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# Global Supply Chains: The Looming “Great Reallocation”

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# Global Supply Chains (GVCs)

## In the Spotlight

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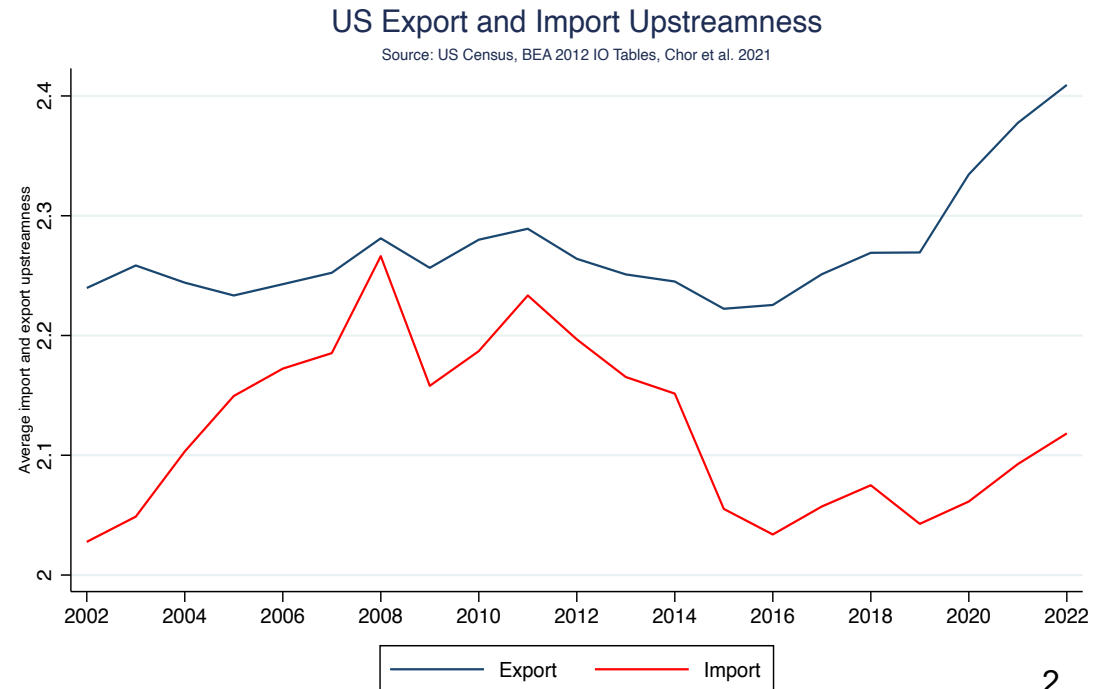
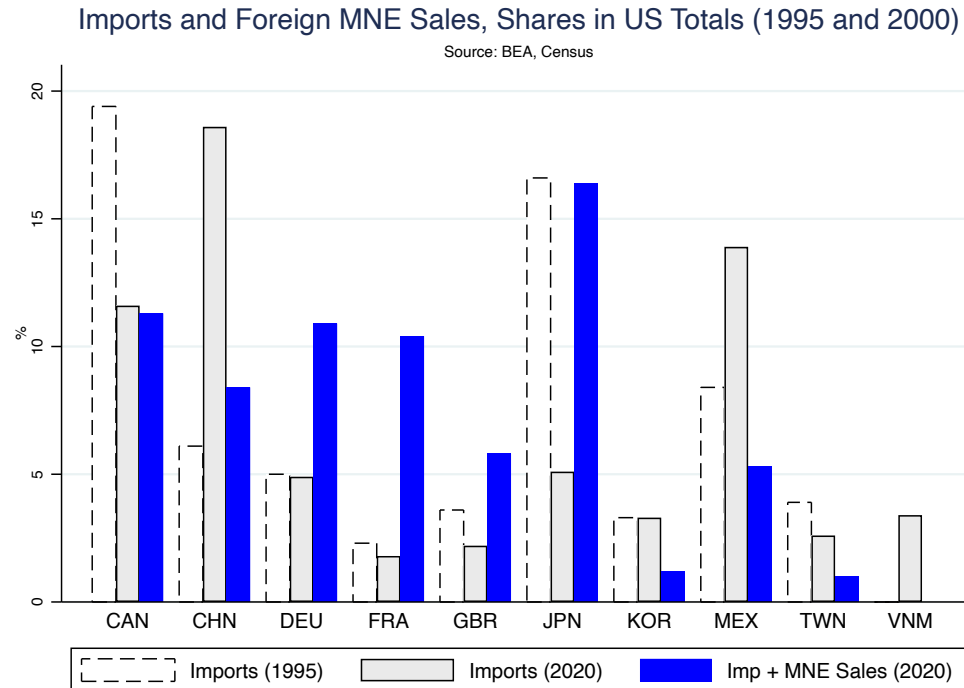
- **Optimism of 1990s & 2000s:** Falling transportation costs & policy barriers + technological change
  - **Supply chains...** improve **efficiency**, by allowing firms to perform stages/procure inputs in different locations
    - Opportunities for growth and development (WB, 2020)
- **Concerns of 2010s & 2020s:** Natural disasters, climate change, pandemics, war, national security
  - **Supply chains...** expose firms and countries to **disruption risks**
    - Backlash in developed nations (Colantone et al., 2022; Alfaro, Chen and Chor, 2023) → rise in trade barriers
      - “Favoring the friendshoring of supply chains ... will lower the risks to our economy” (Yellen, 2022)
- **This Paper:** Broad-ranging look at the **evolution of US supply chains** from 1990s to 2022 (focus on post-2017; available data)
  - Partners, products, modes, value chain position, economic activity; for signs of friend/near/reshoring
- ✓ **Not Deglobalization (yet):** Trade flows have rebounded, US imports at all-time high in 2022 (Antràs, 2020; Baldwin, 2021)
- ✓ **A “Great Reallocation”:** GVC reconfiguration (2017-2022).
  - Decrease in China’s product-level import shares → Increase in import shares from “friends”, including: Vietnam (low cost), Mexico (nearshoring / regional GVCs)
  - **Caution:** i. Rising costs: Evidence of **rising unit values** from Vietnam and Mexico
    - ii. And **may not** ultimately **reduce dependence** on China

