



The Trade Effects of US Temporary Trade Barriers: When Do They Start and How Long Do They Last?

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Introduction

- The United States has been one of the most active users of WTO-sanctioned temporary trade barriers (TTBs) in the form of anti-dumping (AD), countervailing (CVD), and safeguard duties (SG) to counter import surges.
- Existing literature shows that temporary trade barriers reduce trade among existing exporter-product relationships and can also push those relationships out of the market altogether (Besedeš & Prusa, 2017; Sandkamp & Yalcin, 2021). Much of this evidence, however, comes from antidumping cases. Studies that include countervailing duties and safeguards often group the measures together or focus on a particular country, industry, or policy episode (Bown, 2013; Chandra, 2016; Carter & Steinbach, 2018).
- This study examines the trade effects of U.S. temporary trade barriers from 1990 to 2024 at the exporter–product–quarter level. It estimates both their overall effect on quarterly import values and the separate effects of antidumping, countervailing-duty, and safeguard actions across the pre-investigation, investigation, preliminary-duty, and final-duty stages, offering a detailed view of how abrupt changes in U.S. trade policy affect trade at the micro level.

Data

- Monthly U.S. import records for 1990–2024 come from U.S. Census Bureau files compiled by Peter Schott and were aggregated to the quarterly level. Products are identified using ten-digit Harmonized Tariff Schedule (HTS10) codes, with quantity-unit classifications added from the USITC DataWeb.
- HTS codes are frequently revised: they may be renamed, merged, divided into new categories, or reassigned across industries. The 2019 Pierce–Schott concordance links related codes into consistent product families, allowing products to be followed over time without treating administrative reclassifications as genuine product entry or exit (Pierce & Schott, 2012).
- Case-level data on U.S. antidumping, countervailing-duty, and safeguard actions comes from the World Bank Temporary Trade Barriers Database (Bown et al., 2020). These records are converted into pre-investigation investigation, preliminary-duty, and final-duty phases and merged with the quarterly imports panel.

Empirical strategy

The baseline regression estimation

$$Imports_{epq} = \exp \left[\sum_{s \in \mathcal{S}} \beta_s TTB_{epq}^s \right] \times \exp[\gamma_{ep} + \theta_{eq} + \lambda_{pq}] \times \epsilon_{epq}$$

$\mathcal{S} = \{\text{pre} - \text{investigation, investigation, preliminary, final}\}$

- $Imports_{epq}$: the value of imports of product p from exporter e in quarter q .
- s indexes the four TTB stages: pre-investigation, investigation, preliminary duty, and final duty.
- TTB_{epq}^s : measures whether the exporter–product pair is subject to a TTB at stage s in quarter q . The lead-in period covers the four quarters preceding an investigation.
- β_s : captures the change in imports associated with each TTB stage.
- γ_{ep} : denotes exporter–product fixed effects.
- θ_{eq} : denotes exporter–quarter fixed effects.
- λ_{pq} : denotes product–quarter fixed effects.
- ϵ_{epq} : is the multiplicative error term.

