibrium level effects. In other words, we can infer import declines at the country-product level relative to a hypothetical country-product that is not affected by tariff changes or confusion.

In a first exercise, we impute how much lower trade flows were for the average origin country and product in $t_{24} = December2025$ compared to $t_{12} = December2024$ because of higher US tariffs and greater confusion over US trade policy. To this end, we first calculate the average 12-month changes $\overline{\Delta log(1 + Tariff_{cpt})}$ and $\overline{\Delta Confusion_{cpt}}$ across countries and products. We then apply the point estimates from specification 1 to $\overline{\Delta log(1 + Tariff_{cpt})}$ and $\overline{\Delta Confusion_{cpt}}$ for each regression in Panel A of Table 3, and report the inferred import losses in the two rows immediately below the coefficients.

We conclude that as of the end of 2025, higher tariff barriers were responsible for 4.1%-6.3% lower US imports for the average origin and product. Cumulative confusion about prevailing tariffs led to substantial additional disruption that would not have occurred had tariffs been raised once and for all in a clear policy statement: The total number of policy announcements were responsible for an additional 14.4% decline in US imports on average. Alternatively, the potential to wrongly overestimate actual tariff rates can account for about 6% lower US imports.

Table 4: Peak US Import Decline across Exporting Countries

	Mean	Std. Dev
Total	-0.16	0.07
Statutory Tariff	-0.06	0.04
#Announce	-0.10	0.05
% from #Announce	63.19	11.87

Notes: This table displays the summary statistics for figure 4. Row 1 -Total change in imports; Rows 2 and 3 - A change in the statutory tariff and *#Announce* only, respectively and; Row 4 - The percentage share of total change from *#Announce*.

In a second quantification exercise, we gauge the heterogeneous incidence of US trade policy across trade-partner countries in 2025. In particular, for each country, we calculate the monthly

drop in its exports to the US that can be attributed to the highest US tariff it ever faced during 2025, and the additional export loss solely due to the multiplicity of policy setting leading up to that highest tariff. Thus for each country, we identify the month with the highest average tariff across products, and record the cumulative number of tariff announcements it received as of that month. (Announcements may continue to grow thereafter even as tariffs subside, but we cap announcement confusion as of the tariff maximum.) We then use the point estimates from Column 2 in Panel A of Table 3 to compute country-specific reductions in exports to the US arising due to both tariffs and tariff confusion.

Figure 3 displays the results, where each bar corresponds to a different country, countries are sorted by their total reduction in exports to the US, and shading apportions this reduction to tariff hikes and announcement proliferation. Table 4 provides corresponding summary statistics for the variation across countries.

The average country experienced 16 percentage points lower monthly exports to the US at the peak of US tariffs it faced. Fully 10 percentage points of this contraction (or 63.2%) can be attributed to confusion arising from multiple trade policy announcements. While the overall policy impact varies from *6* to almost *56* percentage points, the contribution of tariff confusion remains substantial across the board with a standard deviation of 11.9%.

6 Unpacking Mechanisms

Having estimated the baseline effects of US tariffs and tariff confusion on US imports, we next conduct a series of exercises to inform the mechanisms through which they disrupted international trade. We first explore the persistence of tariff confusion, its interplay with statutory tariffs, and its relationship to future trade policy uncertainty (TPU). We then consider how different margins of trade activity adjusted. Finally, we examine the role of trust and specificity in buyer-supplier relationships by studying the differential impact of US trade policy across countries and products.

6.1 Tariff Levels, Current Confusion and Future Uncertainty

We first aim to better understand the relationship between the trade effects of higher tariffs, of greater confusion about actual tariff levels, and of potentially heightened uncertainty about future tariffs. Does confusion about prevailing tariffs resolve quickly over time? Is it more damaging when tariff rates are higher? And is confusion about the current trade policy stance separable from uncertainty about future trade policy?

Confusion persistence Our baseline analysis has uncovered large effects of cumulative tariff confusion on contemporaneous trade activity. In particular, our confusion measures are designed to capture the cumulative complexity of consecutive trade policy announcements. On the one hand, these effects may be short-lived, and firms may be able to eventually update their beliefs and internalize newly arriving trade policy updates. This would suggest that our baseline estimates provide an upper bound for the implied trade disruption. On the other hand, confusion may worsen over time given the prolonged period of frequent US policy announcements in 2025. In addition, the timing of buyer-supplier contracting and shipping logistics might slow down observed trade responses. Both factors might make our estimates lower bounds for potentially bigger delayed effects.

To explore the timeline of confusion effects, we distinguish between the number of tariff announcements that have arrived within the past three months ($\#Announce_{pc,t-2\to t}$) and prior to that ($\#Announce_{pc,t-3}$), where the two add up to our baseline announcement count $\#Announce_{pc,t}$ by definition. We then re-estimate the main levels and 12-month-differences specifications using either only $\#Announce_{pc,t-2\to t}$ or both $\#Announce_{pc,t-2\to t}$ and $\#Announce_{pc,t-3}$.

The results in Table 5 indicate that, if anything, the proliferation of tariff announcements is more disruptive after 3 months than immediately. This suggests that the consequences of tariff confusion

Table 5: Contemporaneous and Delayed Tariff Confusion Effects

	Panel A: Levels		Panel B: First Difference	
	(1)	(2)	(3)	(4)
	$\#Announce_{pc,t-2\to t}$	$\#Announce_{pc,t-3}$	$\#Announce_{pc,t-2\to t}$	$\#Announce_{pc,t-3}$
$\log(1+Tariff)$	-0.427***	-0.327***	-0.480***	-0.361***
	(0.0231)	(0.0227)	(0.0272)	(0.0273)
$\#Announce_{pc,t-2\to t}$	-0.0120***	-0.0235***	-0.00418*	-0.0178***
	(0.00131)	(0.00143)	(0.00172)	(0.00195)
$\#Announce_{pc,t-3}$		-0.0419***		-0.0492***
		(0.00152)		(0.00203)
Exporter-HS10 FE	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes
R-squared	0.870	0.870	0.237	0.238
N	2720608	2720608	2720608	2720608

