

Extended Abstract

Geopolitics at the dock:

The economic impact of penalizing trade via Chinese ships

Sonali Chowdhry
DIW Berlin, Kiel Institute

Hendrik Mahlkow
WIFO, Kiel Institute

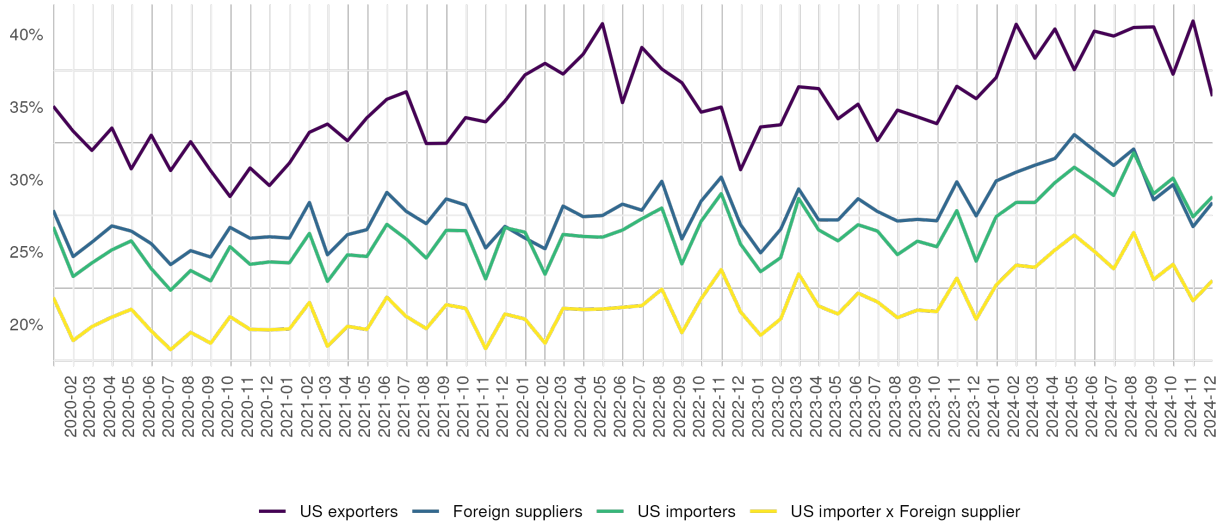
AUGUST 2025

In early 2025, US President Donald Trump proposed steep port fees on Chinese-built and -operated vessels docking at US ports, framing the measure as both a national security response and a strategy to revitalize American shipbuilding. Scheduled for implementation in October 2025, this policy marks a further escalation in US-China trade tensions as it targets not only traded goods but also the ships that carry them. Crucially, the effects of this policy will extend beyond China and potentially impact all countries relying on Chinese ships to trade with the US.

This paper provides the first quantitative assessment of the general equilibrium effects of such measures that affect trade costs both through the mode of transportation and, in the case of maritime shipping, through the choice of vessels. In doing so, the findings of this paper contribute to two distinct strands of the literature. First, we add to the rapidly growing research on the spillover effects of changes to the shipping network (Ludwig [2025](#); Heiland et al. [2025](#); Dunn and Leibovici [2024](#); Ganapati, Wong, and Ziv [2024](#)). By highlighting the strategic targeting of maritime transportation, this paper further adds to the rich literature on the geoeconomic fragmentation of global trade and the weaponization of economic interdependence which has thus far focused on the use of other instruments such as sanctions and export restrictions (Alfaro et al. [2025](#); Aytun, Hinz, and Özgüzel [2025](#); Chowdhry et al. [2024](#); Felbermayr et al. [2020](#)).

In a key contribution, the paper combines three highly granular and novel datasets: US firm-level maritime transactions, AIS vessel tracking data, and detailed vessel characteristics. The combination of these three datasets allow us to identify the value of US import flows, across sectors and source countries, that is dependent on Chinese-built ships. Conventional trade databases such as UN Comtrade, BACI, and the US Census do not permit this identification, as they either omit the mode of transport or, when reported, lack information on the vessels employed. AIS data

Figure 1 — Share of US ex-/importers served by Chinese ships over 2020-2024



alone is likewise insufficient, as it records vessel movements without linking them to the specific goods carried or their values.

