

# Import Competition and U.S. Firms: A Text-Based Approach

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## Key Takeaways

- New firm-year measure of import competition using product text in 10-Ks and shipping-manifest descriptions.
- Firm-level exposure predicts real outcomes (sales and profitability) beyond industry import penetration.
- Firms **adjust financial policy, innovate, and re-scope** products in response.

## Motivation

- Industry-level import penetration is **highly aggregated** and misses within-industry heterogeneity.
- HS/SIC/NAICS mappings are **noisy** for multi-product firms and changing product mixes [3].
- We need a measure that matches **what firms say they sell** to **what is actually imported**.

## What I do (measure overview)

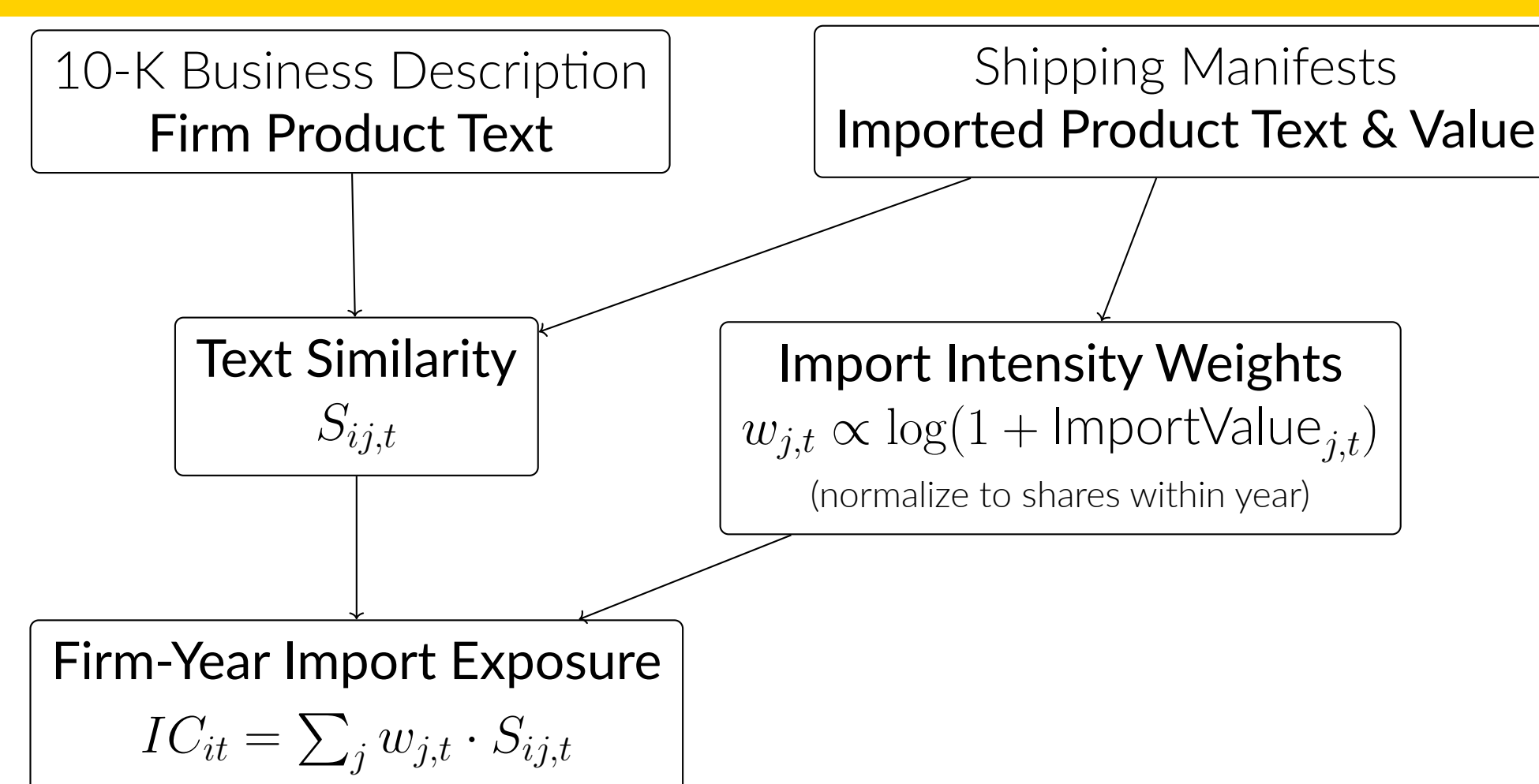


Figure 1. Construction of firm-level import competition using text similarity and import-value weights.