Notes: Standard errors are clustered at the HTS 8-digit level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Panel A estimates the regression in levels. Panel B estimates the regression in 12-month first differences. In each panel: Column 1 - The effect of the total number of announcements in the past three months and; Column 2 - Total number of announcement prior to the past three months.

were neither transitory nor lessening over time, at least not while the US trade policy stance was developing at fast pace during 2025. We find that both recent and 3-month lagged confusion about US trade policy reduce monthly exports to the US, with the latter exerting an effect about twice as large. Both effects are in addition to any trade reductions arising due to higher statutory tariffs. The impact of tariff changes themselves remain stable and significant across specifications. These analyses inform how foreign exporters and US importers reacted to policy revisions and shared the burden of increased policy barriers and confusion.

Confusion x Tariff We next examine whether confusion over tariff rates is more damaging to trade activity at low or high levels of actual statutory tariffs. Intuitively, confusion about the exact tariff level may be more detrimental when it is quite high, as firms may place a high probability of it being above their cut-off for being able to profitably trade. We evaluate this possibility in Table 6, where we add the interaction $\log(1 + Tariff_{cpt}) \times Confusion_{cpt}$ or its 12-month-differences counterpart to our baseline specifications. We focus on the number of announcements and associated number of possible tariff inferences, $\#Announce_{pc,t}$ and $TariffMess_{pct}$, since the other metrics of tariff confusion themselves contain information about the statutory tariff.

The evidence points to tariff confusion being notably more disruptive at high tariff levels: The interaction term always enters negatively and highly significantly, with its point estimate an order of magnitude bigger than that on the main effect of confusion. For example, the coefficients in Columns 1 and 3 imply that a 10-percentage-point higher tariff could double ($0.134 * 0.10 \approx 0.0159$) or even triple ($0.0907 * 0.10 \approx 2 * 0.00454$) the impact of an additional trade policy announcement leading up to it.

Confusion and uncertainty Lastly, we investigate the relative importance of confusion about current tariff rates and uncertainty about future trade policy, conditional on prevailing trade barriers. One might expect that during an episode of dynamic trade policy making, current confusion might evolve quite quickly, while expectations about the future might move more slowly as the episode reaches a more conclusive resolution. Moreover, changes to confusion about the current state of affairs might be more consequential for trade adjustments in the short run, while changes to beliefs about future developments might trigger gradual trade responses over the medium term.

To explore these questions, we expand our baseline specifications to include the measure of trade policy uncertainty TPU_{cpt} defined in Section 3.3, namely the country-specific tariff announced on Liberation Day, adjusted for any product-specific tariffs or exemptions, and less the minimum 10% tariff imposed across the board. To account for Liberation-Day tariffs no longer being threat points

Table 6: Amplified Tariff Confusion Effects at High Tariff Levels

	Panel A: Levels		Panel B: First Difference	
	(1)	(2)	(1)	(2)
	$\#Announce$	$TariffMess$	$\#Announce$	$TariffMess$
$(\Delta)\log(1+Tariff)$	0.222***	-0.404***	0.409***	-0.425***
	(0.0342)	(0.0242)	(0.0591)	(0.0299)
$Confusion$	-0.00454**	-0.0888***	-0.0159***	-0.0886***
	(0.00156)	(0.00964)	(0.00198)	(0.0133)
$(\Delta)\log(1+Tariff)\times Confusion$	-0.0907***	-0.476***	-0.134***	-0.707***
	(0.00393)	(0.0665)	(0.00925)	(0.130)
Exporter-HS10 FE	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes
R-squared	0.870	0.870	0.238	0.237
N	2720608	2720608	2720608	2720608

Notes: Standard errors are clustered at the HTS 8-digit level. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Panel A estimates the regression in levels. Panel B estimates the regression in 12-month first differences. In each panel, column 1 interacts the statutory tariff with the number of announcements and column 2 interacts the statutory tariff with the total number of tariff announcement calculations. Coefficient in column 2 ($TariffMess$) is per 1000 permutations. All regressions include Exporter-HTS10 and HTS10-Time fixed effects.

after policy developments in August 2025, we add both TPU_{cpt} and its interaction with a dummy for the months when it was most relevant, April-July 2025.

Table 7 reveals that our results for the impact of both US tariffs and tariff confusion on US imports remain quantitatively and qualitatively unchanged when we control for TPU_{cpt}. If anything, TPU_{cpt} itself enters with a counterintuitive positive and significant coefficient during the April-July 2025 period and is otherwise non-consequential.

We view this evidence as reinforcing our conclusions about the short-term, high-frequency trade consequences of tariff confusion, while leaving open the possibility that uncertainty about future tariffs may persist and disrupt trade in the medium term beyond our sample. In particular, we caution that the traditional measure of TPU_{cpt} may be less informative in the context of US trade policy making in 2025 due to its sudden onset and fast pace.

6.2 Margins of Adjustment

We next examine how different margins of trade activity adjusted in response to US trade policy in 2025. Did US imports decline because buyer-supplier links were interrupted, or did partners sustain relationships but reduce trade flows? Did trade flows contract because of movements in order quantities, prices, or both?

We study trade margins at the origin country - HS10 product - month level, to shed light on the incidence of US trade policy on buyer-supplier relationships through the lens of the mechanisms discussed in Section 3. In particular, the extensive margin of active US importing of a given product from a given origin indicates that the associated buyer productivity cut-off for sourcing and seller productivity cut-off for exporting are not prohibitively high to make trade unprofitable. In turn, adjustments to import quantities and prices along the intensive margin of US imports speak to average outcomes across buyer-supplier links.

