

# Trade in an Uncertain World: The Role of Trade Policy Uncertainty

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Nuno Limão  
Georgetown University and NBER  
AMEC Symposium, FRBNY

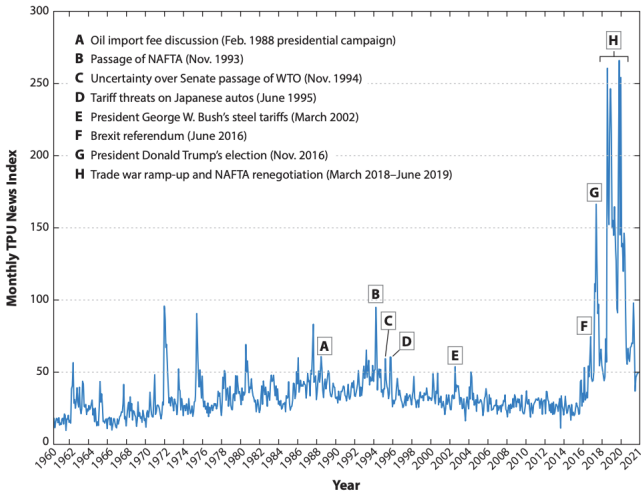
November 14, 2025

- What is TPU and what is new under Trump 2.0?
- How can TPU affect firms (foreign and domestic) and consumers, via prices?
- The growing (ir)relevance of Trade Agreements?
- Export Controls as a source of TPU

# What is Trade Policy Uncertainty & **new** under Trump 2.0?

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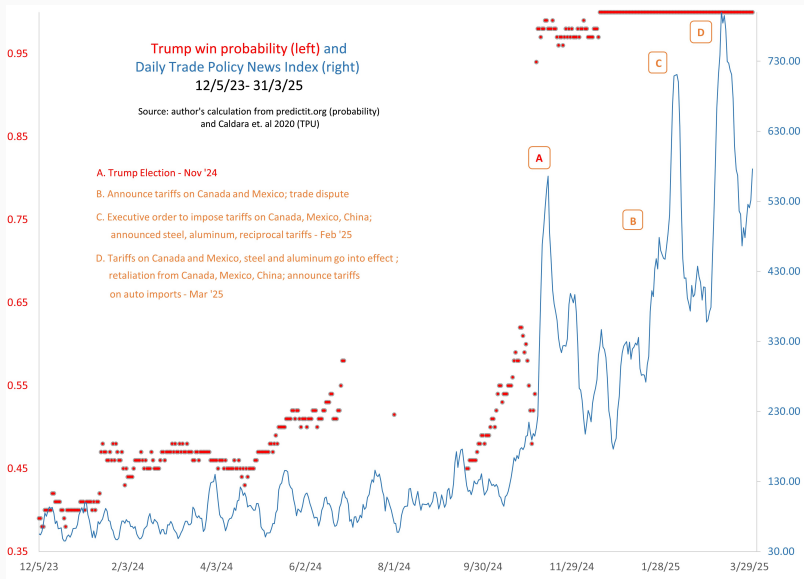
# US TPU: Temporary Spikes and Trump 1.0 Regime Change



**Figure 1**

Trade Policy Uncertainty (TPU) News Index, 1960–2021. The figure shows the share of TPU articles in major newspapers relative to the total number of articles about trade policy. Authors' calculations based on data constructed by Caldara et al. (2020).

