

Brazil and BRICS: a Synthetic Controls Analysis

Giuseppe Peressotti,
Haruna Minoura,
McKayla Sharp,
Samuel Adelsi

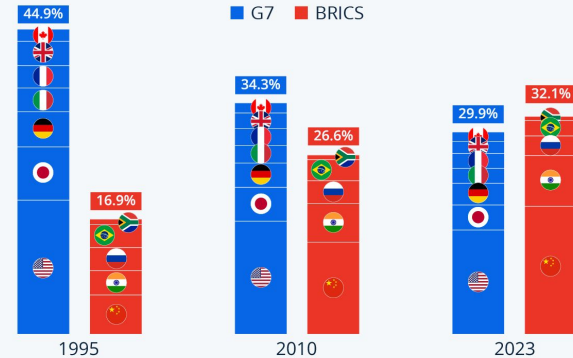
Data Visualization (EPPS 6356)

Background to BRICS

- BRICS & its objectives
- Economic power and geopolitical interests
- Why Brazil?

The Rise of the BRICS

G7 and BRICS countries' share of global GDP at purchasing power parity



2023 data based on IMF estimates as of April 2023
Source: IMF World Economic Outlook



statista



Top: Department of International Relations and Cooperation, South Africa. <https://brics2023.gov.za>
Bottom: Council on Foreign Relations.

<https://www.cfr.org/councilofcouncils/global-memos/brics-summit-2023-seeking-alternate-world-order>

Left: Richter, F (2023, August 22). The Rise of the BRICS. Statista.

<https://www.statista.com/chart/30638/brics-and-g7-share-of-global-gdp/>

Research question and Hypothesis

“Did trade between Brazil and the other BRICS countries increase following the unionization of BRICS?”

Hypothesis:

Relative trade between Brazil and the other BRIC[S] countries increased following the unionization of BRIC[S].

Unit of Analysis and Data Collection

Comtrade & CEPII - datasets on trade over time

http://www.cepii.fr/CEPII/en/bdd_modelle/bdd_modelle.asp

<https://comtrade.un.org/labs/data-explorer/>

- ❑ Destination of exports
- ❑ Origin of imports
- ❑ Annual net \$ of trade

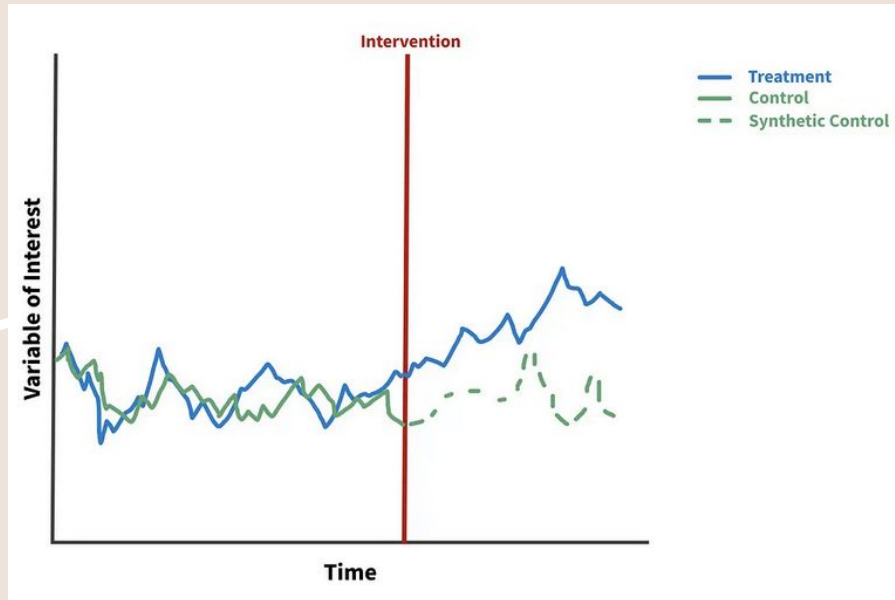
- ❖ Economic impact of BRICS unionization on Brazil
- ❖ Relative trade between Brazil & other BRICS countries

Methodology: *Synthetic Controls*

Case Study: Brazil

Intervention: creation of BRIC(S)

Counterfactual: synthetic Brazil based on a pool of selected Latin American/South American countries



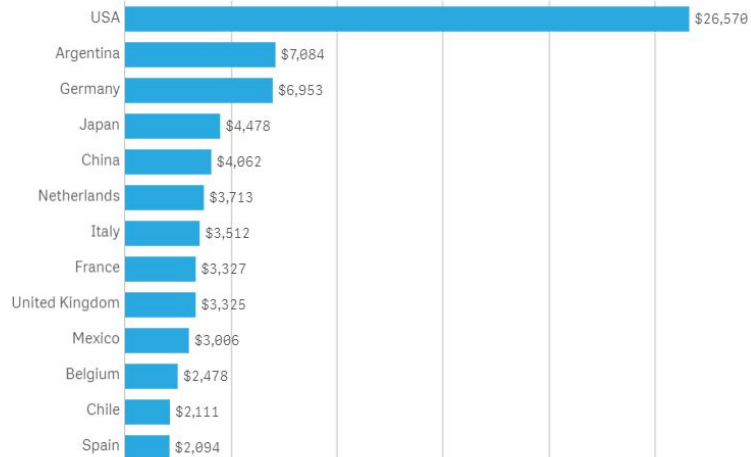
Data Visualization

→ Line graphs: trends in exports/imports across time with country comparisons

→ Flow charts: changes in trade between Brazil & BRICS countries pre-BRICS & after unionization

Destination of exports

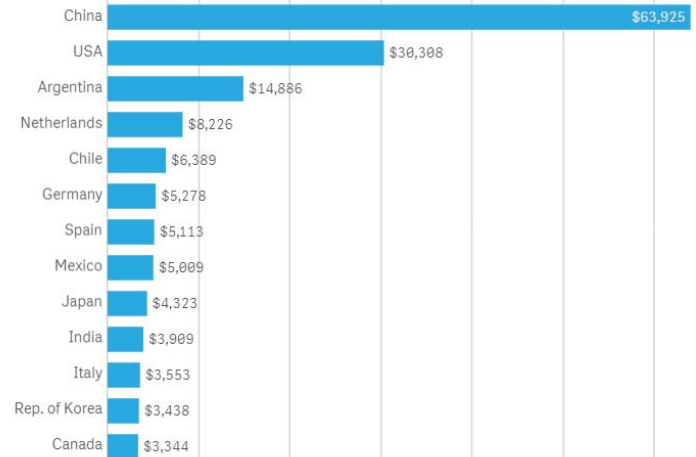
(MLN US\$)



Destination of exports from Brazil in 2002

Destination of exports

(MLN US\$)



Destination of exports from Brazil in 2018

Selected References

- Abadie, A., Diamond, A., & Hainmueller, J. (2010). Synthetic control methods for comparative case studies: Estimating the effect of California's tobacco control program. *Journal of the American statistical Association*, 105(490), 493-505.
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