- Extract product nouns/phrases from firms' 10-K business descriptions.
- Compute text similarity between firm products and imported product descriptions.
- Aggregate similarities using **import-value weights** to construct firm-year exposure (overall and by source country, e.g., China vs OECD).

## Data

- 10-K product text (Business Description / Item 1).
- Shipping manifests with import values and product descriptions.
- Firm outcomes: sales, profitability, cash, payouts, R&D, product scope [5].
- Product items extracted from unstructured text using **modern NLP tools (LLM-assisted)**.
- Analysis focuses on **imports from China**, the primary source of import competition in prior research.

## Validation: Does the Measure Capture Product-Market Import Competition?

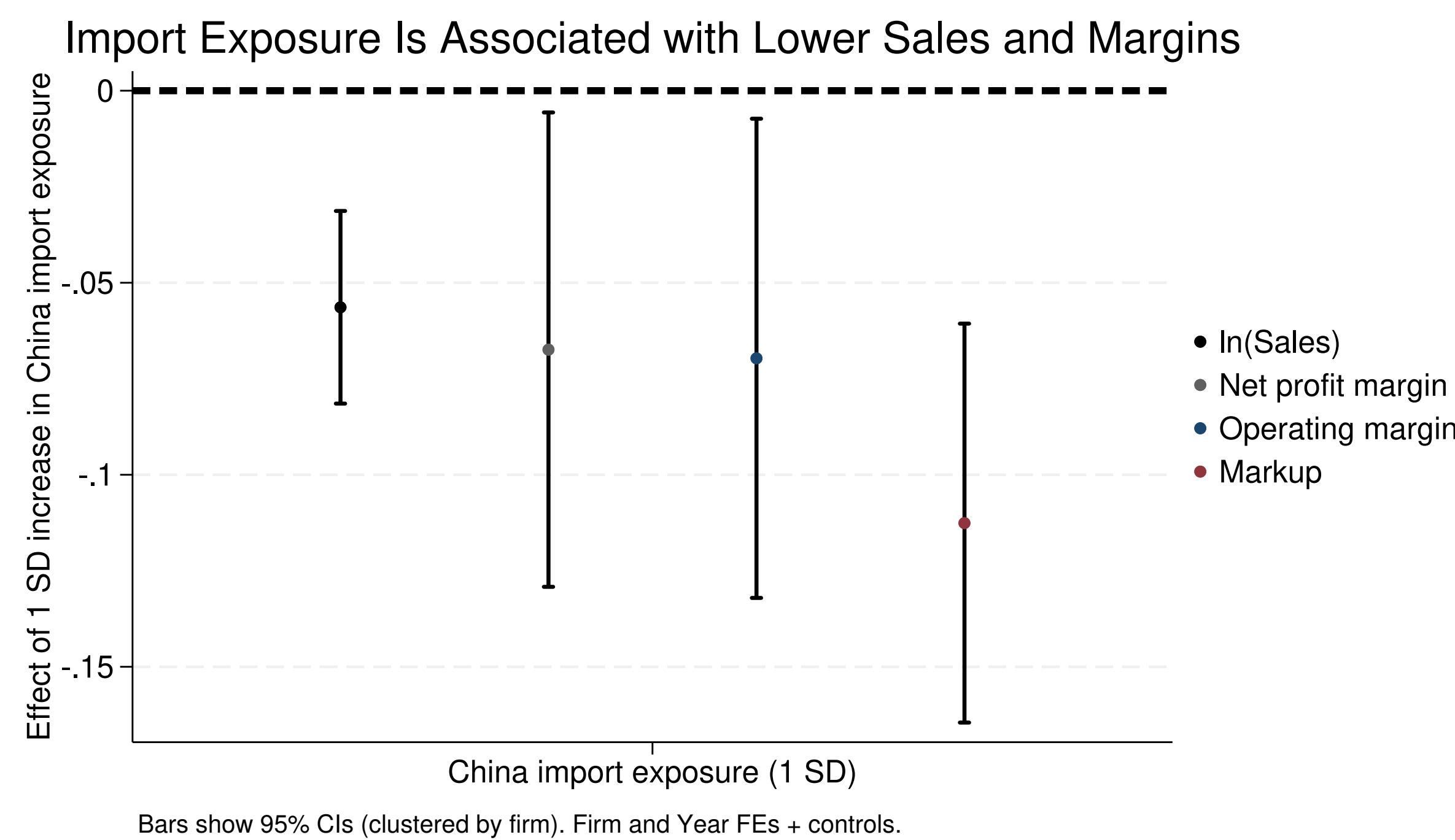


Figure 2. Firm-level exposure to import competition in product markets is associated with lower sales and margins (operating margin, net profit margin, and markups). Coefficients show the effect of a one-standard deviation increase in China import exposure; bars denote 95% confidence intervals with standard errors clustered by firm. Regressions include Firm and Year fixed effects and controls.