We caveat that the results from this analysis should be carefully interpreted. First, they identify changes in the prices US importing firms paid on foreign goods. While these import prices feed into US firms' overall input costs and ultimately US consumer prices, we cannot directly examine the latter. And second, country-product level data allows us to capture movements in average import quantities and prices across buyer-supplier transactions. In other words, we cannot distinguish adjustments within firm-to-firm relationships from reallocations or heterogeneity across

Table 7: Tariff Confusion and Liberation Day TPU

	(1) $(\Delta)\log(1+Tariff)$	(2) $\#Announce$	(3) $TariffMess$	(4) $\log(1+TariffMax)$	(5) $TariffMiss$
Panel A: Levels					
$\log(1+Tariff)$	-0.395***	-0.240***	-0.425***	0.126***	-0.353***
	(0.0230)	(0.0229)	(0.0227)	(0.0247)	(0.0220)
$Confusion$		-0.0316***	-0.178***	-0.585***	-0.298***
		(0.00126)	(0.0114)	(0.0148)	(0.00725)
Liberation Day TPU	0.440	0.598	0.397	0.504	0.405
	(0.631)	(0.626)	(0.626)	(0.600)	(0.603)
$\times\mathbb{1}[t = Apr2025, Jul2025]$	0.498***	0.527***	0.466***	0.664***	0.586***
	(0.0262)	(0.0258)	(0.0262)	(0.0263)	(0.0260)
R-squared	0.870	0.870	0.870	0.870	0.870
Panel B: First Differences					
$(\Delta)\log(1+Tariff)$	-0.432***	-0.260***	-0.463***	0.173***	-0.392***
	(0.0270)	(0.0283)	(0.0270)	(0.0297)	(0.0262)
$Confusion$		-0.0340***	-0.166***	-0.684***	-0.355***
		(0.00176)	(0.0138)	(0.0189)	(0.00932)
Liberation Day TPU	0.384	0.555	0.342	0.458	0.340
	(0.716)	(0.706)	(0.711)	(0.687)	(0.688)
$\times\mathbb{1}[t = Apr2025, Jul2025]$	0.419***	0.452***	0.388***	0.611***	0.521***
	(0.0366)	(0.0366)	(0.0366)	(0.0368)	(0.0367)
R-squared	0.237	0.237	0.237	0.238	0.238
Exporter-HS10 FE	Yes	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes	Yes
N	2720608	2720608	2720608	2720608	2720608

Notes: Standard errors are clustered at the HTS 8-digit level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. This table estimates our baseline regressions in equations 1 and 2 whilst controlling for Liberation Day TPU. Liberation Day TPU is measured as the announced announced Liberation Day tariff minus 10% as in **cite**. TPU is interacted with a dummy variable for the period April 2025 to July 2025. TPU is equal to zero for products that were exempt from the Liberation Day tariffs. Panel A estimates the regression in levels. Panel B estimates the regression in 12-month first differences. In each panel, column 1 estimates the effect of the statutory tariff as baseline comparison. Columns 2-5 estimates the effects of 4 measures of confusion whilst controlling for the statutory tariff. Column 2 - Total number of tariffs announcements ; Column 3 - Total number of tariff calculations Column 4 - Log of maximum perceived tariff and; Column 5 - Tariff overestimate. Coefficient in column 3 ($tariff^{mess}$) is per 1000 permutations. All regressions include Exporter-HTS10 and HTS10-Time fixed effects.

relationships.

Import prices and quantities The evidence indicates that over the course of 2025, practically the entire reduction in US imports due to higher US tariffs and tariff confusion reflects lower import quantities, with trivial effects on duty-free import prices. We draw this conclusion by decomposing log US imports by origin country, product and year into log import quantity and imputed log average import price, where $\log X_{cpt} = \log Q_{cpt} + \log P_{cpt}$ by definition. We then re-run baseline specifications (1) and (2) separately for each trade margin as the outcome variable. By the properties of OLS, the coefficient estimates on each of $\log(1 + Tariff_{cpt})$ and $Confusion_{cpt}$ from the price and quantity regressions will add up to the main estimates for their total effect on the value of US imports.

Table 8: Import Prices and Quantities

	(1)	(2)	(3)	(4)	(5)
	$(\Delta)\log(1+Tariff)$	$\#Announce$	$TariffMess$	$\log(1+TariffMax)$	$TariffMiss$
Panel A: Import Quantities (Levels)					
$\log(1+Tariff)$	-0.449***	-0.318***	-0.474***	-0.0525	-0.425***
	(0.0274)	(0.0277)	(0.0267)	(0.0301)	(0.0266)
$Confusion$		-0.0275***	-0.177***	-0.466***	-0.252***
		(0.00168)	(0.0128)	(0.0191)	(0.00933)
R-squared	0.890	0.890	0.890	0.890	0.890
Panel B: Import Quantities (Differences)					
$\Delta\log(1+Tariff)$	-0.534***	-0.362***	-0.562***	0.00633	-0.510***
	(0.0345)	(0.0366)	(0.0342)	(0.0376)	(0.0338)
$Confusion$		-0.0350***	-0.172***	-0.642***	-0.347***
		(0.00239)	(0.0165)	(0.0243)	(0.0120)
R-squared	0.219	0.219	0.219	0.220	0.220
Panel C: Import Prices (Levels)					
$\log(1+Tariff)$	-0.0177	-0.00154	-0.0186	0.0518**	-0.0140
	(0.0151)	(0.0164)	(0.0151)	(0.0174)	(0.0151)
$Confusion$		-0.00337**	-0.00668	-0.0816***	-0.0380***
		(0.00108)	(0.00788)	(0.0113)	(0.00550)
R-squared	0.899	0.899	0.899	0.899	0.899
Panel D: Import Prices (Differences)					
$\Delta\log(1+Tariff)$	0.0397	0.0312	0.0399	0.0472	0.0398
	(0.0220)	(0.0238)	(0.0220)	(0.0242)	(0.0220)
$Confusion$		0.00172	0.00105	-0.00892	-0.000955
		(0.00150)	(0.00959)	(0.0150)	(0.00739)
R-squared	0.196	0.196	0.196	0.196	0.196
Exporter-HS10 FE	Yes	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes	Yes
N	2720608	2720608	2720608	2720608	2720608

