

A world map with a blue background. Several countries are labeled with their three-letter codes: USA, CAN, MEX, BRA, ZAF, GBR, FRA, IND, CHN, and RUS. Arrows point from RUS to CHN and from CHN to IND. The title 'Geeconomic Pressure' is centered over the map.

Geeconomic Pressure

May 2026

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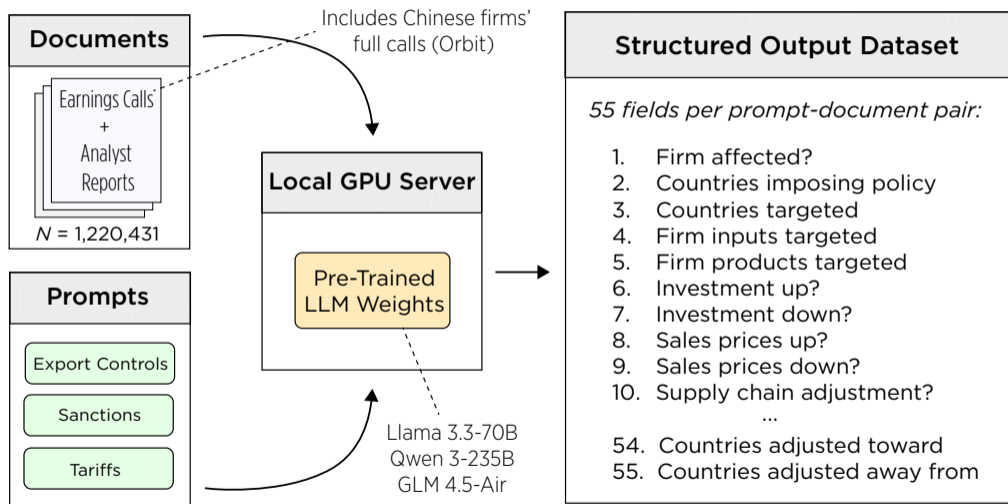


THE GLOBAL CAPITAL
ALLOCATION PROJECT

STANFORD
BUSINESS

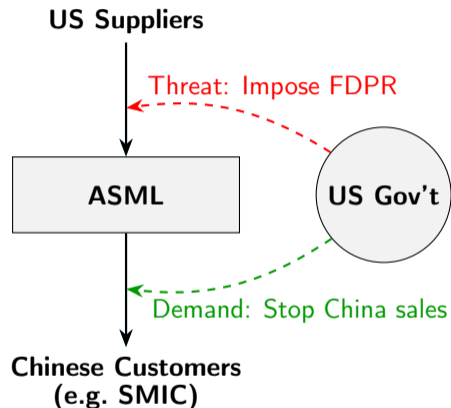
GRADUATE
SCHOOL OF

Using LLMs to Extract Large-Scale Structured Data From Text



Example of LLM Inference From Textual Data

- ▶ ASML flagged as affected by export controls in multiple earnings calls and reports (2021-25)
- ▶ Structured field **outputs** from LLM:
 1. Countries imposing controls: **US, Netherlands**
 2. Country receiving export controls: **China**
 3. Firm's products targeted: **EUV and DUV systems, lithography tools**
 4. Overall impact on firm: **negative**
 5. Firm's responses: **lower sales**
 6. Country of lower sales: **China**