- Effects remain after controlling **industry-level import penetration** [1].

## Financial Policy Responses

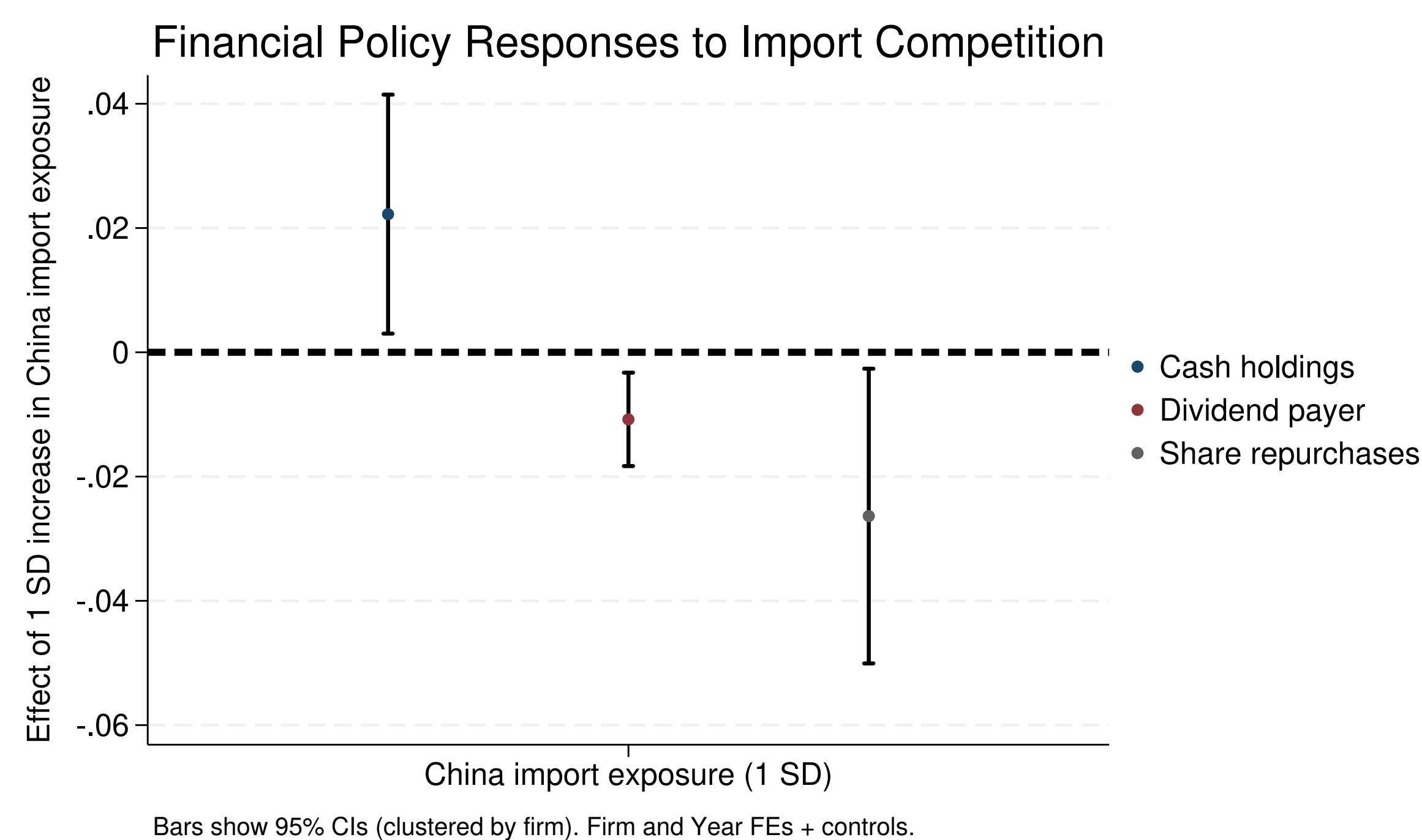


Figure 3. Firms more exposed to product-market import competition increase cash holdings and reduce payouts (especially dividends). Coefficients reflect the effect of a one-standard deviation increase in China import exposure; bars denote 95% confidence intervals with standard errors clustered by firm (Firm and Year fixed effects; controls).

- Firms **build precautionary liquidity** in response to heightened competitive pressure [4].
- Firms cut payouts to **preserve internal funds and maintain flexibility** in the face of increased competitive risk.