Notes: Standard errors are clustered at the HTS 8-digit level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Dependent variable is log import quantities. Panel A estimates the regression in levels. Panel B estimates the regression in (12-month) first differences. In each panel, column 1 estimates the effect of the statutory tariff as baseline comparison. Columns 2-5 estimates the effects of 4 measures of confusion whilst controlling for the statutory tariff. Column 2 - Total number of tariffs announcements ; Column 3 - Total number of tariff calculations Column 4 - Log of maximum perceived tariff and; Column 5 - Tariff overestimate. Coefficient in column 3 ($tariff^{mess}$) is per 1000 permutations. All regressions include Exporter-HTS10 and HTS10-Time fixed effects. Row one and two in the lower panel indicates the percentage change in US import quantities from the average change in the (log) statutory tariff and confusion, respectively, from December 2024 to December 2025.

The results in Table 8 are resounding: Tariff-exclusive US import prices were not correlated with movements in the US statutory import tariff during 2025. Instead, the observed decline in the value of tariff-exclusive US imports was driven by depressed import quantities. This implies

that there was complete pass-through of higher US tariffs into tariff-inclusive import prices, and US importers scaled down their purchase orders accordingly. In other words, in the short run, the burden of US tariff hikes was fully borne by US importing firms, while foreign exporters did not revise their prices and markups down to absorb any of the hit.

Turning to tariff confusion, we find that the vast majority of its negative impact on US imports was likewise driven by lower import quantities, with some limited evidence of lower tariff-exclusive import prices. The estimates based on specification (1) in levels suggest that reductions in tariff-exclusive prices contributed about 10%-15% of the total drop in US import values. This is consistent with trade partners sharing to some degree the costs and risks associated with pricing and contracting in an environment of confusion about statutory duty rates. While this finding does not obtain in the more stringent specification (2) in 12-month differences, it does point to potential differences in how buyers and suppliers respond to actual changes in trade policy vs. to greater confusion about the trade policy stance.

Import exit The data reveals that higher US import tariffs prompted US firms not only to reduce their import purchases, but also to altogether stop importing from some origin countries. Aspects of greater policy confusion related to tariff magnitudes exerted the same effects, while other aspects related simply to announcement counts didn't. In particular, we complement our baseline analysis of the intensive margin of import flows with evidence on the extensive margin of import status in Table 9. We now estimate variants of specifications (1) and (2) on the baseline sample of active import relationships at the country-product-month level, where the outcome is an indicator set to 1 when no imports are reported for that country-product in the next month.

We consistently observe large and highly significant positive effects of both actual tariff hikes and greater tariff confusion on the probability of exit from foreign input markets. Our estimates imply that a a 10% increase in import duty would increase the likelihood of import cessation by about 0.5 percentage points, compared to a base monthly exit rate of 44% in the panel. Conditional on a given policy change, an extra 5 announcements leading up to it would reduce survival by another 0.27 percentage points due to the combinatorics of tariff calculation, while an extra 10 percentage point overshoot in the maximum calculated tariff would reduce survival by an additional 0.17 percentage points.

Table 9: Import Exit

	(1)	(2)	(3)	(4)	(5)
	$(\Delta)\log(1+Tariff)$	$\#Announce$	$TariffMess$	$\log(1+TariffMax)$	$TariffMiss$
Panel A: Levels					
$\log(1+Tariff)$	0.0572***	0.0471***	0.0578***	0.0230***	0.0537***
	(0.00384)	(0.00405)	(0.00383)	(0.00447)	(0.00383)
$Confusion$		0.00188***	0.00865***	0.0375***	0.0173***
		(0.000248)	(0.00172)	(0.00278)	(0.00134)
R-squared	0.557	0.557	0.557	0.557	0.557
Panel B: First Differences					
$\Delta\log(1+Tariff)$	0.0599***	0.0496***	0.0605***	0.0267***	0.0568***
	(0.00382)	(0.00402)	(0.00381)	(0.00443)	(0.00381)
$Confusion$		0.00184***	0.00879***	0.0368***	0.0175***
		(0.000247)	(0.00173)	(0.00276)	(0.00134)
R-squared	0.557	0.557	0.557	0.557	0.557
Exporter-HS10 FE	Yes	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes	Yes
N	3743771	3743771	3743771	3743771	3743771

Notes: Standard errors are clustered at the HTS 8-digit level. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Conditional on $X_{cpt}>0$, the ependent variable ($Exit_{cp,t+1}$) is a dummy variable equal to one if $X_{cpt}>0$ and $M_{cp,t+1}=0$ and equal to zero otherwise.

This evidence can be interpreted in light of the mechanisms discussed in Section 2.2. From the perspective of US importers, the fixed costs of sourcing from a given input market (e.g. origin country research) or a given input supplier (e.g. contracting; production customization; shipping and logistics) are warranted when the purchase of foreign inputs reduces the importer's input cost index enough to raise overall profits. From the perspective of foreign exporters, the fixed costs of exporting to the US (e.g. destination market research) or to a specific US buyer (e.g. contracting; product customization; shipping and logistics) are justified when expected sales revenues are large enough to bring net profits.

The impact of higher statutory US tariffs on exit from importing at the country-product level is thus consistent with variable trade costs rising to a sufficient extent to make some trade relationships no longer mutually beneficial. In turn, the consequences of greater tariff confusion are consistent with several economic mechanisms that are not mutually exclusive: Firms may have to incur fixed costs of ascertaining actual tariff levels; firms may expand more time and financial resources on negotiating trade orders with their partners; or firms may be sufficiently risk-averse to behave as if the highest possible tariff they could infer $TariffMax_{cpt}$ has been realized.