# US Supply Chain Patterns

## A Longer-Run Perspective (1990s-2017)

- **Partners:** Shift in import sourcing from High-Income (Japan & Canada) → Low-Wage (China & Mexico)
  - Though regional patterns persist: NAFTA, EU, Asia Pacific
- **Mode:** High-Income countries remained engaged via FDI (to circumvent policy barriers, rising costs at home)

- **Products:** Measure of value chain positioning to final goods (c.f., Chor et al. 2021)
  - Exporter of upstream products; importer of final goods
  - Rise in US export upstreamness: partly, energy independence
  - Also: **Recent ↑ in US import upstreamness**

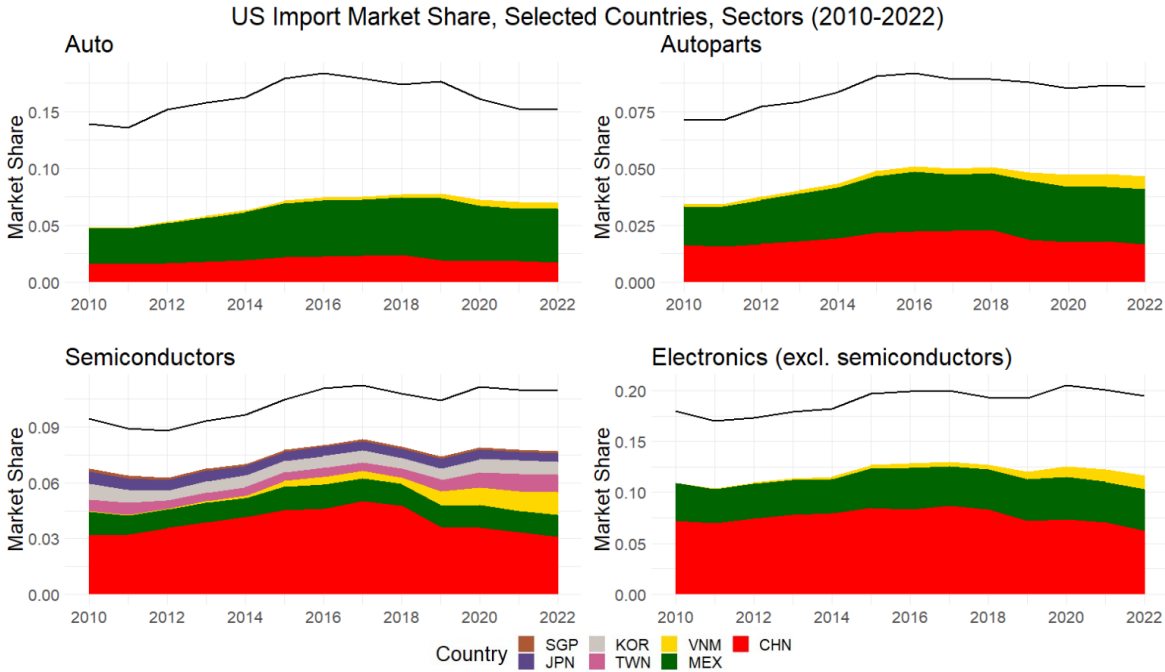
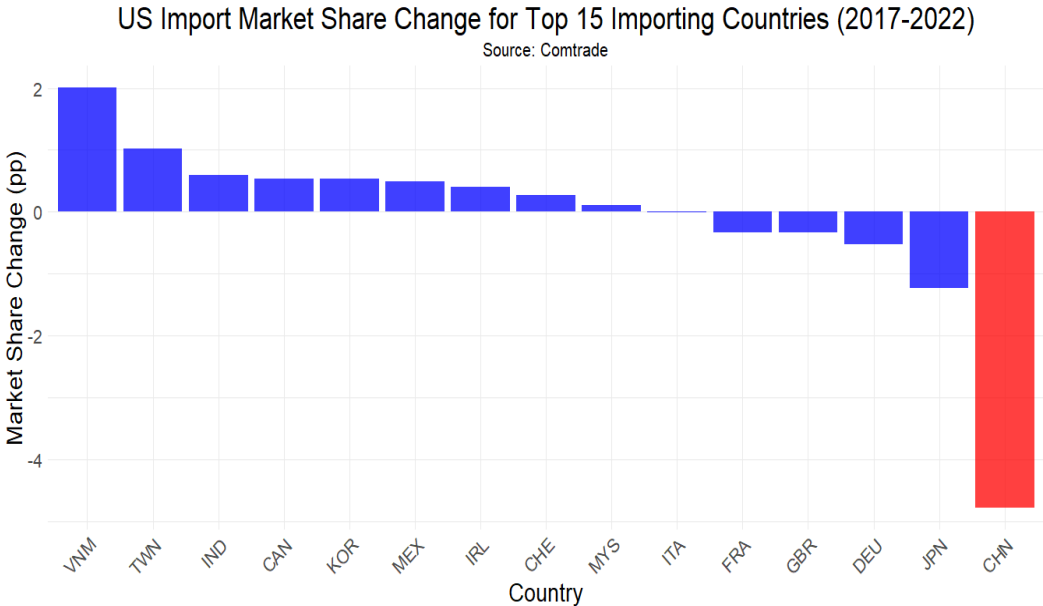


# The Great Reallocation

## 2017-2022

- US imports grew 7.7% (non-petroleum real imports: 4.2%)
- **Imports from China grew 1.2%**
- **BUT... lost 5pp market share** to among other “friends”: Vietnam, Mexico (Freund et al., 2023)

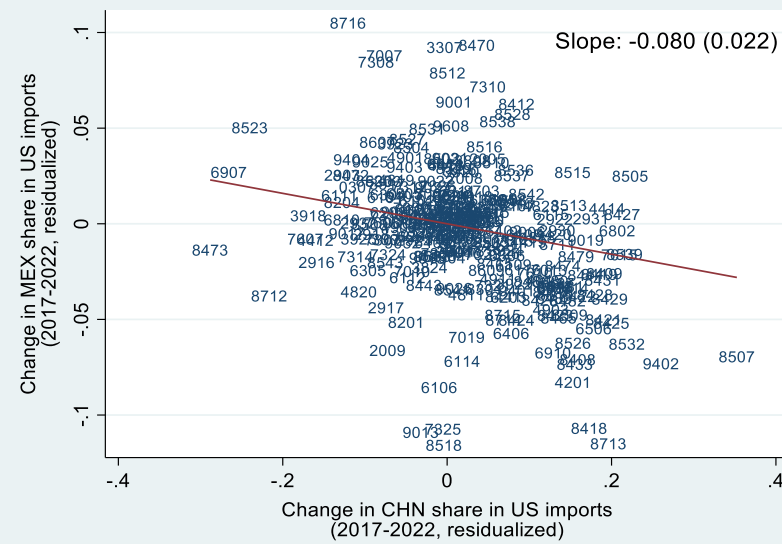
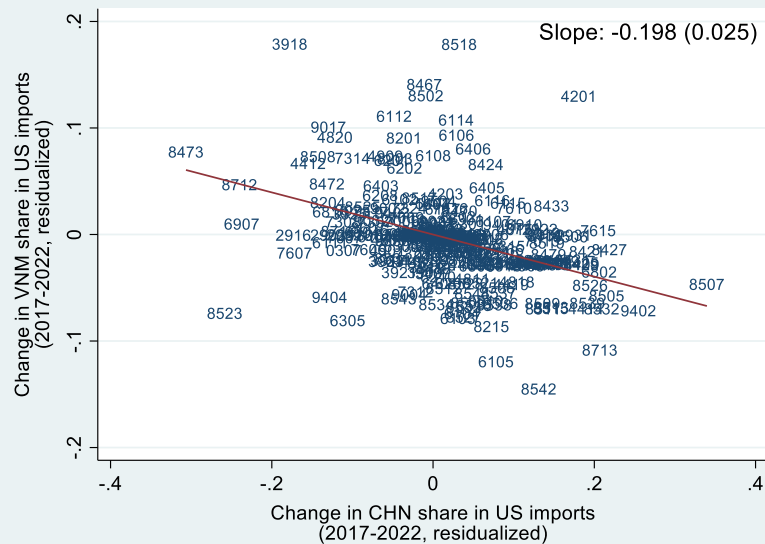
- In sectors central to policy debate: autos, auto parts, semiconductors, electronics