## Strategic Responses: Innovation and Rescoping

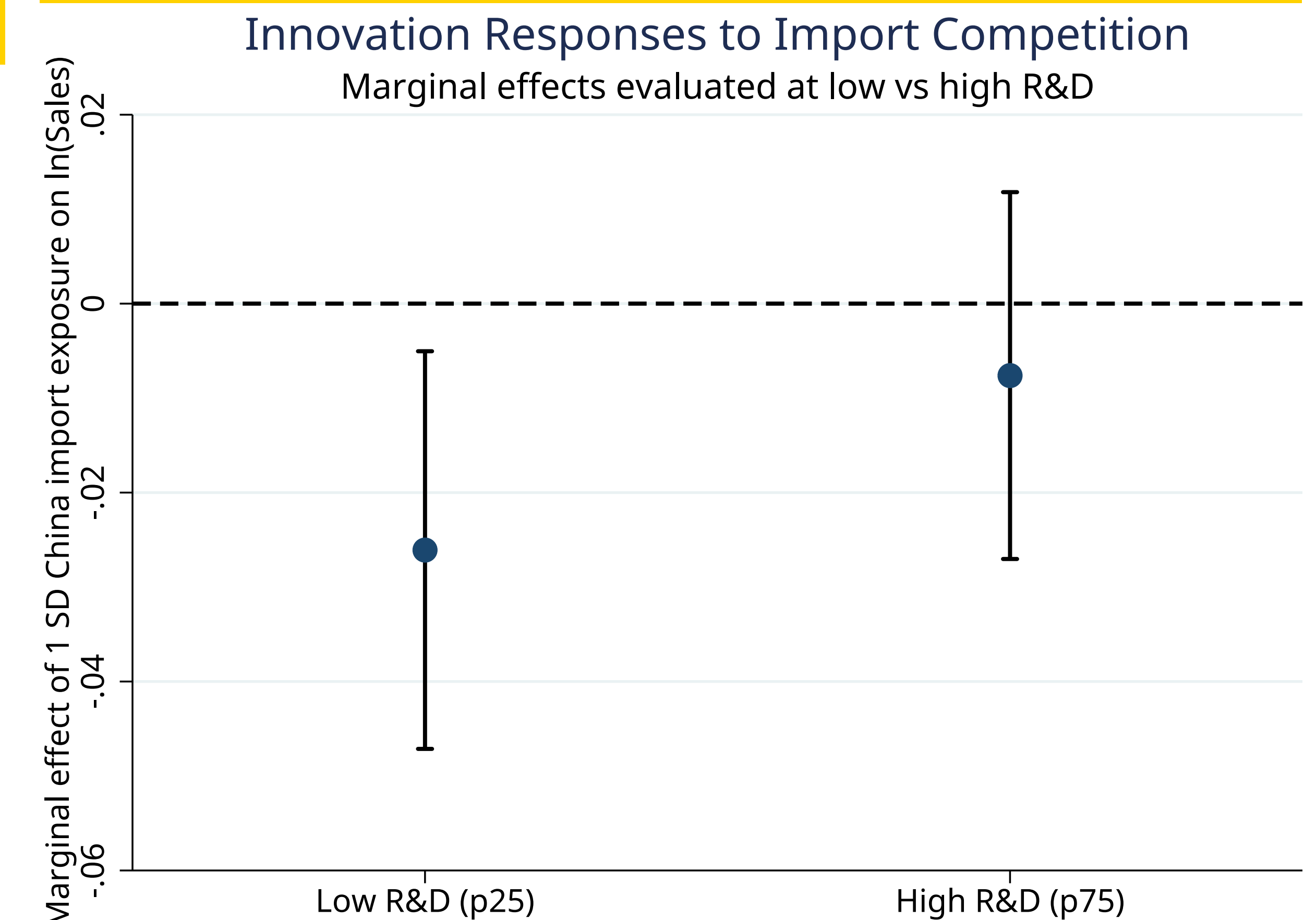


Figure 4. Innovation shapes firms' responses to import competition. Coefficients reflect the effect of a one-standard deviation increase in China import exposure; bars denote 95% confidence intervals.

- **Innovation as advantage:** high-R&D firms are better positioned to withstand import competition.
- **Strategic rescoping:** regression evidence shows that exposed firms **narrow product scope** and concentrate innovative effort on core, higher-quality products—consistent with reallocation-driven concentration [2].

## Contribution & Implications

- Text-based firm exposure reveals **within-industry** import competition missed by standard measures.
- Import competition reshapes **real outcomes, financial policy, innovation, and product scope**.
- The approach is useful for research on **trade shocks, corporate policy, and product-market competition**.

## References

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