Results

Poisson Pseudo-Maximum Likelihood (PPML) Gravity Model with High-Dimensional Fixed Effects								
Policy phase	Binary Indicators				Count Indicators			
	All TTB	AD	CVD	SG	All TTB	AD	CVD	SG
Pre-investigation	+43.0% $\beta_{.358***} \cdot SE_{.075}$	+48.4% $\beta_{.395***} \cdot SE_{.077}$	+27.7% $\beta_{.245**} \cdot SE_{.110}$	+18.6% $\beta_{.171} \cdot SE_{.112}$	+43.5% $\beta_{.361***} \cdot SE_{.077}$	+49.1% $\beta_{.399***} \cdot SE_{.079}$	+30.0% $\beta_{.262**} \cdot SE_{.111}$	+18.6% $\beta_{.171} \cdot SE_{.112}$
Investigation	+22.8% $\beta_{.205***} \cdot SE_{.055}$	+21.6% $\beta_{.196***} \cdot SE_{.058}$	+23.8% $\beta_{.213**} \cdot SE_{.103}$	+1.5% $\beta_{.014} \cdot SE_{.090}$	+13.0% $\beta_{.122***} \cdot SE_{.040}$	+22.5% $\beta_{.203***} \cdot SE_{.050}$	+21.0% $\beta_{.190**} \cdot SE_{.090}$	+1.5% $\beta_{.014} \cdot SE_{.090}$
Preliminary-duty	-9.1% $\beta_{-.096} \cdot SE_{.060}$	-3.3% $\beta_{-.033} \cdot SE_{.067}$	-26.4% $\beta_{-.306***} \cdot SE_{.075}$	+55.8% $\beta_{.443***} \cdot SE_{.161}$	-10.7% $\beta_{-.113***} \cdot SE_{.040}$	-8.1% $\beta_{-.084} \cdot SE_{.076}$	-21.0% $\beta_{-.236***} \cdot SE_{.074}$	+55.8% $\beta_{.443***} \cdot SE_{.161}$
Final-duty	-26.5% $\beta_{-.308***} \cdot SE_{.092}$	-27.0% $\beta_{-.314***} \cdot SE_{.097}$	-44.5% $\beta_{-.588***} \cdot SE_{.121}$	-4.7% $\beta_{-.049} \cdot SE_{.166}$	-17.3% $\beta_{-.190***} \cdot SE_{.051}$	-20.5% $\beta_{-.229***} \cdot SE_{.077}$	-29.7% $\beta_{-.353***} \cdot SE_{.090}$	-4.7% $\beta_{-.049} \cdot SE_{.166}$

Table 1. Note: N = 54,646,489. First line values are $\exp(\beta) - 1$ (percent change); the second line reports β and its robust standard error. Significance level corresponds to *** p < .01, ** p < .05, * p < .10.

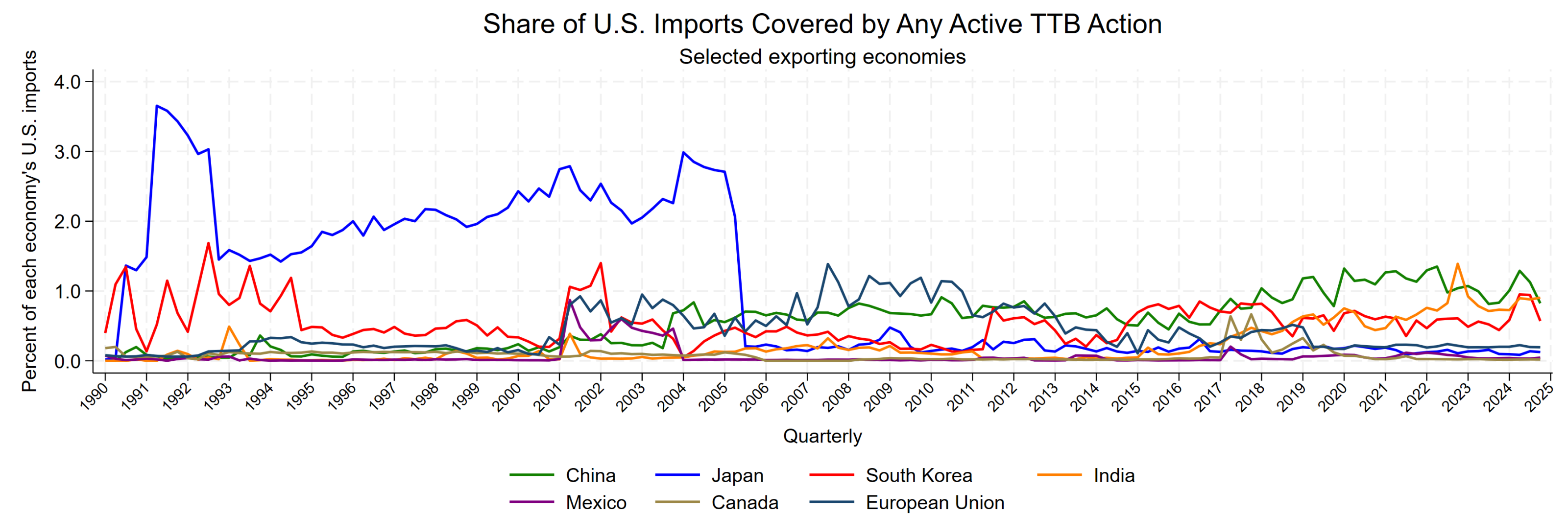


Figure 1. Note: For each economy and quarter, the figure divides the value of imports covered by an active investigation, preliminary measure, or final measure by the total value of U.S. imports from that economy. The European Union is treated as a single exporting economy.