6.3 Trust and Relationship Specificity

We end by exploring the role of buyer-supplier trust and relationship specificity in the response of US imports to the dynamic US trade policy developments of 2025. Were trade links that entail input customization and relationship-specific investments more stable during tariff hikes and heightened tariff confusion? Did formal contracting institutions and informal trust systems help sustain trade activity when turbulent policy tested business partners' negotiations and agreements?

To shed light on these questions, we examine how US imports adjusted to changes in tariffs and tariff confusion across countries with different contract environments and across products with varying relationship specificity. As discussed in Section 3, buyers and suppliers that have made sunk investments in customizing upstream inputs for downstream production may have greater incentives to continue trading despite rising tariffs or tariff confusion, due to the hold-up problem in finding alternative partners. These incentives may be reinforced by mutual trust built in established relationships that extends beyond input customization, such as broader understanding on contracting principles, reliable payments and delivery, or risk sharing in response to shocks. At the same time, access to strong formal contracting institutions may either encourage or discourage trade activity during turbulent times: While it can make partners nimble in revising contracts to sustain relationships and dampen trade reductions, it can also lower the opportunity cost of breaking currently less profitable relationships by making it easier to secure new ones in the future.

While we are not able to analyze trade flows at the level of individual buyer-supplier links, we can exploit the exogenous variation in country and product attributes to identify clean effects of trust and relationship specificity in the aggregate. As with the analysis in the previous section, we caution that we characterize only high-frequency adjustments in the relatively short term and while policy turbulence is ongoing. We recognize that partnerships may evolve differently over the medium to long run, and that the pattern of this evolution may depend on the duration of policy turbulence and change after it subsides.

Products' relationship specificity We find that US imports of differentiated products that require more relationship-specific investments and exhibit higher relationship stickiness were significantly more resilient to rising confusion about US tariffs over 2025. By contrast, we document mixed and less robust evidence that imports of differentiated, relationship-specific inputs were more sensitive to tariff rises, while imports of relationship-sticky inputs were less sensitive.

These results emerge from an expanded version of specifications (1) and (2) that add the interactions of $Tariff_{cpt}$ and $Confusion_{cpt}$ with one of three different product characteristics: (i) scope for differentiation from Rauch (1999), (ii) need for relationship-specific investments from

Nunn (2007), and (iii) realized relationship stickiness from Martin et al. (2026).[18] Appendix Table *** reports the two-way correlations among these measures. While relatively correlated at about ***-***, conceptually they identify distinct product attributes. On the one hand, index (iii) may be the endogenous outcome of technologically inherent characteristics (i) and (ii). For example, firms may maintain longer-lasting relationships precisely when both partners need to incur sunk costs to customize their production process to each other. On the other hand, sourcing relationships may be stickier for inputs that are technologically essential to production or important in a buyer's total input expenditures. This could make changing suppliers very disruptive, even if the inputs need not be overly customized.

Table 10: Homogeneous vs Differentiated Goods (Rauch 1999)

	(1) $\log(1+Tariff)$	(2) $\#Announce$	(3) $TariffMess$	(4) $\log(1+TariffMax)$	(5) $TariffMiss$
Panel A: Levels					
$\log(1+Tariff)$	-0.444***	-0.135*	-0.331***	0.185**	-0.408***
	(0.0659)	(0.0677)	(0.0643)	(0.0706)	(0.0638)
$\log(1+Tariff)$	-0.0309	-0.212**	-0.180**	-0.221**	-0.0403
$\times Differentiated$	(0.0699)	(0.0715)	(0.0682)	(0.0748)	(0.0676)
$Confusion$		-0.0538***	-0.607***	-0.741***	-0.373***
		(0.00347)	(0.0488)	(0.0362)	(0.0181)
$Confusion$		0.0258***	0.439***	0.225***	0.0971***
$\times Differentiated$		(0.00372)	(0.0501)	(0.0395)	(0.0197)
R-squared	0.870	0.870	0.870	0.870	0.870
Panel B: First Differences					
$\Delta\log(1+Tariff)$	-0.516***	-0.127	-0.411***	0.0833	-0.521***
	(0.0727)	(0.0748)	(0.0711)	(0.0758)	(0.0714)
$\Delta\log(1+Tariff)$	0.0211	-0.230**	-0.117	-0.0388	0.0536
$\times Differentiated$	(0.0778)	(0.0801)	(0.0762)	(0.0816)	(0.0763)
$Confusion$		-0.0625***	-0.659***	-0.746***	-0.402***
		(0.00471)	(0.0581)	(0.0460)	(0.0233)
$Confusion$		0.0328***	0.508***	0.108*	0.0630*
$\times Differentiated$		(0.00506)	(0.0596)	(0.0503)	(0.0254)
R-squared	0.238	0.238	0.238	0.239	0.239
Exporter-HS10 FE	Yes	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes	Yes
N	2696564	2696564	2696564	2696564	2696564

Notes: Standard errors are clustered at the HTS 8-digit level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Dependent variable is log import quantities. Panel A estimates the regression in levels. Panel B estimates the regression in (12-month) first differences. In each panel, column 1 estimates the effect of the statutory tariff as baseline comparison. Columns 2-5 estimates the effects of 4 measures of confusion whilst controlling for the statutory tariff. Column 2 - Total number of tariffs announcements ; Column 3 - Total number of tariff calculations Column 4 - Log of maximum perceived tariff and; Column 5 - Tariff overestimate. Coefficient in column 3 ($tariff^{mess}$) is per 1000 permutations. All regressions include Exporter-HTS10 and HTS10-Time fixed effects.