- ▶ Additionally, we also capture data from Chinese customers such as SMIC

Understanding the Prompts: Export Controls

Prompt Excerpt

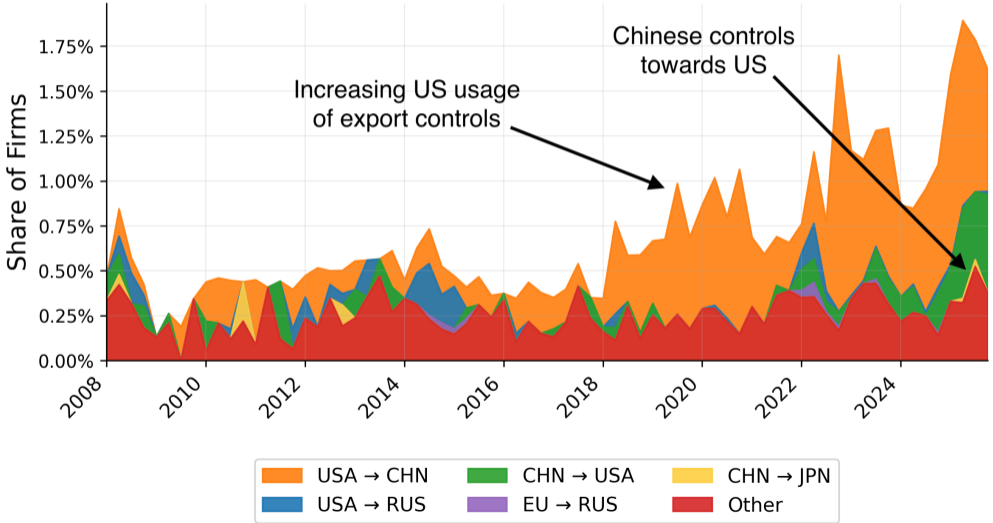
- ▶ **Export controls** are defined as restrictions on the sale of certain goods, technologies, or services. These must be imposed by the exporting country in order to be classified as export controls. Export controls are not tariffs, financial sanctions, or boycotts.

[...]

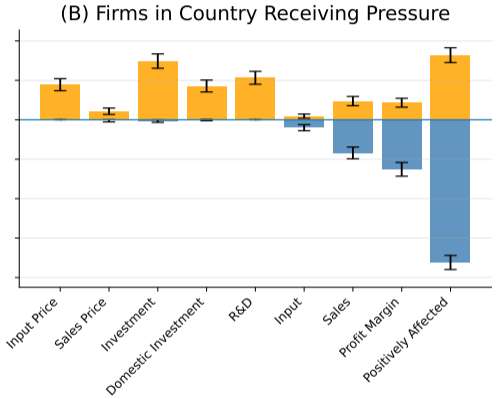
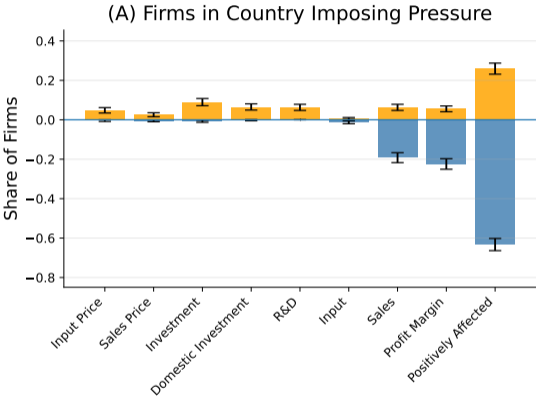
- ▶ A boolean flag called ***effect_any***, which should be 1 if the firm discusses export controls at any point in the call, and 0 otherwise. Even if the term “export controls” is not explicitly used throughout the call, return a 1 if the firm discusses impacts on its business that clearly relate to export controls.
- ▶ A field called ***countries_imposing***, listing the countries whose export control policy the firm discusses, if any. For example, if the firm reports current or future export controls imposed by the US government on goods or services exported to China, this field should say “USA”.

The Geography and Trends of Export Controls

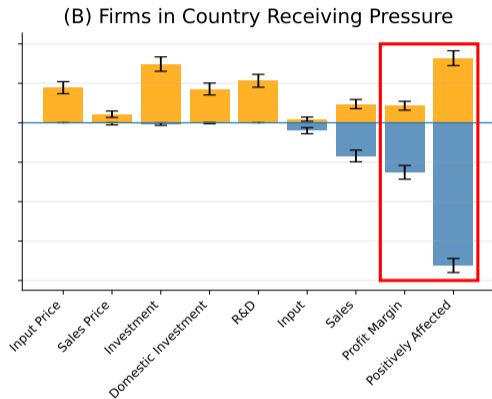
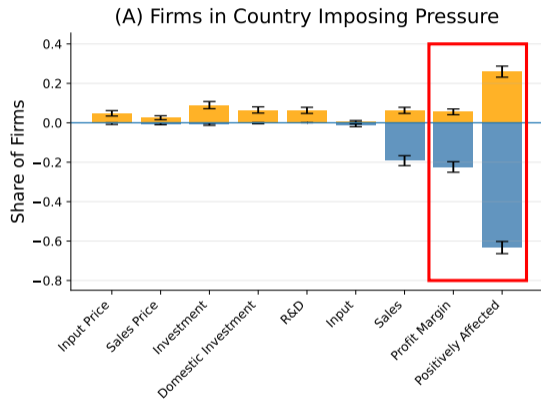
Export Controls