# Import Market Share from “Friends”

Product-level Regressions (HS4):  $\Delta y_{p,22-17} = \beta_1 \Delta CHN sh_{p,22-17} + \beta_2 \Delta y_{p,17-12} + D_{p0} + \varepsilon_p$

Dependent variable:	$\Delta$ US product-level import share from c (2017-2022)						
Import sources, c:	VNM	MEX	CAN	IND, THA, MYS. IDN	KOR, TWN, SGP	IRL, CHE	ROW
$\Delta$ CHN import share (2017-2022)	<u>-0.198***</u> [0.025]	<u>-0.079***</u> [0.020]	<u>-0.012**</u> [0.005]	<u>-0.136***</u> [0.044]	<u>-0.440***</u> [0.134]	<u>-0.011*</u> [0.006]	-0.101 [0.062]
Lag $\Delta$ in c's import share (2012-2017)	0.768 [0.529]	-0.118 [0.220]	0.001 [0.069]	0.106 [0.161]	0.188 [0.126]	0.073 [0.053]	-0.453*** [0.087]
Observations	1,149	1,149	1,149	1,149	1,149	1,149	1,149
R-squared	0.529	0.296	0.220	0.301	0.561	0.136	0.458
HS2 fixed effects?	Y	Y	Y	Y	Y	Y	Y



Product-level decreases in China's import share:

- **Increase in import market share from “friends”**

# Import Market Share from “Friends”

## Heterogeneous Responses

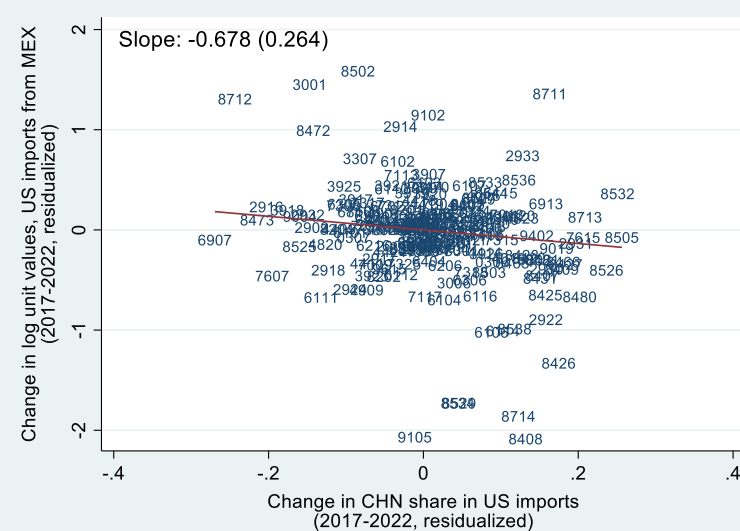
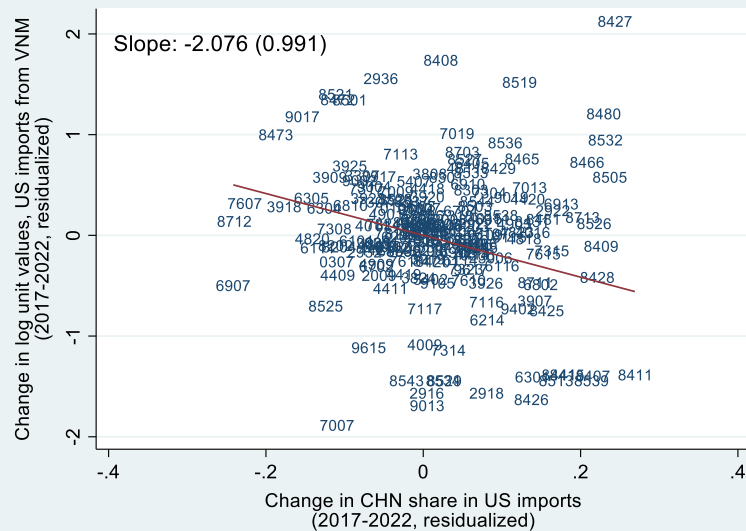
Dependent variable:	Δ US product-level import share from c (2017-2022)					
Import sources, c:	VNM	VNM	VNM	MEX	MEX	MEX
ΔCHN import share (2017-2022)	0.097 [0.169]	-0.435*** [0.128]	-0.180 [0.256]	-0.311*** [0.102]	0.170** [0.066]	0.187 [0.129]
Lag Δ in c's import share (2012-2017)	0.934* [0.516]	0.941** [0.459]	0.938* [0.471]	-0.144 [0.220]	-0.295*** [0.104]	-0.318*** [0.104]
Upstreamness	-0.016 [0.014]		-0.013 [0.010]	-0.001 [0.009]		-0.000 [0.005]
... × ΔCHN import share	-0.143* [0.084]		-0.018 [0.085]	0.113** [0.050]		0.035 [0.042]
Labor Share		-0.060 [0.054]	-0.126* [0.066]		0.088 [0.058]	0.073 [0.055]
... × ΔCHN import share		0.977** [0.480]	0.768** [0.339]		-0.991*** [0.301]	-0.919*** [0.279]
US Tariff			-0.001 [0.001]			0.000 [0.000]
... × ΔCHN import share			<u>-0.010*</u> <u>[0.005]</u>			<u>-0.007**</u> <u>[0.003]</u>
Observations	280	280	280	280	280	280
R-squared	0.551	0.593	0.609	0.344	0.469	0.491