We report the differential effects of US trade policy on goods with varying degrees of product differentiation, relationship specificity, and relationship stickiness in Tables 10, 11, and 12, respectively. The main effects of tariff confusion remain negative and significant across all specifications, while its interaction with each of the three product attributes always enters with a significant positive coefficient of sizable magnitude. For example, the estimates imply that US imports of differentiated goods were roughly half as sensitive to announcement proliferation as homogeneous

[18] We use the conservative Rauch (1999) measure to flag differentiated products, and the first measure of contract intensity denoted as z^{rs1} in Nunn (2007). To concord these measures to HS-10 products, we utilize concordances tables from UN Statistics Division for Rauch (1999) and Martin et al. (2026). For Nunn (2007), we use concordance tables from Pierce and Schott (2012) and the US Bureau of Economic Analysis. For more details see Appendix ***.

goods. Compared to trade in products at the 25th percentile, trade in products at the 75th percentile of the distributions of relationship specificity and relationship stickiness was respectively 1.57% and 1.57% less affected by announcement multiplicity.

Table 11: Sector Contract Intensity (Nunn 2007)

	(1) $\log(1+Tariff)$	(2) $\#Announce$	(3) $TariffMess$	(4) $\log(1+TariffMax)$	(5) $TariffMiss$
Panel A: Levels					
$\log(1+Tariff)$	-0.181*	0.0886	-0.155*	0.443***	-0.160*
	(0.0752)	(0.0747)	(0.0749)	(0.0814)	(0.0723)
$\log(1+Tariff)$	-0.523***	-0.731***	-0.616***	-0.802***	-0.509***
$\times ContractIntensity$	(0.121)	(0.119)	(0.121)	(0.131)	(0.117)
$Confusion$		-0.0511***	-0.273***	-0.775***	-0.374***
		(0.00420)	(0.0385)	(0.0473)	(0.0233)
$Confusion$		0.0341***	0.147*	0.401***	0.150***
$\times ContractIntensity$		(0.00662)	(0.0599)	(0.0801)	(0.0398)
R-squared	0.869	0.869	0.869	0.870	0.870
Panel B: First Differences					
$\Delta \log(1+Tariff)$	-0.239**	0.124	-0.230**	0.336***	-0.275***
$\times ContractIntensity$	(0.0839)	(0.0850)	(0.0843)	(0.0884)	(0.0816)
$\times ContractIntensity$	-0.452**	-0.787***	-0.512***	-0.501***	-0.347*
	(0.139)	(0.140)	(0.141)	(0.150)	(0.137)
$Confusion$		-0.0628***	-0.311***	-0.771***	-0.412***
		(0.00567)	(0.0444)	(0.0590)	(0.0296)
$Confusion$		0.0497***	0.233***	0.210*	0.115*
$\times ContractIntensity$		(0.00894)	(0.0707)	(0.101)	(0.0508)
R-squared	0.236	0.236	0.236	0.237	0.237
Exporter-HS10 FE	Yes	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes	Yes
N	2575919	2575919	2575919	2575919	2575919

Notes:

The evidence points to more nuanced effects of product attributes in the response of US imports to actual tariff movements. On the one hand, higher tariffs are dramatically more detrimental to trade in differentiated and highly relationship-specific inputs, compared to homogeneous and less customized inputs. This can be seen in the large negative and significant coefficient estimates on the interactions of $Tariff_{cpt}$ with relationship specificity in Table 11, especially when juxtaposed against its weaker and less stable main effects. Qualitatively similar but less robust patterns hold for the case of product differentiation in Table 11. In sharp contract to these effects, Table 12 indicates that tariff rises are significantly less disruptive to trade in goods that typically features sticky relationships.

While a full explanation of these findings is beyond the scope of our analysis, they point to important differences in how exogenous relationship specificity and endogenous relationship stickiness shape trade activity at a time of dynamic trade policy. In particular, buyers and suppliers in sectors with generally stickier relationships appear to sustain more trade flows in the face of both higher tariffs and greater tariff confusion. This is consistent with a role for mutual trust in weathering shocks to either trade costs or imperfect information. On the other hand, relationship specificity makes firms respond more to movements in actual tariffs but less to movements in tariff confusion. This is consistent with sunk costs of customization that prompts firms to drop partners or scale back activity only when trade costs exceed some threshold for certain.

Countries' trust & contract institutions Finally, we show that US imports from export

countries with more trust in foreigners were significantly more resilient to growing tariff confusion in 2025. Unlike informal contract institutions such as trust, formal contract institutions such as rule of law or contract enforcement did not materially impact the trade response. Separately, there is no conclusive evidence on the role of either formal or informal contract systems in moderating the impact of movements in the statutory tariff.

Table 12: Product Relationship Stickiness (Martin et al. 2026)

	(1) $\log(1+Tariff)$	(2) $\#Announce$	(3) $TariffMess$	(4) $\log(1+TariffMax)$	(5) $TariffMiss$
Panel A: Levels					
$\log(1+Tariff)$	-1.762***	-0.918***	-1.507***	-0.561*	-1.589***
	(0.215)	(0.222)	(0.221)	(0.219)	(0.208)
$\log(1+Tariff)$	0.434***	0.205**	0.345***	0.189**	0.386***
$\times Stickiness$	(0.0699)	(0.0719)	(0.0718)	(0.0715)	(0.0676)
$Confusion$		-0.111***	-1.148***	-1.166***	-0.687***
		(0.0126)	(0.335)	(0.139)	(0.0666)
$Confusion$		0.0266***	0.311**	0.207***	0.133***
$\times Stickiness$		(0.00410)	(0.102)	(0.0458)	(0.0219)
R-squared	0.869	0.870	0.869	0.870	0.870
Panel B: First Differences					
$\Delta\log(1+Tariff)$	-1.819***	-0.822***	-1.586***	-0.364	-1.593***
$\times Stickiness$	(0.234)	(0.244)	(0.238)	(0.251)	(0.228)
$\times Stickiness$	0.443***	0.169*	0.362***	0.139	0.377***
	(0.0769)	(0.0799)	(0.0782)	(0.0825)	(0.0751)
$Confusion$		-0.132***	-1.407***	-1.408***	-0.879***
		(0.0166)	(0.394)	(0.185)	(0.0903)
$Confusion$		0.0329***	0.398***	0.255***	0.179***
$\times Stickiness$		(0.00545)	(0.121)	(0.0611)	(0.0297)
R-squared	0.238	0.238	0.238	0.239	0.239
Exporter-HS10 FE	Yes	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes	Yes
N	2652112	2652112	2652112	2652112	2652112

