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America's Own Goal: Who Pays the Tariffs?

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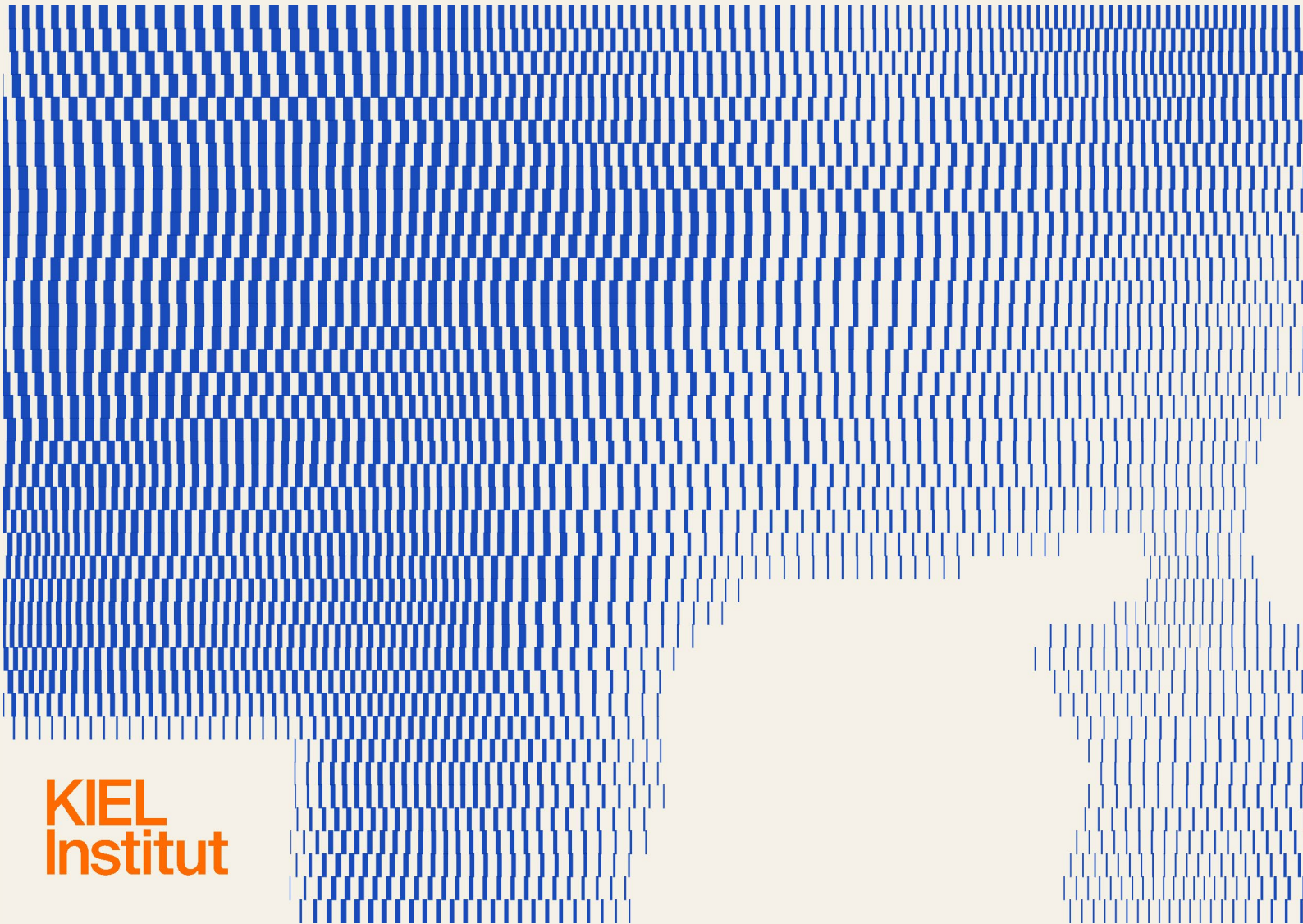