- Vietnam: Greater import share response in more upstream, or lower labor share products
  - Mexico: Greater response in less upstream (proximity to the US), or higher labor share products
- ✓ **Policy Driven Reallocation.**  
**Both Vietnam and Mexico:**  
**Greater response for products with higher US tariffs on China**

# Caution I

## Higher Unit Values from “Friends”

Dependent variable:	$\Delta$ Log US product-level <b>import unit value</b> from c (2017-2022)						
Import sources, c:	VNM	MEX	CAN	IND, THA, MYS, IDN	KOR, TWN, SGP	IRL, CHE	ROW
$\Delta$ CHN import share (2017-2022)	<u>-1.960*</u> [1.001]	<u>-0.630**</u> [0.282]	0.062 [0.367]	-0.905 [0.905]	<u>-0.460*</u> [0.245]	-0.331 [0.622]	-0.700 [1.110]
Lag $\Delta$ log import unit value from c (2012-2017)	-0.334*** [0.086]	-0.198*** [0.027]	0.045 [0.086]	-0.416*** [0.090]	-0.234*** [0.056]	-0.297*** [0.077]	-0.788*** [0.151]
Observations	634	926	982	1,025	954	847	286
R-squared	0.342	0.355	0.424	0.350	0.404	0.325	0.306
HS2 fixed effects?	Y	Y	Y	Y	Y	Y	Y



Product-level decreases in China’s import share:

- **Increases in the unit values** of goods purchased by the US from **Vietnam (10%), Mexico (3%)**
- A combination of cost-push or demand-pull forces