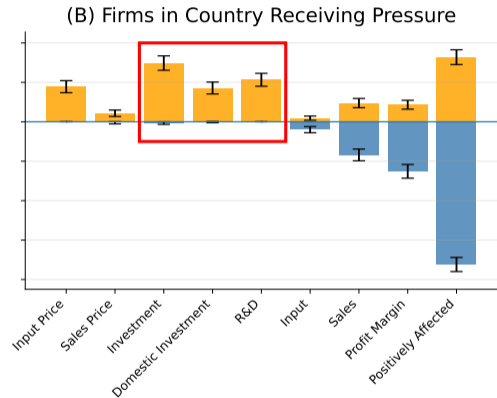
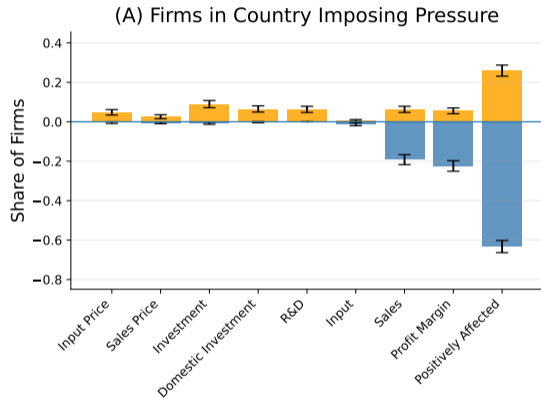
The Response to Export Controls, By Source and Destination



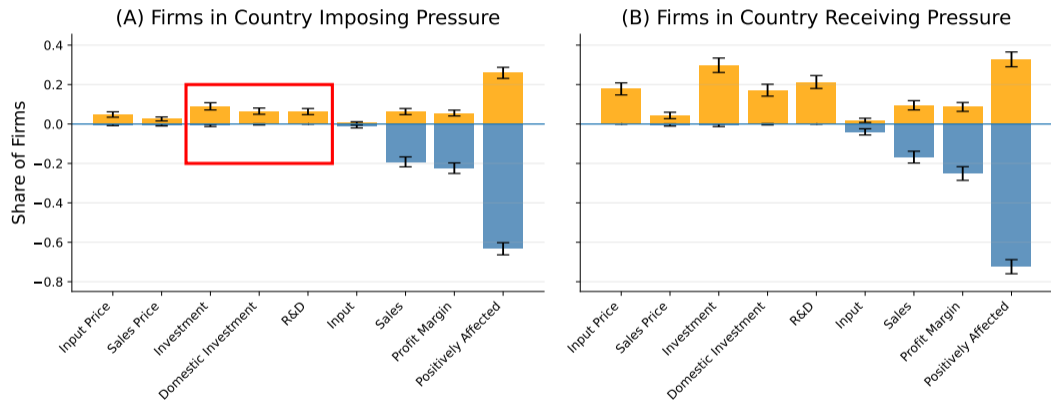
The Response to Export Controls, By Source and Destination



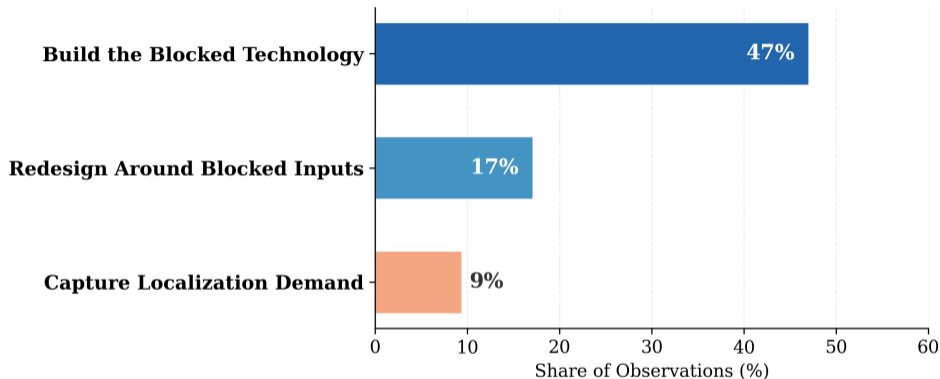
The Response to Export Controls, By Source and Destination