# US TPU: New highs under Trump 2.0

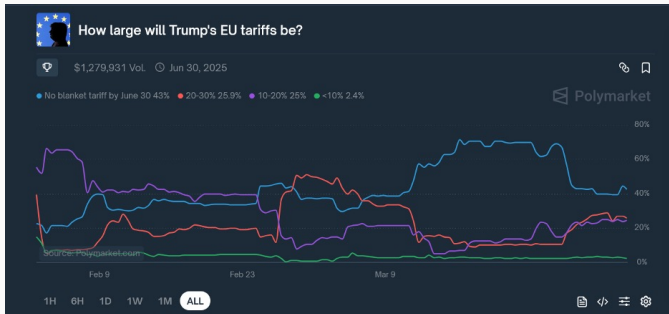


# TPU and what is **new**?

- **What?** Imperfectly anticipated policies targeting trade,  $\tau_t$
- **Why?** Policy is endogenous and its determinants,  $\mathbf{x}_t$ , uncertain
  - Intern'l: change prices, enforce cooperation (trade & beyond), **coerce**
  - National: redistribution, security, **revenue, industrial policy,  $x_t^{Trump}$**
- **When is TPU higher?**
  - If determinants are more uncertain or **unknown,  $x_t^{Trump} = ?$**
  - If policy maker changes, or has **spurious objective (is  $d\tau_t/dx_t \leq 0?$ )**
  - If country-product scope widens: **all treated as China**
  - If constraints are weak **and ignored**
    - International agreements: WTO, USMCA
    - National institutions: **Congress abdicates TP responsibilities**

# US TPU 2.0 Key Features

1. Higher Applied Tariffs on All
2. Arbitrary Executive Discretion
3. Unanchored Tariff Expectations
  - No focal tariffs: e.g. duty-free, MFN, WTO binding, US Column 2
  - No friends to shore to: not PTA, WTO, allies
  - No credible agreements in sight, only **2-page deals**



# US TPU 2.0 Key Features and Implications

## Features

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2. Arbitrary Executive Discretion
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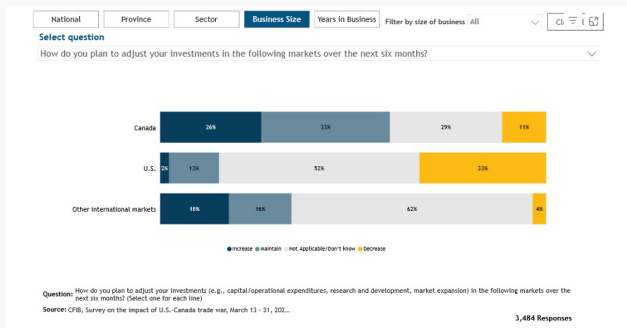
## Implications

- Magnify effects in earlier TPU research (cf. Handley and Limão '22)
- Warrant **more research** on other sources of misallocation
  - Information costs to re-anchor expectations and plan (increased TP compliance costs for 82% manufacturers in '25)
  - Lobbying and tribute expenditures for exemptions and deals (e.g. Apple and India, Nvidia and China)

**How can TPU affect firms?**

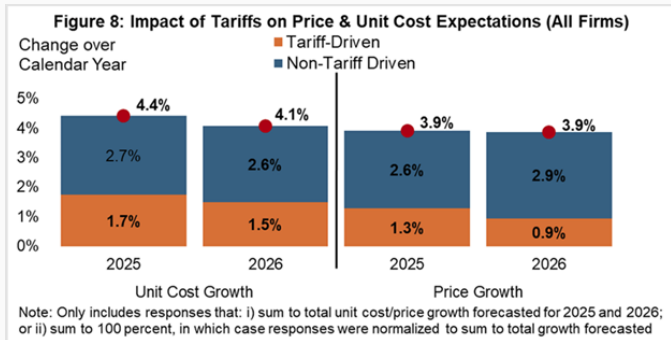
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- Wait and see or lower investment to US export market



# US Firms: NAM Survey Q1 '25 Expected Impacts of TPU?

- Higher input costs and lower exports (starting in Q1)
- Stock up in the short-run (cf. Alessandria et al)
- If affected by tariffs/TPU then expect
  - higher input unit costs
  - to pass-through as higher output prices



## Framework: Real Option Investment Theory

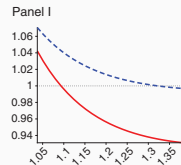
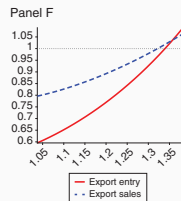
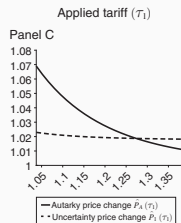
- Increased TPU affecting output or input prices increases the option value of waiting for irreversible trade investments, e.g.
  - Export distribution networks
  - Product adaptation to meet regulations and tastes
  - Input and supplier search and customization
- The prices of inputs (cost) and outputs (demand) affect even purely domestic firms' investments
- Key insight: tail risk is the main determinant to measure (Bernanke's 'bad news principle')