Notes: Standard errors are clustered at the HTS 8-digit level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Dependent variable is log import quantities. Panel A estimates the regression in levels. Panel B estimates the regression in (12-month) first differences. In each panel, column 1 estimates the effect of the statutory tariff as baseline comparison. Columns 2-5 estimates the effects of 4 measures of confusion whilst controlling for the statutory tariff. Column 2 - Total number of tariffs announcements ; Column 3 - Total number of tariff calculations Column 4 - Log of maximum perceived tariff and; Column 5 - Tariff overestimate. Coefficient in column 3 ($tariff^{mess}$) is per 1000 permutations. All regressions include Exporter-HTS10 and HTS10-Time fixed effects.

To explore the role of the contracting environment for firms' reaction to US trade policy developments, we expand specifications (1) and (2) to include interactions of $Tariff_{cpt}$ and $Confusion_{cpt}$ with one of three different country characteristics: (i) average self-reported trust in foreigners from the World Values Survey (WVS); (ii) rule of law from the World Bank Doing Business Database (WBDB); and (iii) contract enforcement also from WBDB.[19] Consistent with these metrics picking up distinct formal and informal institutions, (ii) and (iii) are strongly correlated with each other at ***, but each only weakly correlated with (i) at about ***.

Table 13 reports the results for the impact of US trade interventions on US imports from origin countries with varying levels of trust in foreigners. While the negative level effects of tariff confusion remain strongly pronounced, the evidence clearly indicates that exporters that trust foreigners more maintained higher sales to the US. Consistent with the evidence for products' revealed relationship stickiness above, this strongly suggests that trust in foreign business partners

[19]The WVS surveys respondents in 66 countries who self-report their trust in foreigners in 5 categories from "Don't trust at all" to "Complete trust", which we convert to a [1,5] scale and average across respondents.

is conducive to sellers and buyers finding mutually advantageous terms to continue trading on in the face of tariff confusion. For example, the point estimates imply that improving trust from the lowest to the highest level would almost completely nullify the disruptive trade effects of multiple tariff announcements and multiple possible associated tariff calculations.

Table 13: Country Trust in Foreigners (WVS)

	(1)	(2)	(3)	(4)	(5)
	$\log(1+Tariff)$	$\#Announce$	$TariffMess$	$\log(1+TariffMax)$	$TariffMiss$
Panel A: Levels					
$\log(1+Tariff)$	-1.001***	0.463***	-0.604***	0.299**	-0.198**
	(0.0640)	(0.0867)	(0.0668)	(0.0996)	(0.0646)
$\log(1+Tariff)$	0.214***	-0.266***	0.0723**	-0.0912*	-0.0984***
$\times Trust$	(0.0235)	(0.0317)	(0.0247)	(0.0397)	(0.0242)
$Confusion$		-0.0787***	-0.676***	-0.579***	-0.163***
		(0.00390)	(0.0585)	(0.0628)	(0.0423)
$Confusion$		0.0163***	0.176***	-0.0207	-0.0733***
$\times Trust$		(0.00145)	(0.0202)	(0.0290)	(0.0200)
R-squared	0.884	0.884	0.884	0.884	0.884
Panel B: First Diff.					
$\Delta\log(1+Tariff)$	-1.311***	0.739***	-0.881***	0.433***	-0.395***
	(0.0780)	(0.108)	(0.0810)	(0.128)	(0.0799)
$\Delta\log(1+Tariff)$	0.342***	-0.349***	0.193***	-0.123*	-0.0120
$\times Trust$	(0.0298)	(0.0404)	(0.0310)	(0.0517)	(0.0309)
$Confusion$		-0.113***	-0.854***	-0.863***	-0.269***
		(0.00503)	(0.0749)	(0.0834)	(0.0553)
$Confusion$		0.0286***	0.253***	0.0788*	-0.0417
$\times Trust$		(0.00187)	(0.0261)	(0.0383)	(0.0261)
R-squared	0.277	0.278	0.278	0.279	0.279
Exporter-HS10 FE	Yes	Yes	Yes	Yes	Yes
HS10-Period FE	Yes	Yes	Yes	Yes	Yes
N	1835112	1835112	1835112	1835112	1835112

Notes: Standard errors are clustered at the HTS 8-digit level. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Dependent variable is log import quantities. Panel A estimates the regression in levels. Panel B estimates the regression in (12-month) first differences. In each panel, column 1 estimates the effect of the statutory tariff as baseline comparison. Columns 2-5 estimates the effects of 4 measures of confusion whilst controlling for the statutory tariff. Column 2 - Total number of tariffs announcements ; Column 3 - Total number of tariff calculations Column 4 - Log of maximum perceived tariff and; Column 5 - Tariff overestimate. Coefficient in column 3 ($tariff^{mess}$) is per 1000 permutations. All regressions include Exporter-HTS10 and HTS10-Time fixed effects.

On the other hand, we find mixed and inconclusive results for the implications of trust in foreigners for the impact of actual tariff movements. The sign and magnitude of the estimated coefficients varies considerably across specifications, and yet they are often highly statistically significant. This noisiness might be partly driven by the smaller sample size (WMS data is available for only 66 countries). It might also point to trust playing a differential role in the response of trade partners to imperfect information about tariff rates vs. to actual tariff hikes, similar to the findings for relationship stickiness above.

To complement this analysis of trust as a measure of informal contract systems, we consider formal contract systems in Appendix Table ***. We find no differential effects of either tariffs or tariff confusion on US imports across countries with different levels of rule of law or contract enforcement. One possible interpretation of these contrasting findings for formal and informal institutions is that only the latter is critical to firms' short-run response to trade policy developments in established relationships. This does not preclude the latter being important for the medium- to long-run adjustments.