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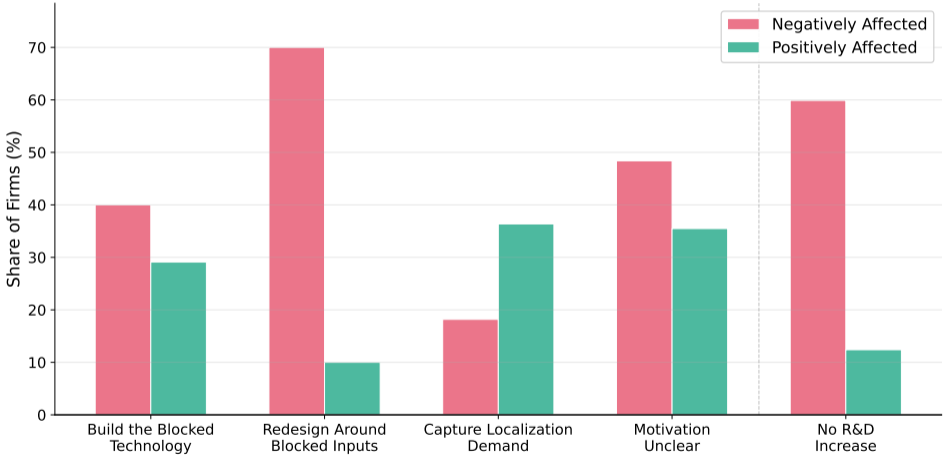


The Reason Chinese Firms do R&D in Response to Export Controls



- The firm tries to create a domestic version of the restricted input.
- The firm redesigns existing products to work with different available components.
- Export controls create customer demand for domestic suppliers; the firm upgrades to capture it.

Positive and Negative Effects of Export Controls

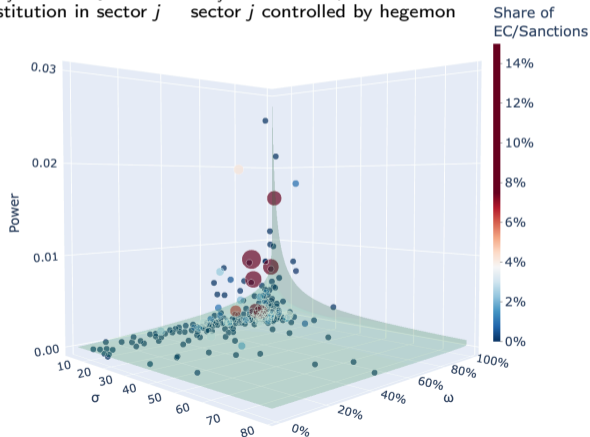


Geoeconomic Pressure: Do Hegemons Target Strategic “Chokepoints”?

- ▶ Percentage loss to target n from losing access to hegemon’s input in sector j :

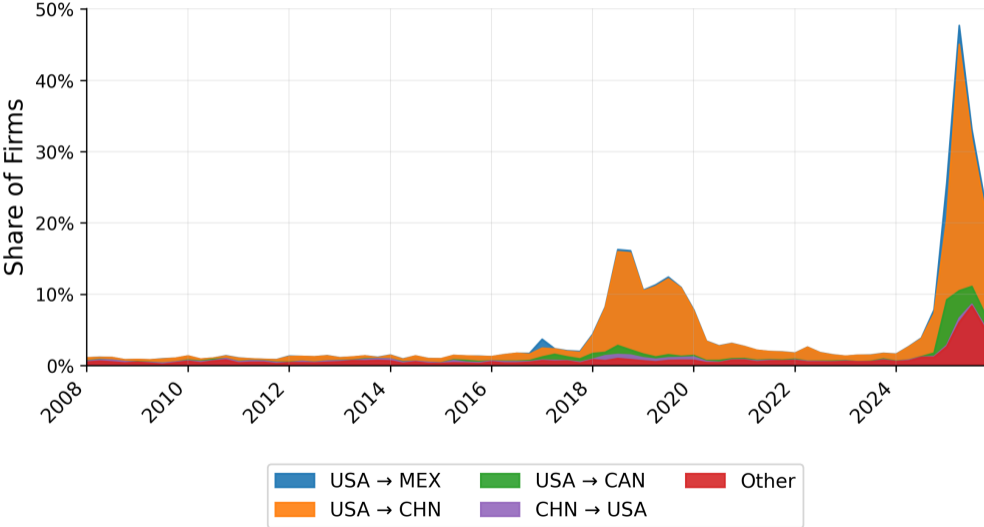
$$\text{Power}_{nj} \propto \underbrace{\Omega_{nj}}_{\substack{\Omega_{nj}: \text{Expenditure} \\ \text{share on sector } j}} \times \underbrace{(\sigma_j - 1)^{-1}}_{\substack{\sigma_j: \text{Elasticity of} \\ \text{substitution in sector } j}} \times \underbrace{\log(1 - \omega_{nj})}_{\substack{\omega_{nj}: \text{Share of expenditures in} \\ \text{sector } j \text{ controlled by hegemon}}$$