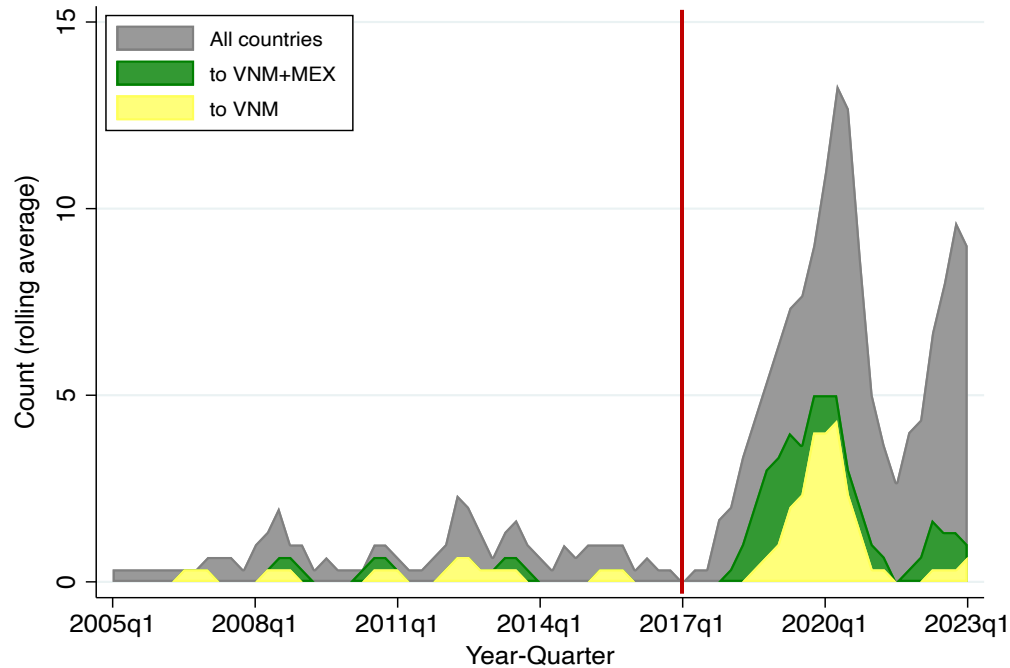


# The Great Reallocation: Firms' Strategies

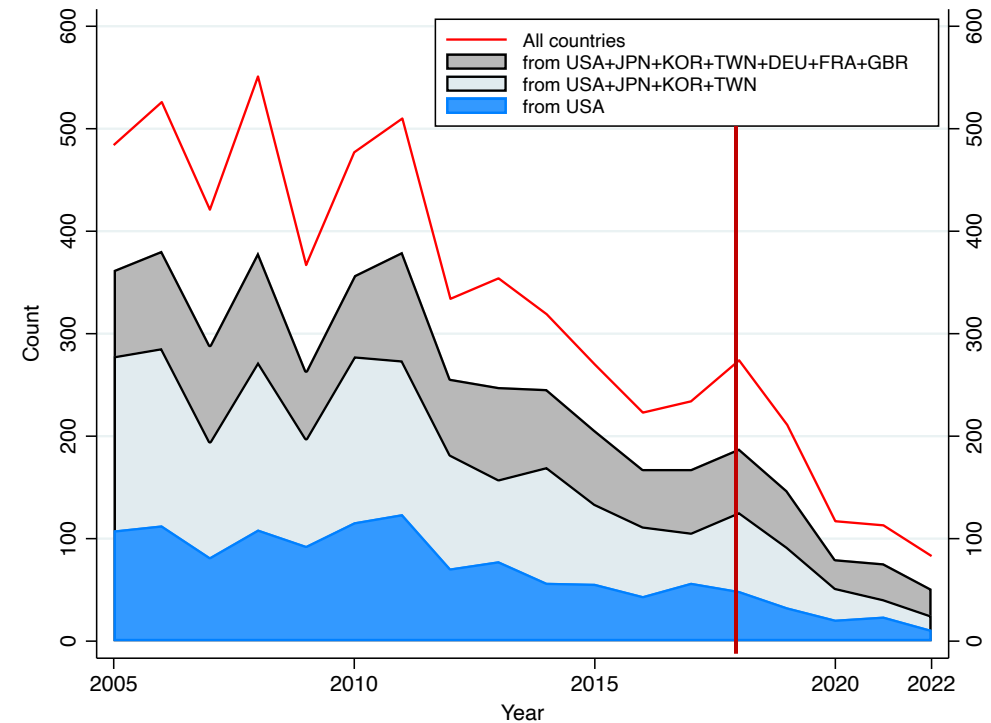
## Offshoring and Greenfield FDI

- **Intent/Attention:** In companies' earnings call transcripts, increased mentions of “friend/near/reshoring” + potential moves away from China, toward Vietnam or Mexico

- **Modes:** China dropped off as a preferred destination for greenfield FDI originating from the US + other source countries