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Overview

- The 2025 US tariffs are an own goal: American importers and consumers bear nearly the entire cost. Foreign exporters absorb only about 4% of the tariff burden—the remaining 96% is passed through to US buyers.
- Using shipment-level data covering over 25 million transactions valued at nearly $4 trillion, we find near-complete pass-through of tariffs to US import prices.
- US customs revenue surged by approximately $200 billion in 2025—a tax paid almost entirely by Americans.
- Event studies around discrete tariff shocks on Brazil (50%) and India (25–50%) confirm: export prices did not decline. Trade volumes collapsed instead.
- Indian export customs data validates our findings: when facing US tariffs, Indian exporters maintained their prices and reduced shipments. They did not "eat" the tariff.

Keywords: Tariffs, Trade Policy, Pass-Through, Import Prices, United States

- Die US-Zölle von 2025 sind ein Eigentor: Amerikanische Importeure und Verbraucher tragen nahezu die gesamten Kosten. Ausländische Exporteure absorbieren nur etwa 4% der Zolllast—die restlichen 96% werden an US-Käufer weitergegeben.
- Auf Basis von Lieferungsdaten mit über 25 Millionen Transaktionen im Wert von fast 4 Billionen Dollar finden wir eine nahezu vollständige Weitergabe der Zölle an die US-Importpreise.
- Die US-Zolleinnahmen stiegen 2025 um etwa 200 Milliarden Dollar—eine Steuer, die fast ausschließlich von Amerikanern bezahlt wird.
- Ereignisstudien zu diskreten Zollschocks gegen Brasilien (50%) und Indien (25–50%) bestätigen: Exportpreise fielen nicht. Stattdessen brachen die Handelsvolumina ein.
- Indische Exportzolldaten validieren unsere Ergebnisse: Konfrontiert mit US-Zöllen hielten indische Exporteure ihre Preise und reduzierten ihre Lieferungen. Sie "schluckten" den Zoll nicht.

Schlüsselwörter: Zölle, Handelspolitik, Pass-Through, Importpreise, Vereinigte Staaten

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1 Introduction

On April 2, 2025, the US administration announced steep, sweeping import duties—the "Liberation Day" tariffs. These measures represented one of the broadest tariff shocks in US history. The policy included a baseline 10% tariff on almost all imports, higher country-specific rates for many trading partners, and additional sector-specific tariffs on autos, steel, and aluminum. For China — which retaliated — tariff rates at some point exceeded 100%.

The central question of this policy brief is: *who bears the cost of these tariffs?*

Were they absorbed by foreign exporters through lower export prices, or were they passed through to US importers and ultimately consumers? Political rhetoric suggests foreign countries "pay" the tariffs. Indeed, this claim has been central to the policy's justification: tariffs are framed as a tool to extract concessions from trading partners while generating revenue for the US government—at no cost to American households. Our research shows the opposite: **American importers and consumers bear nearly all the cost.**

This finding has profound implications. If foreign exporters do not reduce their prices in response to tariffs, then the entire burden of the tariff falls on US buyers. The tariff functions not as a tax on foreign producers, but as a consumption tax on Americans. Every dollar of tariff revenue represents a dollar extracted from American businesses and households.

Figure 1 illustrates the policy landscape. Effective tariff rates surged across trading partners following Liberation Day. China, already subject to elevated rates from the 2018–19 trade war, saw further increases. Brazil and India faced sharp, discrete tariff shocks in August 2025. Predictably, customs revenue surged—likely totalling around $200 billion more in 2025 than the previous year. This revenue surge is the direct consequence of higher tariff rates applied to a (shrinking) volume of imports.

