

Industrial Policy and Trade Tensions in Strategic Sectors

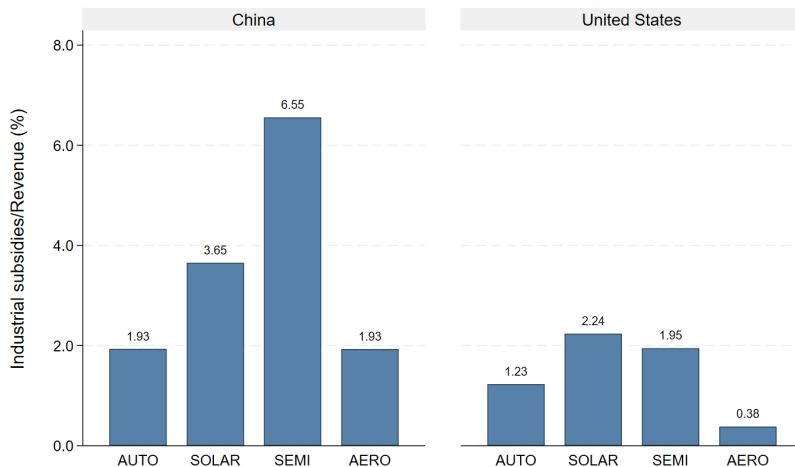
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China shock 2.0 Workshop

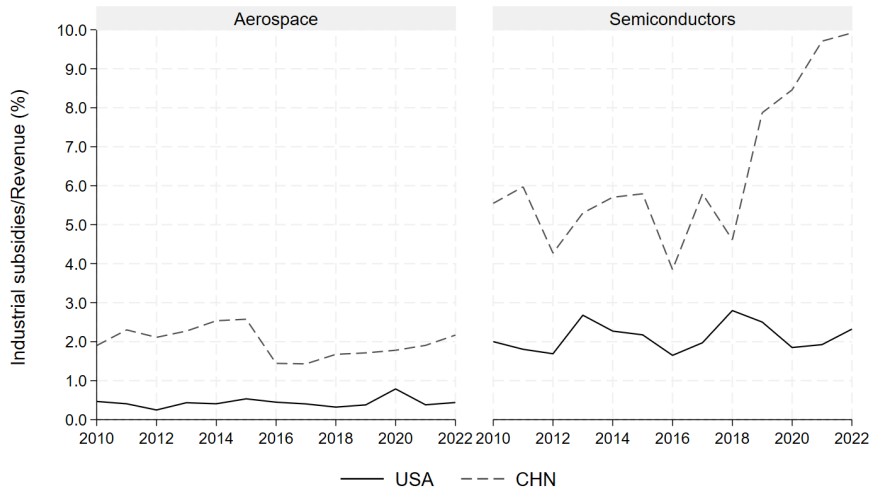
September 28, 2026

Subsidies Are Uneven Across Countries and Sectors...



Source: OECD MAGIC, 2010–2022. Author's calculations.

... With a Widening Gap in Specific Industries



The Paper

1. Questions:

- How do industrial subsidies reshape trade?
- Can tariffs offset these effects, and at what welfare cost?

2. Contribution:

- 1 Infer 2015–23 subsidy rates from NIPO subsidy values and GTA policy counts
- 2 Multi-country, multi-sector model with EOS and fixed aggregate trade deficits calibrated to OECD input-output data

3. Decomposition:

$$\Delta \ln Exp_i^j \approx \underbrace{\theta^j \Delta \ln \tilde{s}_i^j}_{\text{Direct subsidy effect (PE)}} + \underbrace{f_i^j(\text{productivity, costs, foreign markets})}_{\text{General-equilibrium effects}}$$

Results

■ Main quantitative findings (all-country subsidy scenario):

- Strategic-sector exports: China +10%, EU -0.9%, US -1.3%
- Without scale economies, China's increase falls to $\approx 5\%$

■ Sectoral specialization

- China expands in electronics. EU and US expand in textile or agriculture

■ Welfare implications

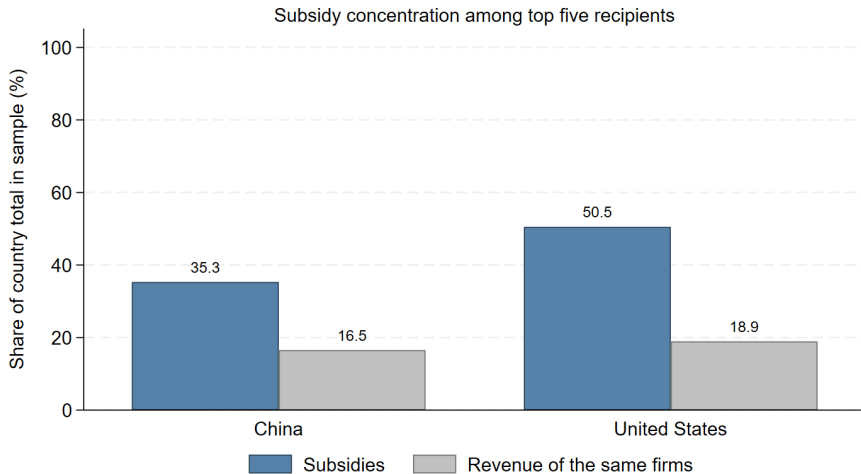
- Subsidies raise average real wages, but fiscal costs lower global real income
- Including tariffs through March 2026: global real income falls by $\approx 0.3\%$