Friend/Near/Reshoring in Earnings Calls  
(2005-2023Q3) Refinitiv & NL Analytic



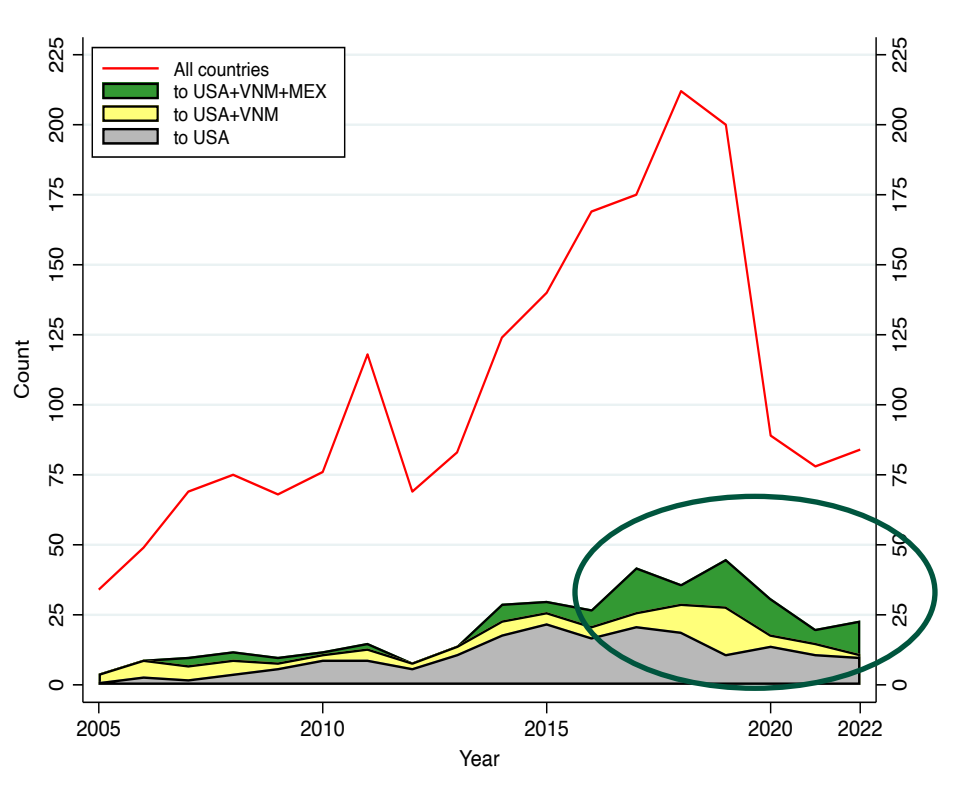
China's Inward Greenfield FDI (2005-2022)  
FT fDi Markets

## Caution II

# The Back Door: Does Friendshoring Reduce Dependence?

- **Rising greenfield FDI** by China in Vietnam and Mexico (in line with FDI trends reported by VNM/MEX statistical agencies)

China's Inward Greenfield FDI, 2005-2022  
(FT fDi Markets)



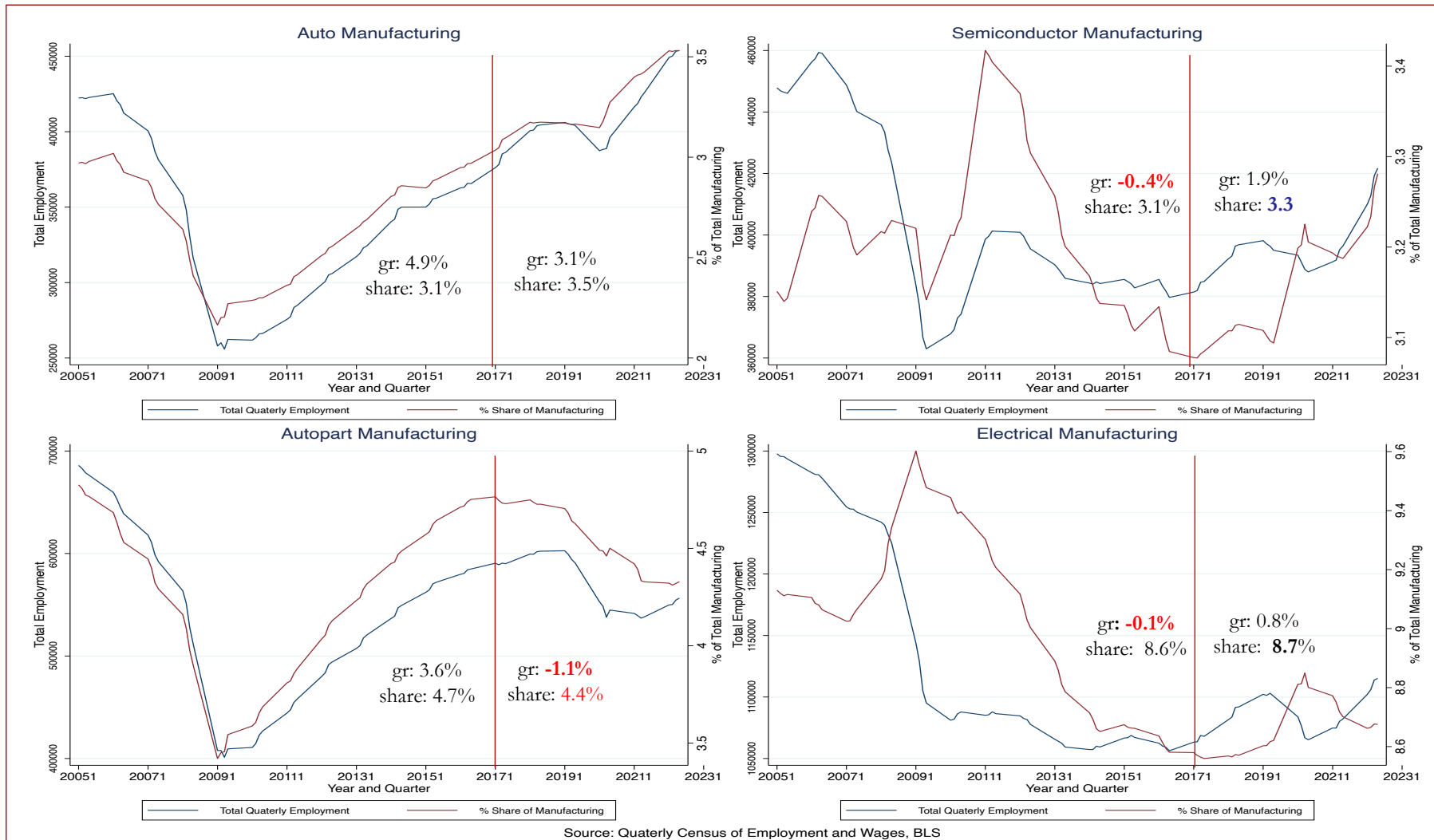
- **Rising share of imports** from China in third-countries, including US “friends”