2 Historical Context: What We Learned from 2018–19

The question of tariff incidence is not new. During the 2018–19 US-China trade war, a substantial body of research emerged documenting who bore the cost of those tariffs. The

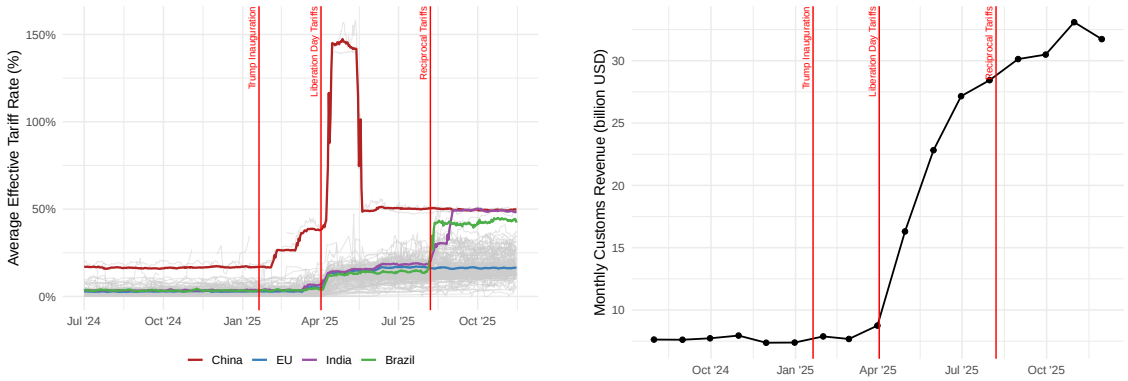

Figure 1: Effective tariff rates by origin country (left) and monthly US customs revenue (right).

Notes: Left panel shows 7-day rolling averages of effective tariff rates, with China, EU, India, and Brazil highlighted. Right panel displays monthly US customs duties revenue from January 2024 through November 2025.

consensus was striking: US import prices rose nearly one-for-one with the tariffs, while Chinese export prices remained largely unchanged.

Studies using detailed product-level data found pass-through rates close to 100%—meaning American buyers paid essentially the full amount of the tariff. Chinese exporters, despite facing significant new trade barriers, did not cut their dollar prices to maintain market share. Instead, the primary adjustment occurred through reduced trade volumes: fewer Chinese goods entered the United States, but those that did were not discounted.

This finding was initially surprising to some observers. Standard economic models suggest that the incidence of a tariff depends on the relative elasticities of supply and demand. If foreign exporters face highly elastic demand (meaning buyers can easily switch to alternatives), they might be expected to absorb part of the tariff to remain competitive. But the 2018–19 evidence suggested otherwise.

Several explanations emerged. First, for many products, there were no close substitutes readily available from non-tariffed sources. Second, Chinese exporters may have faced capacity constraints that limited their ability to redirect sales elsewhere. Third, and perhaps most importantly, the structure of global supply chains meant that many US importers had already optimized their sourcing and could not easily switch suppliers in the short run.

The 2025 tariffs provide an opportunity to test whether these patterns hold at a much larger scale. The Liberation Day tariffs were broader in scope, higher in magnitude, and applied to a wider range of trading partners. Our findings confirm that the same dynamics apply: near-complete pass-through to US buyers.

3 Data and Methodology

3.1 Shipment-level trade data

Our primary dataset consists of shipment-level bill-of-lading data from Panjiva, covering all ocean-freight imports entering the United States. This data source offers several advantages over traditional aggregate trade statistics. First, it provides daily frequency, allowing us to observe price and quantity adjustments in near real-time. Second, it captures individual shipments rather than monthly aggregates, enabling us to control for compositional changes within product categories. Third, it includes detailed information on weight and quantity, allowing us to construct unit values as a measure of prices.

For the period January 2024 through November 2025, the data comprise approximately 25.6 million single-product shipments with a total declared value of nearly $4 trillion. For each shipment, we observe the arrival date, product classification at the 6-digit Harmonized System (HS) level, weight in kilograms, declared customs value, and quantity. From these variables, we construct unit values (value per kilogram) at the product-country-date level as our primary measure of import prices.