■ Very nice paper on a highly topical policy question (the addition of tariffs is interesting)

Comment 1: Climate Benefits and Welfare

- A missing externality in the welfare calculation
 - Production externalities are included but damages from CO₂ emissions are not
 - Cheaper EVs, batteries and solar panels can accelerate adoption and displace fossil fuels
- **Potentially substantial benefits from green industrial policies, *especially over the long run***
 - Allcott et al. (2026): EV subsidies lead to profit-shifting but generate *positive climate spillovers*
- **Could climate benefits change the welfare conclusions?**
 - How much net CO₂ abatement would offset the reported global real-income loss?

Comment 2: Firm-level Targeting

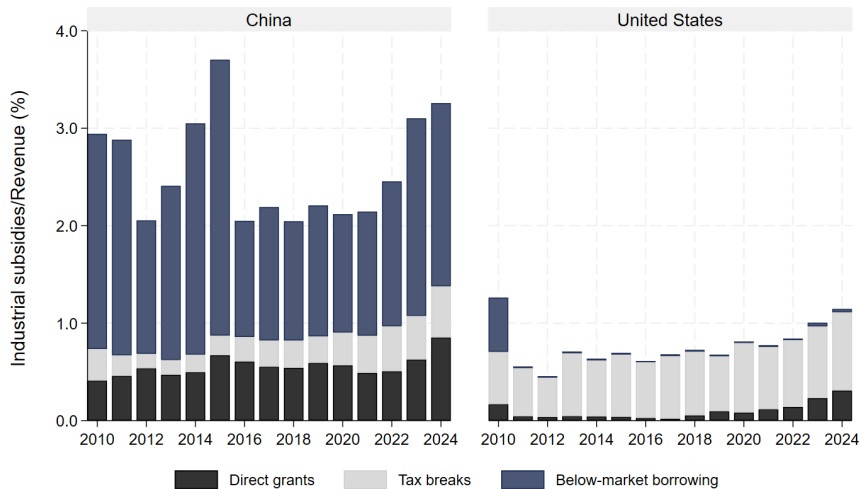


All sectors pooled; average annual shares, 2010–2022

Comment 2: Firm-level Targeting

- Subsidies are concentrated among a few firms
- **Which firms benefit from subsidies may matter**
- With variable markups and granular firms, large recipients pass through less of the subsidy into lower prices than under perfect competition $\implies$ affects the strength of reallocation, input-cost spillovers etc.
 - Gaubert, Itskhoki and Vogler (2021, JME): a framework linking firm-level targeting and variable markups to the welfare effects of industrial policy

Comment 3: Importance of Other Types of Subsidies



Comment 3: Importance of Other Types of Subsidies

■ Beyond direct subsidies: tax breaks and preferential credit

- Tax breaks dominate support to US firms
- Below-market borrowing is particularly large for Chinese firms

■ The authors acknowledge the limitation

- *“Restricting our subsidy measure to direct transfers only underestimates the estimated value of subsidy support, which over time has become increasingly determined by tax reductions and preferential access to credit”* (p. 11, footnote. 13)

■ How would omitted policies change the results?

- If omitted support grew **disproportionately** in US/EU **strategic** sectors during 2015-23, relative subsidy shocks and simulated trade effects will be different
 - ▶ Example: CHIPS and Science Act introduced a 25% semiconductor investment **tax credit**

Additional Comments

- How do the effects compare to findings in the empirical literature on the effects of industrial policies (e.g. Choi and Levchenko, 2025, JME)?
- Strategic sector definition: how about product codes that are important for the green transition as in Panon et al. (2026, EER)?
- Education, skills and infrastructure shape the gains from support (e.g. semiconductor expansion requires skilled engineers) $\implies$ could country-specific scale elasticities ψ_i^j capture some of this heterogeneity?
- Tariffs and subsidies: can you better characterize their joint welfare effects?
 - Do higher tariffs systematically weaken the welfare gains? How does this depend on scale externalities? US welfare goes up...!
- In the China-only scenario, why do EU/US non-strategic exports fall despite cheaper imported inputs?
 - Clarify the roles of input costs, competition, resource reallocation and fixed aggregate trade balances

Conclusion

- A timely contribution linking industrial subsidies to **trade patterns and welfare**.
Export gains need not translate into welfare gains, even with scale economies
- Three directions to strengthen the policy lessons:
 1. Externalities beyond production
 2. Firm-level targeting and market power
 3. Broader coverage of subsidy instruments
- Paper raises another very important question: **why do large US/EU subsidy increases target sectors with *weaker assumed scale externalities*?**
 - US agriculture: large subsidy increase and its scale elasticity is *zero* in the baseline
 - Lobbying and incumbent influence may help explain the allocation of support. Potentially a paper in its own right!
- Looking forward to reading the next draft!