- ▶ Simplified calibration, full formula in Clayton et al. (24); analogy to Arkolakis et al. (12)
- ▶ Measure Power_{nj} at SIC4 sectoral level using hard data (BACI, Fontagne et al. 22)
- ▶ Use LLMs to measure intensity of sector usage by the US in export controls and sanctions towards China

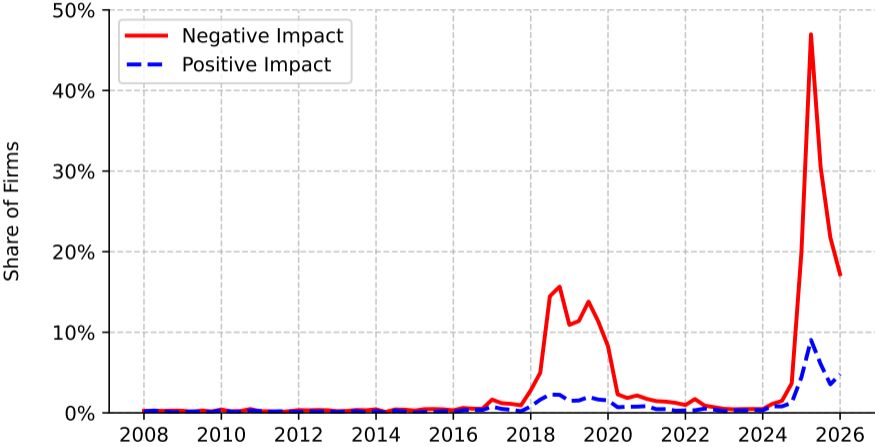


Aggregate Patterns in the Impact of Tariffs on Global Firms

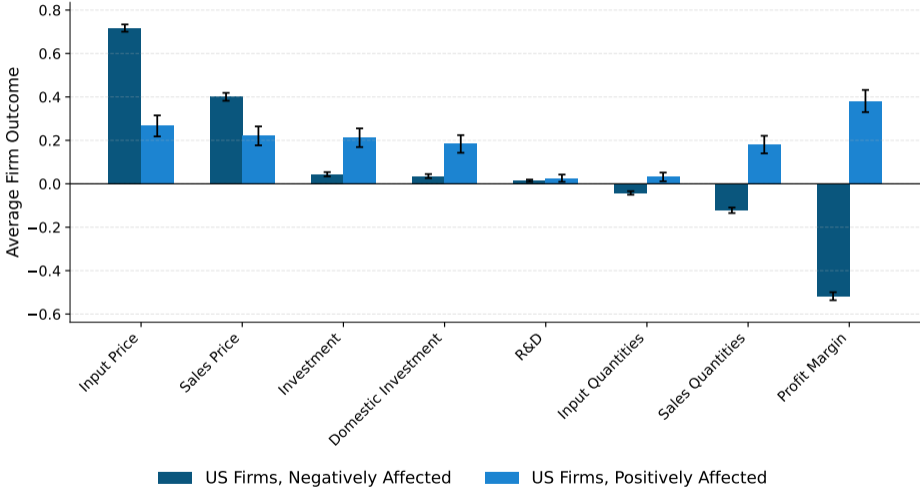
Tariffs



Winning and Losing from Tariffs



An Ongoing Look at the Trade War of 2025: US Firms' Adjustment



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