We match each shipment to the applicable tariff rate using official US tariff schedules. Tariff rates vary by product (at the 8-digit HS level) and by country of origin, and they changed frequently during our sample period due to successive policy announcements. We construct a daily panel of tariff rates by product-country pair, tracking each policy change as it took effect.

3.2 Empirical specification

Our baseline regression estimates the average effect of tariffs on unit values:

$$\ln P_{i,c,p,t} = \beta \cdot \ln(1 + \tau_{c,p,t}) + \alpha_{p,t} + \gamma_{c,p} + \varepsilon_{i,c,p,t}$$

where P is the unit value of shipment i from country c, product p, arriving on date t, and τ is the applicable tariff rate. We include product-by-date fixed effects ($\alpha_{p,t}$) and country-by-product fixed effects ($\gamma_{c,p}$). Standard errors are clustered three-way by country, date, and product to account for potential correlation in the error term along these dimensions.

The coefficient β captures the elasticity of unit values with respect to the tariff-inclusive price. Its interpretation is straightforward:

- $\beta = 0$ implies full pass-through: tariffs raise import prices one-for-one, and foreign exporters do not adjust their prices at all. US buyers pay the entire tariff.
- $\beta = -1$ implies full absorption: foreign exporters cut their prices by the full amount of the tariff, leaving the tariff-inclusive import price unchanged. Foreign exporters

"eat" the tariff.

- Intermediate values imply partial absorption: for example, $\beta = -0.5$ would mean exporters absorb half the tariff and pass through the other half.

The fixed effects structure deserves explanation. Product-by-date fixed effects control for any time-varying factors that affect all shipments of a given product on a given day—including global commodity prices, seasonal demand patterns, and aggregate demand shocks. Country-by-product fixed effects control for time-invariant differences across source countries within a product category—capturing quality differences, transportation costs, and established supplier relationships.

Together, these fixed effects mean we identify the tariff effect from *within*-product variation across countries over time. When the US imposes a tariff on imports of a specific product from a specific country, we compare how unit values for that product-country pair change relative to the same product from other countries on the same dates. This approach isolates the tariff effect from confounding factors that might otherwise bias our estimates.

4 Main Results: Near-Complete Pass-Through

Table 1 reports our baseline estimates across all trading partners. The coefficient on log tariffs in the unit value regression (column 3) is -0.039, statistically significant at the 10% level. This implies that **foreign exporters absorb less than 4% of the tariff burden; the remaining 96% passes through to US importers.**

Table 1: Baseline estimates of tariff pass-through

	Dependent variable				
	log(Value)	log(Weight)	log(Unit val.)	log(Qty)	log(Unit val./qty)
	(1)	(2)	(3)	(4)	(5)
$\log(1 + \text{Tariff})$	-0.326	-0.286	-0.039^{*}	-0.330	-0.003
	(0.336)	(0.320)	(0.024)	(0.270)	(0.078)
HS code × Date FE	Yes	Yes	Yes	Yes	Yes
Country × HS code FE	Yes	Yes	Yes	Yes	Yes
Observations	25.56m	25.56m	25.56m	25.66m	25.56m
R^2	0.568	0.552	0.913	0.528	0.678

Notes: Three-way clustered standard errors (country × date × product) in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

The pattern across columns is informative. Columns 1 and 2 show that total shipment values and weights decline with tariffs—coefficients of -0.326 and -0.286, respectively, though not statistically significant given the large standard errors. Column 4 shows a similar pattern for quantities. These results indicate that tariffs reduce trade volumes, consistent with basic trade theory: higher prices lead to lower quantities demanded.

Crucially, columns 3 and 5 show that unit values—our measures of prices—show only very modest declines. The coefficient in column 3 is -0.039, economically small and only marginally significant. Column 5, using an alternative unit value measure (value per unit quantity rather than per kilogram), shows an even smaller and statistically insignificant coefficient of -0.003.

