Discussion on Rising Current Account Dispersion: Financial or Trade Integration?

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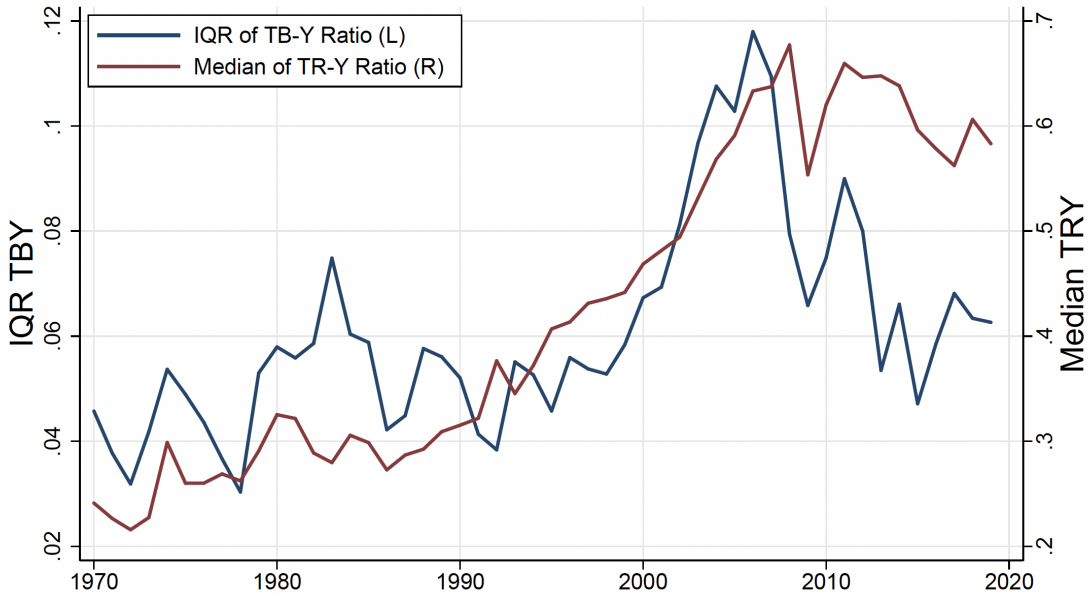
[1] The views expressed here are those of the author and are not necessarily reflective of views of the Federal Reserve Banks of Chicago and the Federal Reserve System.

Summary:

- Question: What accounts for the large increases in international borrowing and lending (intertemporal trade) and intratemporal trade since 1970?
  - Declining trade barriers, fall in financial frictions, or more country-specific shocks?
- Method: Build an international business cycle model to quantify different mechanisms
- Key finding: The declines in intratemporal trade barriers—not intertemporal trade barriers—play an important role.