# TPU impact on prices and domestic entry

- **Setup** (HL'17):
  - Industry GE setting w/ sunk costs of entry (domestic and export)
  - US TPU affects foreign exporters directly and US firms via the (CES) price index
  
- **TPU increase:** tariff more likely to change, increasing tail risk for
  - foreign exporters given potentially higher tariff
  - domestic given potentially lower tariff
  
- **Counterfactual:** what if the US treated all like China pre-WTO?
  - Compute entry, sales, prices and compare to deterministic tariff
  - How important are initial tariffs?

# TPU impact under high vs. low tariffs (vs. no TPU)

- Moderate TPU:  $\Pr(\tau_{t+1} \neq \tau_t) = 0.25$ .
- Tail risk:  $\propto \left(\frac{\tau^{\text{worst}}}{\tau_t}\right)^{-\sigma}$ ;  $\tau^{\text{worst}} \in \{1, 1.4\}$ .
- Pre-trade war  $\tau_t = 1.05$ :
  - entry is **higher for domestic firms**;
  - entry is lower for foreign exporters.
- Trade War 2.0  $\tau_t = 1.20$ :
  - entry is **lower for domestic & exporters**;
  - welfare cost of TPU is similar to autarky.



# **The growing (ir)relevance of Trade Agreements in an uncertain world?**

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## TPU and the Role of Trade Agreements (TA)

- TAs that reduce TPU are a major source of trade integration.
- Trade wars, Brexit, NAFTA renegotiation, etc have **undermined the credibility** of TAs and thus threaten a broader disintegration.

# TPU and the Role of Trade Agreements (TA)

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- Trade wars, Brexit, NAFTA renegotiation, etc have **undermined the credibility** of TAs and thus threaten a broader disintegration.
- **TAs seek to increase and secure market access**, as reflected in
  - objectives: 'ensure a predictable environment for investment'
  - negotiated future policies: e.g. tariff bindings, contingent protection, product standards, competition policy, government procurement
  - enforcement mechanisms: monitoring, dispute settlement
- Evidence that TAs reduce tariff volatility and downside risk
- Evidence that if TAs reduce TPU they increase
  - firm and product export entry: **1/3 of china shock** (HL '17)
  - firm imported inputs (HLLY '22 China)
  - industry level international trade (various)

## Brexit Approach and Estimates (GHL '21 '24)

- **Question:** How did Brexit uncertainty affect UK-EU trade?
- **Approach:** Estimate if increased probability of Brexit reduced exports by more in riskier products, i.e. those potentially facing higher MFN tariffs (focal point) in post-Brexit scenario
- **Key findings:** Predicted TPU effect from referendum
  - 11-20% reduction in bilateral export values (EJ '21)
  - 11% increase in UK import prices from EU (JIE '24)
- **Research needed:** TPU import price pass-through in other settings

## Other Studies on TPU and TA

- TPU effects on Trade in Goods and Services

Country	Insight	Source
UK	Brexit TPU lowered services trade	Ahmad et al. (2023)
EU/Spain	TPU reduction boosted Portuguese exports	Handley & Limão (2015)
US	PTAs insured US exporters in 2008	CHL (2018)
China	Pre-WTO US TPU suppressed exports and raised prices	Handley & Limão (2017)
Australia	Tariff bindings cut tail risk and increased imports	Handley (2014)
Other		Reviewed in HL (2022)

- TPU effects on [firm profits, investment, and innovation](#)