China's Market Share- Top US Trading Partners  
(Comtrade, Eurostat)

	2017		2022	
<b>MEX</b>				
#				
1	USA	46.4%	USA	43.9%
2	<b>CHN</b>	<b>17.6%</b>	<b>CHN</b>	<b>19.6%</b>
<b>CAN</b>				
1	USA	51.4%	USA	48.6%
2	<b>CHN</b>	<b>12.6%</b>	<b>CHN</b>	<b>14.0%</b>
<b>JPN</b>				
1	<b>CHN</b>	<b>24.5%</b>	<b>CHN</b>	<b>21.0%</b>
2	USA	11.0%	USA	10.1%
<b>DEU</b>				
1	<b>CHN</b>	<b>10.2%</b>	<b>CHN</b>	<b>12.0%</b>
3	USA	6.3%	USA	6.1%
<b>VNM</b>				
1	<b>CHN</b>	<b>27.5%</b>	<b>CHN</b>	<b>33.2%</b>
6	USA	4.4%	THA	3.8%
<b>EU</b>				
1	<b>CHN</b>	<b>18.2</b>	<b>CHN</b>	<b>20.9</b>
2	USA	11.5	USA	11.9

# Preliminary Evidence: Reshoring

## US Employment in Key Manufacturing Sectors (Levels and Shares), 2005-2022



- **Rise in US import upstreamness** suggests more finishing stages being performed within the US (Slide 2, right figure).
- Data up to 2022 (BLS): In some manufacturing subsectors, **long-run decline in employment (and establishments) bottomed out.**

**BUT... not a uniform story:** in some (e.g., autos), prior to 2017; in others (e.g., semiconductors), post-2017.

# The Looming “Great Reallocation” of Supply Chains

## Implications and Conclusions

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- ✓ **Reallocation:** Direct US sourcing from China has decreased; “Friends” have gained
  - Gaining market share: low-wage locations (e.g., Vietnam) + nearshoring (e.g., Mexico)
  - US imports have become more upstream (reshoring of production stages)
- But ... **caution** (beyond preliminary data):
  - a. True **extent** of decoupling **remains to be seen:** different modes of globalization
    - Trade: China gaining market share with “friends” (Mexico, Vietnam, EU...)
    - FDI: China increasing presence in “friends”
    - Not total independence from China
  - b. Reallocation will come at a **cost:** tariffs on China have been passed on to consumers (Amiti et al., 2019; Cavallo et al., 2021)
    - + **Rising unit import prices from alternative source countries**, including Vietnam and Mexico
    - + Costs of reinvigorating manufacturing hubs (reliable supply chains, transport networks, adaptable skilled labor, specialized factories...)
    - Impact on profits and productivity remains to be assessed
- **Crucial debate:** weigh static losses against dynamic gains (Mill-Bastable test)
  - Dynamic gains: spillovers, agglomeration effects (Alfaro and Chen, 2014; Alfaro et al., 2019); national security (Goldberg and Reed, 2023).
- Recent policies eliminated “exhibitions of indecision” (Kennan, 47): political backing + sentiment (Alfaro, Chen, Chor, 2023)
  - Important nevertheless to develop frameworks to subject policies to evaluation