7 Conclusion

To be completed.

A Appendix Tables

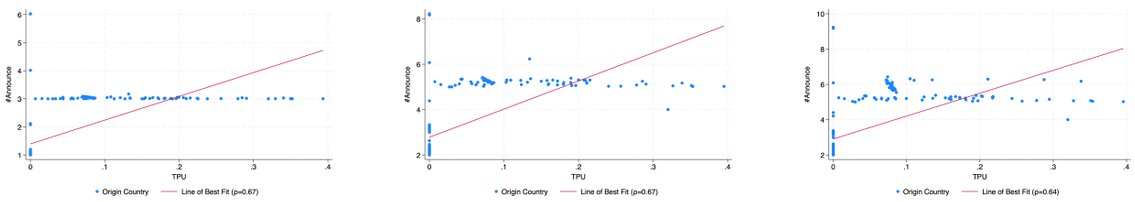
Table A1: Sources of Variation in Tariff Confusion

	(1) δ_c	(2) δ_p	(3) δ_t	(4) δ_{cp}	(5) δ_{ct}	(6) δ_{pt}	(7) $\delta_c + \delta_p + \delta_t$
$\#Announce$	0.0597	0.0236	0.784	0.132	0.951	0.838	0.855
$TariffMess$	0.0498	0.0649	0.101	0.218	0.296	0.431	0.214
$\log(1 + TariffMax)$	0.248	0.0990	0.440	0.376	0.849	0.614	0.760
$TariffMiss$	0.188	0.0537	0.264	0.263	0.849	0.442	0.493

Notes: This table reports the R^2 of regressing each confusion on each set of fixed effects. Column 1 - Country fixed effect; Column 2 - HTS 10-digit fixed effect; Column 3 - Time fixed effect; Column 4 - Country-HS 10 digit fixed effect; Column 5 - HTS 10-digit - Time fixed effect and; Column 6 - Country + HTS 10-digit + Time fixed effects.

B Appendix Figures

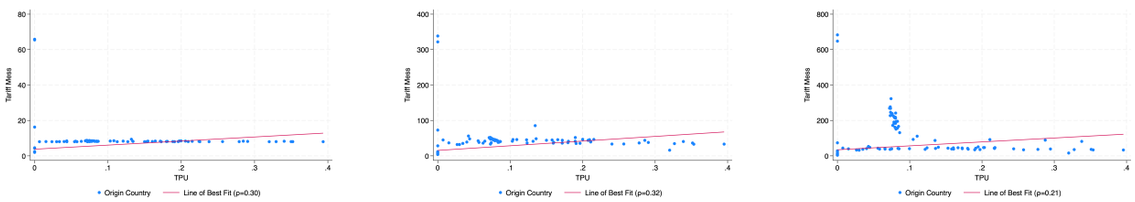
Figure A1: Scatter plot of $\#Announce$ and TPU



(a) Apr 2025 (b) Aug 2025 (c) Dec 2025

Notes: Scatter plots of $\#Announce$ against TPU in April, August and December 2025. Variables are averaged over products within each country. Each dot represents an origin country and the red line is the line of best fit.

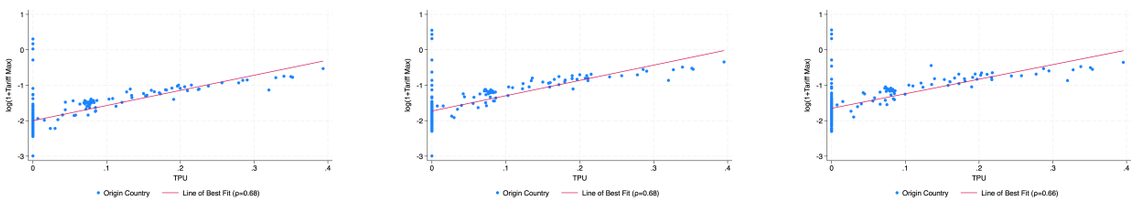
Figure A2: Scatter plot of $TariffMess$ and TPU



(a) Apr 2025 (b) Aug 2025 (c) Dec 2025

Notes: Scatter plots of $TariffMess$ against TPU in April, August and December 2025. Variables are averaged over products within each country. Each dot represents an origin country and the red line is the line of best fit.

Figure A3: Scatter plot of $\log(1 + TariffMax)$ and TPU

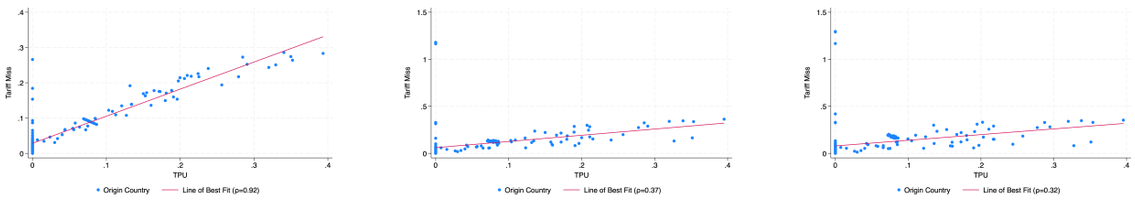


(a) Apr 2025 (b) Aug 2025 (c) Dec 2025

Notes: Scatter plots of $\log(1 + TariffMax)$ against TPU in April, August and December 2025. Variables are averaged over products within each country. Each dot represents an origin country and the red line is the line of best fit.

C Appendix: Data Construction

Figure A4: Scatter plot of $TariffMiss$ and TPU



(a) Apr 2025 (b) Aug 2025 (c) Dec 2025

Notes: Scatter plots of $TariffMiss$ against TPU in April, August and December 2025. Variables are averaged over products within each country. Each dot represents an origin country and the red line is the line of best fit.