Leveraging this unique dataset, the paper documents a series of new stylised facts on the role of Chinese-built ships in US imports and exports. For instance, in the most recent year available (2024), these vessels accounted for 27% of all ships serving US imports, were used by 20% of US importing firms, and carried 15% of total import value. This is further illustrated by Figure 1, which reports the shares of US exporters, importers and exporter-importer relationships that are served by Chinese vessels. Substantial heterogeneity also exists across industries—for example, Chinese-built ships transported 40% of US imports in sectors such as vegetables and fruits (see Fig. 2 in Appendix). By sharp contrast, the share of US-built vessels does not exceed 5% of imports across any of the sectors. Chinese-built ships are likely to be even more difficult to displace given their rising share of newly constructed vessels since 2000, a trend driven by China’s extensive industrial policy in the shipbuilding sector (Barwick, Kalouptsi, and Zahur 2025). Over this period, China’s share of annual additions to the global vessel fleet increased from 10% in 2000 to 57.7% in 2024 (see Fig. 3 in Appendix).

We then simulate the policy’s general equilibrium economic effects by suggesting a novel extension to the multi-country, multi-sector Caliendo and Parro (2015) framework. In a nested structure, the model incorporates a discrete choice not only across modes of transportation for each origin-destination-sector triplet, but also across vessel types conditional on selecting maritime transportation. This set-up enables us to evaluate a range of counterfactual scenarios where we allow for exogenous step-wise increases in iceberg costs on the use of Chinese vessels. The model equilibrium is solved for in changes, revealing both the aggregate and distributional consequences

of punitive measures targeting the shipping network.

Preliminary results suggest that imposing a port fee of one million USD on each call by Chinese-built vessels would reduce total U.S. imports and exports by approximately 3% and lower U.S. real income by about 0.1%.

References

- Alfaro, Laura, Harald Fadinger, Jan S Schymik, and Gede Virananda.** 2025. *Trade and Industrial Policy in Supply Chains: Directed Technological Change in Rare Earths*. Technical report. National Bureau of Economic Research. (Cited on page 1).
- Aytun, Uğur, Julian Hinz, and Cem Özgüzel.** 2025. “Shooting down trade: Firm-level effects of embargoes.” *Journal of Economic Behavior & Organization* 231:106821. (Cited on page 1).
- Barwick, Panle Jia, Myrto Kalouptsi, and Nahim Bin Zahur.** 2025. “Industrial policy implementation: Empirical evidence from china’s shipbuilding industry.” *Review of Economic Studies*, rda011. (Cited on page 2).
- Caliendo, Lorenzo, and Fernando Parro.** 2015. “Estimates of the Trade and Welfare Effects of NAFTA.” *Review of Economic Studies* 82 (1): 1–44. (Cited on page 2).
- Chowdhry, Sonali, Julian Hinz, Katrin Kamin, and Joschka Wanner.** 2024. “Brothers in arms: The value of coalitions in sanctions regimes.” *Economic Policy* 39 (118): 471–512. (Cited on page 1).
- Dunn, Jason, and Fernando Leibovici.** 2024. *Navigating the Waves of Global Shipping: Drivers and Aggregate Implications*. Technical report. Federal Reserve Bank of St. Louis. (Cited on page 1).
- Felbermayr, Gabriel, Aleksandra Kirilakha, Constantinos Syropoulos, Erdal Yalcin, and Yoto V Yotov.** 2020. “The global sanctions data base.” *European Economic Review* 129:103561. (Cited on page 1).
- Ganapati, Sharat, Woan Foong Wong, and Oren Ziv.** 2024. “Entrepot: Hubs, scale, and trade costs.” *American Economic Journal: Macroeconomics* 16 (4): 239–278. (Cited on page 1).
- Heiland, Inga, Andreas Moxnes, Karen Helene Ulltveit-Moe, and Yuan Zi.** 2025. “Trade from space: Shipping networks and the global implications of local shocks.” *Review of Economics and Statistics*, 1–45. (Cited on page 1).