Empirical Motivation

- Rise in intertemporal and intratemporal trade



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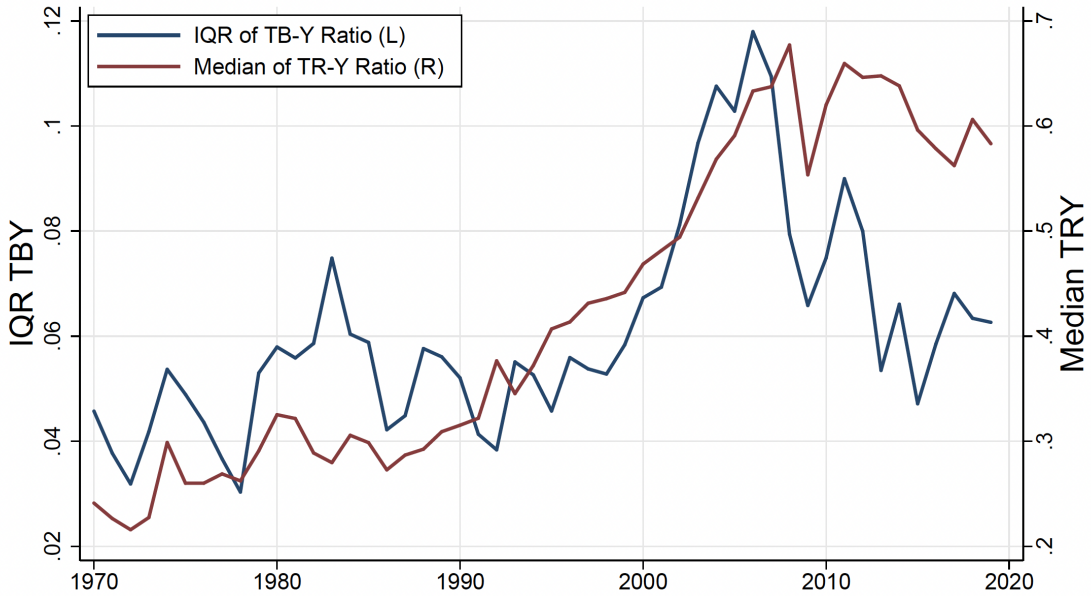
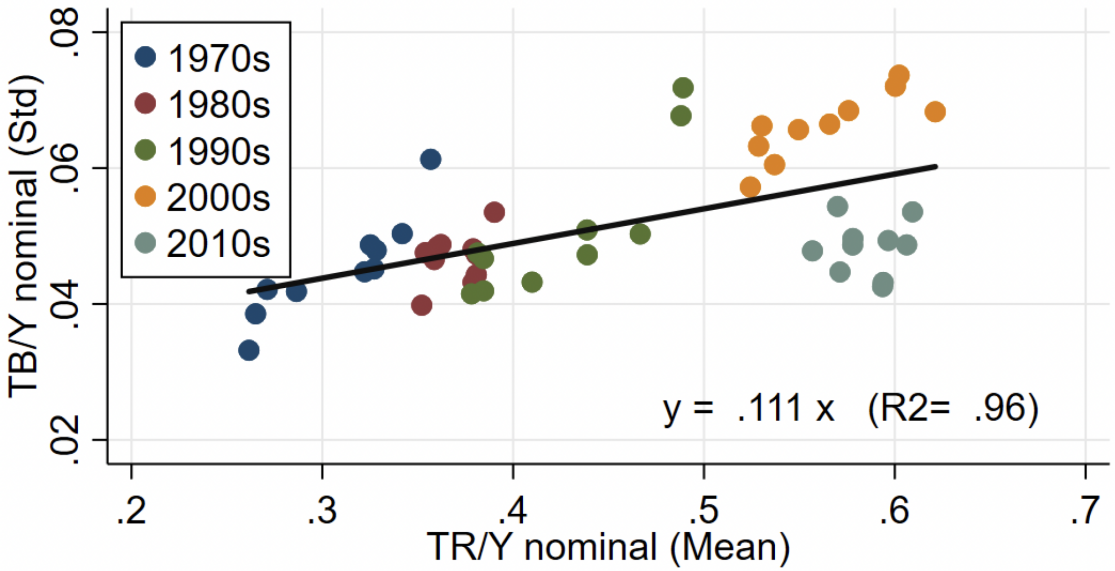


- The patterns vary across periods: prior to 2000, 2000-08, post 2008

Empirical Motivation

- The dispersion in net flows and the trade-GDP ratio



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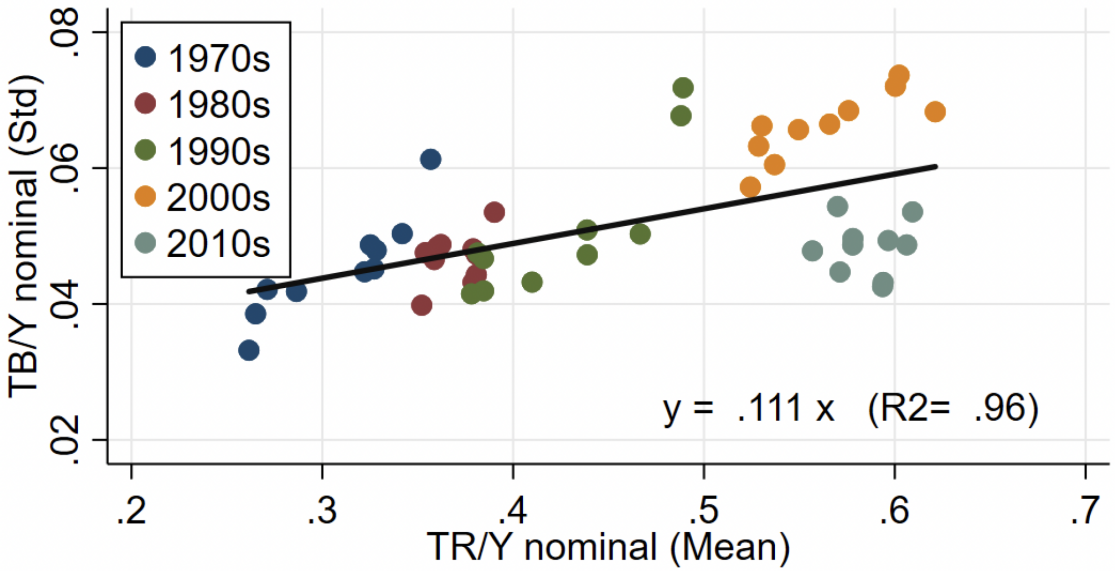