## Prospects for TPU under Trump War 2.0 and beyond

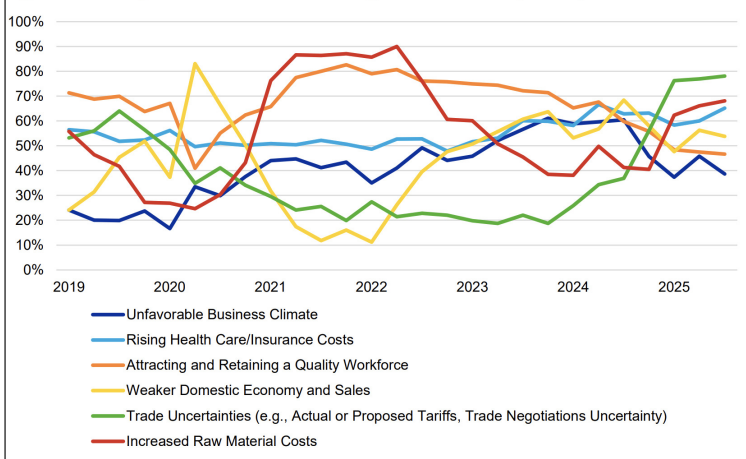
- New regime will remain if Congress/SCOTUS fail to act and its effects will persist regardless
- US and foreign firms will reduce export and import investments, re-orient global GVCs away from the US
- US manufacturing entry will be attenuated by TPU under high tariffs
  - Higher imported input costs
  - Higher potential downside: reversal from 10-20% to MFN post Trump
- The lost credibility of the WTO and PTAs is a force of disintegration but, the value of rebuilding them is higher and harder than ever

# Backup

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# Survey measures: TPU as new "business challenge" since 2018

Figure 4: Primary Current Business Challenges for Select Responses, Q1 2019 – Q3 2025



Note: Respondents were able to check more than one response; therefore, responses exceed 100%.

- National Association of US Manufacturers Survey Q3 2025

# New Trade Policy Prediction Markets

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### Which countries will Trump tariff on April 2?

Mexico	76%	Yes	No
India	74%	Yes	No

\$468k Vol.

### Will Canada remove retaliatory tariffs on US...

<1% chance

Buy Yes Buy No

\$83k Vol.

### What will Trump say during Tariff event on April 2?

Billion 10+ times	59%	Yes	No
Percent 10+ times	64%	Yes	No

\$382k Vol.

### Price of dozen eggs in March?

Below \$5.00	2%	Yes	No
\$5.00-5.25	2%	Yes	No

\$1m Vol. 13 Monthly

### How large will Trump's EU tariffs be?

<10%	2%	Yes	No
10-20%	25%	Yes	No

\$1m Vol.

### Fear & Greed Index says "Extreme Fear" on...

71% chance

Buy Yes Buy No

\$8k Vol.

### Which countries will Trump tariff in first 100 days?

European Union	78%	Yes	No
Taiwan	51%	Yes	No

\$1m Vol.

### Will Canada block Pornhub in the U.S...

1% chance

Buy Yes Buy No

\$58k Vol.

### Trump imposes 40% tariff on China in first...

18% chance

Buy Yes Buy No

\$1m Vol.

### Will Trump remove tariff on Canada before May?

25% chance

Buy Yes Buy No

\$302k Vol.

### Will Trump remove tariff on Mexico before May?

30% chance

Buy Yes Buy No

\$474k Vol.

### Will Trump announce a general Tariff on import...

45% chance

Buy Yes Buy No

\$1m Vol.

# Probability of a 'regime' change Nov 24-Mar '25




## Will Trump impose large tariffs in his first 6 months?

\$856,602 Vol. ⌚ Aug 31, 2025



YES

**87% chance** ↑ 53%

 Polymarket

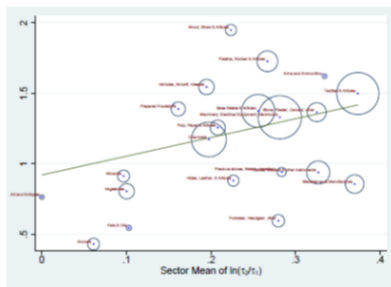


1H 6H 1D 1W 1M **ALL**

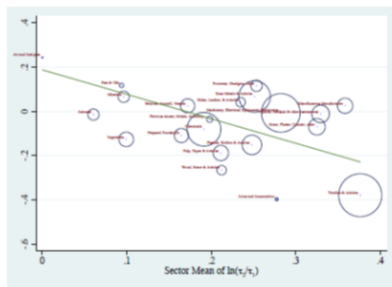


Figure 2: Sector level Chinese export and price index growth vs. initial uncertainty

(a) Exports ( $\Delta \ln$ )



(b) Price Index ( $\Delta \ln$ )



Notes: Simple means within sector of export and price index change vs means of initial uncertainty measured by  $\ln(\tau_{2V}/\tau_{1V})$  where  $\tau_{2V}$  and  $\tau_{1V}$  are the column 2 and MFN tariff factors in 2000. Circles are proportional to the number of observations used as weights in the linear fit represented.