Ludwig, Philipp. 2025. *Can Unilateral Policy Decarbonize Maritime Trade?* Technical report. CESifo Working Paper. (Cited on page [1](#)).

Appendix

Figure 2 — Share of builder countries in vessels serving US imports, 2024

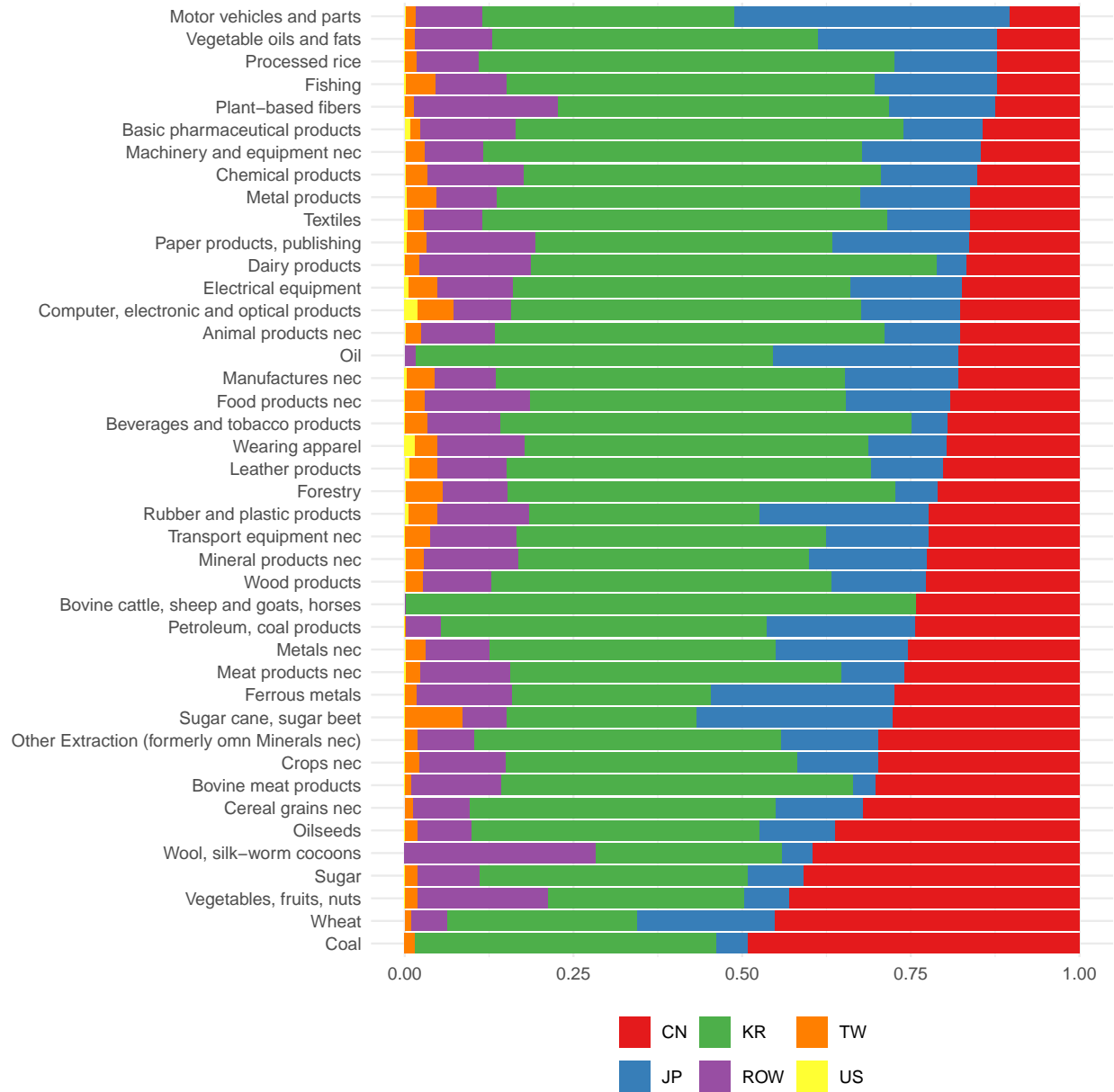


Figure 3 – Global share of Chinese-built ships by year, 2000-2024