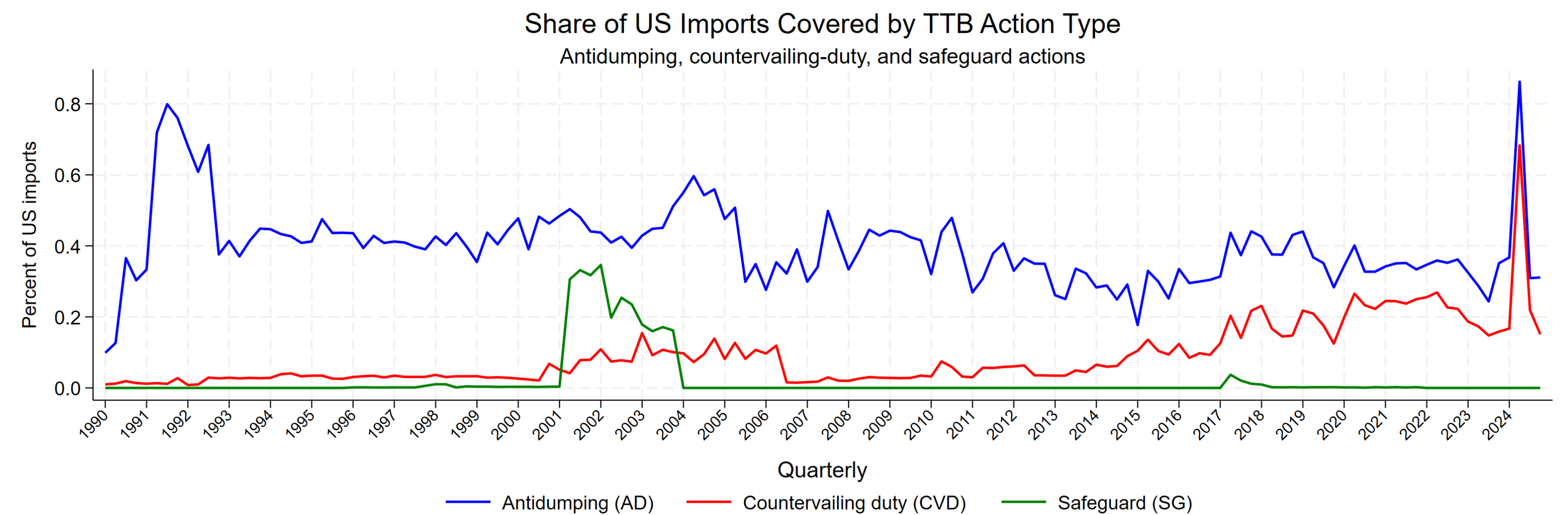


Figure 2. Note: For each year, quarter, and policy type, the figure divides the value of imports covered by an active investigation, preliminary measure, or final measure by the total value of U.S. imports.

Analysis

- The regression model estimates that final TTB measures are associated with a 26.5% decline in imports overall, with larger reductions for countervailing duties (-44.5%) than antidumping (-27.0%). The estimated final effect of safeguards is small (-4.7%) and statistically insignificant.
- Japan had the largest value-weighted coverage through the early 2000s, while China became more prominent after 2004 and India increased sharply in recent years. Coverage for Canada and Mexico remained comparatively limited.
- Antidumping actions cover the largest and most persistent share of U.S. imports, while CVD coverage has increased since the early 2000s. Safeguard coverage is concentrated in a few short episodes, particularly during 2001–2004, and all three measures show pronounced spikes in 2024.

Future work

- Compute import prices as import value divided by quantity and estimate how prices change across TTB phases using log-price regressions.
- Reestimate the analysis at the aggregated HS6 product level.
- Control for other trade-policy measures, including regular tariff rates and non-tariff measures.

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