This pattern is consistent with near-complete pass-through: US import prices rise nearly one-for-one with tariffs, while trade volumes contract. Exporters are not cutting prices to maintain sales; instead, they are accepting reduced market share in the United States while maintaining their profit margins.

4.1 Interpreting the magnitude

A coefficient of -0.039 implies that a 10 percentage point increase in tariffs leads to only a 0.39% reduction in export prices. Put differently, if the US imposes a 25% tariff on a product, exporters reduce their pre-tariff price by less than 1%. The tariff-inclusive price paid by US importers rises by approximately 24%—nearly the full amount of the tariff.

This finding has direct implications for the distribution of the tariff burden. If approximately 96% of the tariff is passed through to US buyers, then for every $100 in tariff revenue collected, roughly $96 comes out of American pockets and only $4 represents a reduction in foreign exporter profits. The claim that foreign countries "pay" the tariffs is, at best, 4% true.

5 Validation: Brazil and India Case Studies

Our baseline estimates capture the average effect of tariffs across all products and countries. But averages can mask important heterogeneity, and identification relies on the assumption that tariff changes are not correlated with other factors affecting prices. To address these concerns, we conduct event studies around discrete, well-identified tariff shocks.

We focus on two countries that experienced sharp, sudden tariff increases in August 2025: Brazil and India. These cases offer clean natural experiments because the tariff increases were large, discrete, and applied to nearly all products from these countries simultaneously. This allows us to use other countries as a control group and examine the dynamic evolution of prices before and after the tariff shock.

5.1 Brazil: The 50% tariff shock

On August 6, 2025, the US imposed a 50% tariff on imports from Brazil. This was a sudden and substantial increase, affecting a wide range of products. We estimate the dynamic effect of this tariff using the Sun & Abraham (2021) interaction-weighted estimator, which

addresses potential biases from staggered treatment timing and heterogeneous treatment effects.

Figure 2 (left panel) displays the results. The x-axis shows weeks relative to the tariff imposition (week 0). The y-axis shows the estimated coefficient on the Brazil indicator, capturing how Brazilian import prices evolved relative to imports from other American countries (our control group).

Several features stand out. First, the pre-treatment coefficients (weeks -26 through -1) are centered near zero and show no systematic trend. This supports the "parallel trends" assumption underlying our difference-in-differences design: absent the tariff, Brazilian import prices would have evolved similarly to the control group.

Second, and most importantly, **the post-treatment coefficients remain close to zero and statistically insignificant**. Following the imposition of a 50% tariff, Brazilian exporters did not substantially reduce their dollar prices. The estimated coefficients hover around zero, with confidence intervals that exclude economically meaningful price reductions.

This finding confirms our baseline results in a cleaner setting: Brazilian exporters did not "eat" the tariff. The burden of the 50% tariff was passed through nearly in full to US importers.

5.2 India: Confirmation from the export side

India provides a particularly valuable validation case. Like Brazil, India faced sharp tariff increases in August 2025: a 25% tariff on August 7, raised to 50% on August 27. But India offers something Brazil does not: detailed export customs records capturing FOB (Free on Board) prices at the port of departure.

This data source is invaluable because it eliminates potential confounds. When we observe US import prices, we cannot distinguish changes in exporter prices from changes in shipping costs, insurance premiums, or other trade costs that might vary systematically with tariff policy. But FOB export prices are recorded before the goods leave India, capturing the price received by the Indian exporter net of all international trade costs.

If Indian exporters were absorbing part of the US tariff, we would expect to see their US-bound prices fall relative to shipments destined for other markets (Europe, Canada, Australia) that did not face tariff increases. This is precisely what we test.

Figure 2 (right panel) shows the results. We compare Indian exports to the US against Indian exports to the EU, Canada, and Australia—destinations that did not impose new tariffs on Indian goods during this period. The pattern is striking: **export unit values to the US remained unchanged relative to other destinations.**

The volume effects, however, were substantial. Export values to the US fell by approximately 18–24% relative to other destinations, and quantities fell by similar magnitudes. Indian exporters responded to US tariffs by shipping less, not by cutting prices. They adjusted on the quantity margin, not the price margin.