# TPU Effects on Firm Profits, Investment, and Innovation

- **Stock Returns and Profits**

- Bianconi et al. (2021): US industries protected by US TPU (against China) had higher returns before its 2001 WTO accession; lower after.
- Hassan et al. (2020): Brexit exposure lowered stock returns and investment globally.

- **Investment and R&D**

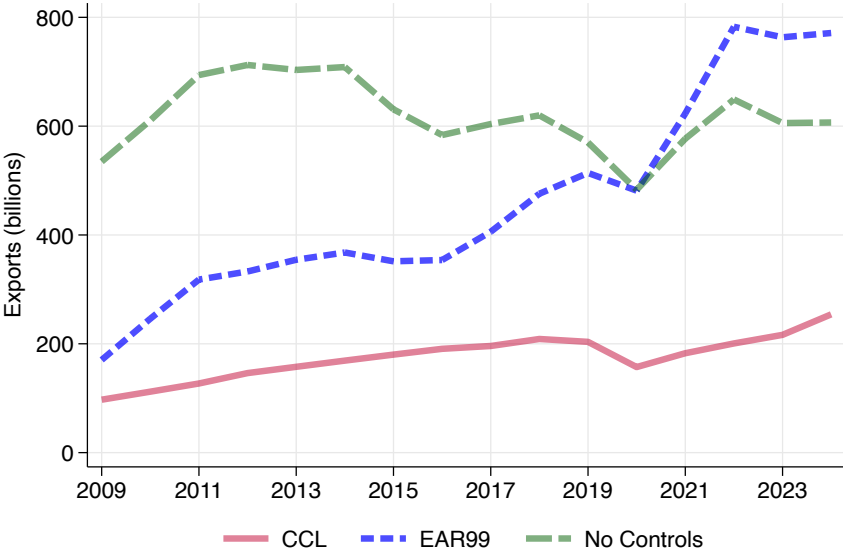
- Caldara et al. (2019): US TPU reduces investment
- Benguria et al. (2020): US TPU spikes in 2017/2018 reduced Chinese firms' investment, R&D, and profits.
- Autor et al. (2020): Lower profitability and fewer patents post-2001 for US industries where TPU towards China was reduced.

## **Export controls facts**

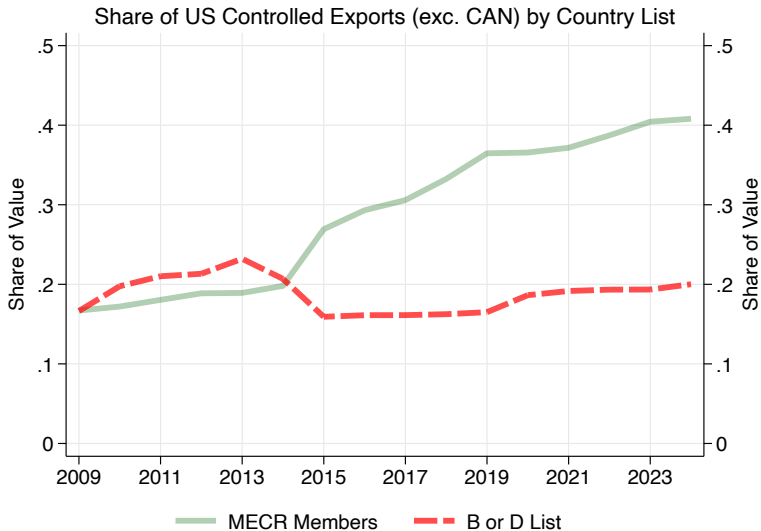
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# Value & Share Controlled Increasing Over Time

## US Exports (exc. Canada) by Control Type



# Growing Share of Controlled to MECR vs Rest



- MECR: members of any agreement & not on D list