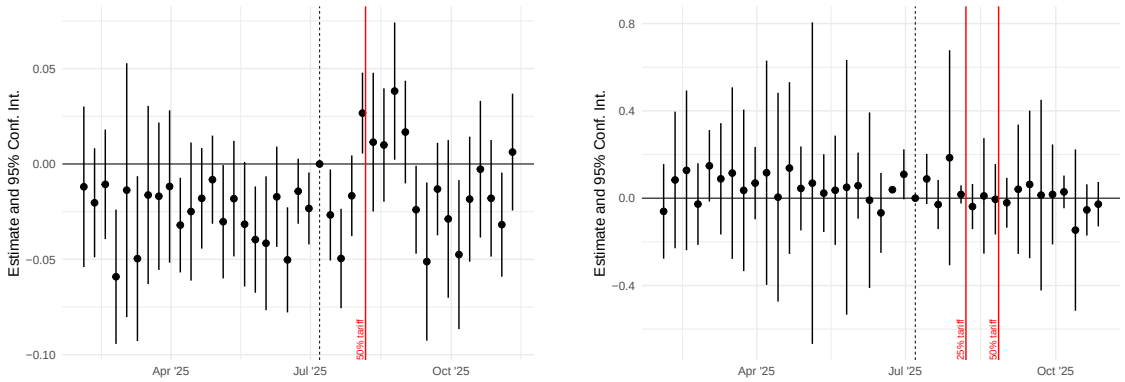

Figure 2: Event study: Brazil unit values (left) and Indian export unit values to US (right). *Notes:* Dynamic DiD estimates using Sun & Abraham (2021). Left: US imports from Brazil vs. other American countries around the Aug 6, 2025 tariff. Right: Indian exports to US vs. exports to EU, Canada, Australia. Week -4 is the reference period. Flat post-treatment coefficients confirm no price adjustment by exporters.

This finding from the exporter side is particularly compelling. It rules out the possibility that our US import results are confounded by changes in shipping costs, insurance premiums, or other factors that might affect CIF (Cost, Insurance, Freight) import prices. The adjustment occurs through reduced trade volumes, not price concessions.

6 Why Don't Exporters Absorb Tariffs?

A natural question arises: why don't foreign exporters cut their prices to maintain access to the lucrative US market? Several factors help explain this pattern.

Alternative markets exist. The United States is a large market, but it is not the only market. Exporters facing US tariffs can redirect their sales to Europe, Asia, or other destinations. If redirecting sales is feasible, exporters have less incentive to cut prices specifically for US buyers. The Indian export data confirms this: Indian exporters maintained their prices across all destinations, suggesting they were able to find alternative buyers for goods no longer competitive in the US.

Cutting prices may not help. Even if an exporter cuts prices, a 50% tariff is extremely difficult to overcome through price concessions. An exporter would need to cut their price by one-third just to offset a 50% tariff—a margin cut that would likely be unprofitable for most firms. Given the choice between maintaining margins on reduced sales or slashing margins to maintain volume, most exporters apparently prefer the former.

Expectations matter. If exporters believe tariffs may be temporary or subject to negotia-

tion, they have less incentive to make costly price adjustments. Cutting prices in response to tariffs could set a precedent that invites further tariff increases in the future. Maintaining prices signals resolve and avoids a race to the bottom.

Supply chains are sticky. Many US importers have long-standing relationships with foreign suppliers and cannot easily switch to alternative sources. This gives existing suppliers pricing power: they know that their US customers cannot immediately replace them, so they face less competitive pressure to cut prices.

7 Who Bears the Ultimate Burden?

Our analysis focuses on the first stage of tariff incidence: do foreign exporters absorb part of the tariff, or is it passed through to US importers? The answer is clear: near-complete pass-through to importers. But this raises the question of what happens next. Who, ultimately, bears the cost?

Importers and wholesalers face the immediate burden. They must pay the tariff at the border, which appears as a higher cost of goods on their books. They face a choice: absorb the cost through reduced margins, or pass it on to their customers.

Manufacturers and retailers who purchase imported inputs or finished goods face the next stage of the burden. If their suppliers pass through the tariff, they face the same choice: absorb or pass through. Evidence from the 2018–19 tariffs suggests that most firms pass through cost increases to customers, though there is heterogeneity depending on market structure and competition.

Consumers are the ultimate bearers of the burden. Whether through higher prices on imported goods, higher prices on domestically produced goods that use imported inputs, or reduced availability and variety of products, American households pay for the tariffs. The $200 billion surge in customs revenue is not free money—it comes from American wallets.

The economic cost, moreover, exceeds the tariff revenue collected. Tariffs distort consumption patterns, leading consumers to substitute toward less-preferred (but non-tariffed) alternatives. They disrupt supply chains, forcing firms to bear adjustment costs. And they reduce the variety of goods available to consumers. These "deadweight losses" are pure economic waste—costs borne by Americans with no offsetting benefit.

8 Policy Implications

The evidence presented in this brief leads to several unavoidable conclusions.

First, tariffs are a tax on Americans. The claim that foreign countries "pay" for US tariffs

is empirically false. With approximately 96% pass-through, nearly all the tariff burden falls on American importers and, ultimately, consumers. The $200 billion surge in customs revenue represents $200 billion extracted from American businesses and households.

Second, tariffs do not transfer wealth from foreigners to Americans. They transfer wealth from American consumers to the US Treasury. This is economically equivalent to a consumption tax—but one that applies selectively to imported goods, creating additional distortions and inefficiencies.

Third, trade volumes adjust, not prices. The primary effect of tariffs is to reduce imports, not to force foreign producers to accept lower prices. This means fewer goods, less variety, and disrupted supply chains for American firms. The costs are real and immediate; the purported benefits are illusory.

Fourth, supply chains bear significant costs. American manufacturers that rely on imported inputs face higher costs. They must either absorb these costs (reducing profits and investment), pass them to customers (raising prices for downstream buyers), or scramble to find alternative sources (incurring adjustment costs and delays). None of these options is costless.

Fifth, the 2025 tariffs repeat the mistakes of 2018–19. Prior research documented near-complete pass-through during the first trade war. The 2025 tariffs, despite being larger in scope and magnitude, produce the same result. There is no evidence that the dynamics of tariff incidence have changed.

9 Conclusion

Using high-frequency, shipment-level data covering over 25 million transactions and nearly $4 trillion in trade value, we provide unambiguous evidence that US importers bear nearly all the cost of the 2025 tariffs. Foreign exporters did not meaningfully reduce their prices in response to US tariff increases. The coefficient on tariffs in our unit value regressions is approximately -0.04, implying that only 4% of the tariff burden is absorbed by exporters. The remaining 96% passes through to American buyers.

Event studies around discrete tariff shocks on Brazil and India confirm this finding. Brazilian export prices to the US did not fall following the 50% tariff increase in August 2025. Indian export prices—measured directly from customs records at the port of departure—remained unchanged relative to exports to non-tariffed destinations. In both cases, exporters adjusted by shipping less, not by cutting prices.

The policy implications are stark. The 2025 tariffs function as a consumption tax on American businesses and households. The $200 billion in additional customs revenue represents wealth transferred from Americans to the US Treasury, not from foreign producers. The

claim that foreign countries “pay” these tariffs is a myth.

The tariffs are, in the most literal sense, an own goal. Americans are footing the bill.

This policy brief summarizes findings from “Who Pays the Tariffs?” by J. Hinz, A. Lohmann, H. Mahlkow, and A. Vorwig (Kiel Institute, January 2026). For the full paper with additional robustness checks and detailed methodology, see `https://www.kielinstitut.de`.

Imprint

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