- The patterns vary across periods: prior to 2000, 2000-08, post 2008
- Regression analysis clusters standard errors by decade

Theoretical Model

- An international business cycle model ($N = 4$): BKK (1994)
  - Armington aggregation drives gross trade flows subject to bilateral trade cost shocks
- A noncontingent bond traded across countries
  - Interest rates are debt elastic and subject to country-specific shocks
- A habit in import demand: different short-run and long-run trade elasticities
- Pricing to market (p_{nmt} marked up by local conditions such as real exchange rates): relative volatility of the real exchange rate and the terms of trade

Key Shocks

- Trade cost shocks:

$$\begin{aligned}
\ln \tau_{nmt} &= \ln \xi_{ct} + 0.5 \ln \xi_{nmt}, \quad \ln \tau_{mnt} = \ln \xi_{ct} - 0.5 \ln \xi_{nmt} \\
\ln \xi_{ct} &= \rho_{\xi c} \ln \xi_{ct-1} + \sigma_{\xi c} \epsilon_{\xi ct} \\
\ln \xi_{nmt} &= \rho_{\xi} \ln \xi_{nmt-1} + \sigma_{\xi} \epsilon_{\xi t}
\end{aligned}$$

- Financial shocks:

$$\begin{aligned}
\frac{1}{q_{nt}} &= r_t + e^{F_t}\left(e^{-(b_{nt}-\bar{b})} - 1\right) + \left(e^{\phi_{nt}-1} - 1\right) \\
\ln F_t &= (1-\rho_F) \ln \bar{F} + \rho_F \ln F_{t-1} + \sigma_F \epsilon_{Ft} \\
\ln \phi_{nt} &= \rho_\phi \ln \phi_{nt-1} + \sigma_\phi \epsilon_{\phi nt}
\end{aligned}$$

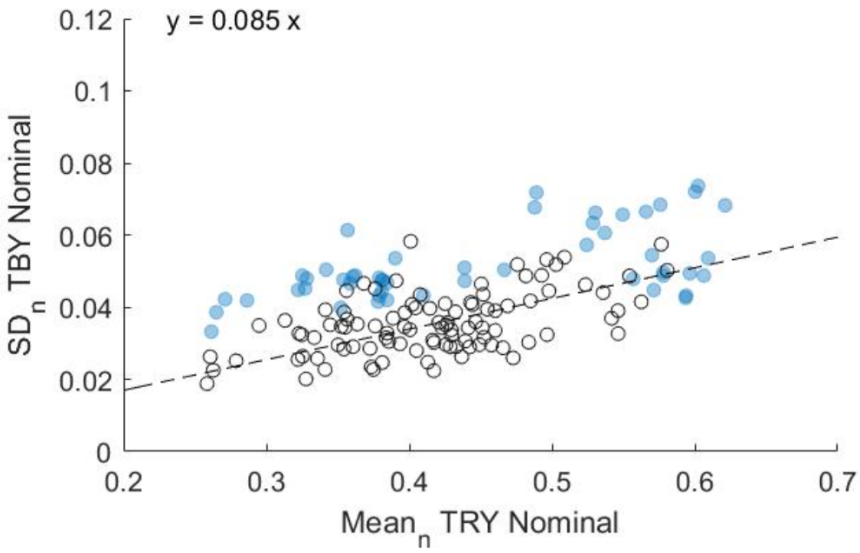
- Productivity shocks:

$$\begin{aligned}
\ln z_{nt} &= \ln \bar{z}_n + \ln z_{ct} + \ln z_{dnt} \\
\ln z_{ct} &= \rho_{zc} \ln z_{ct-1} + \sigma_{zc} \epsilon_{zct} \\
\ln z_{dnt} &= \rho_{zd} \ln z_{dnt-1} + \sigma_{zd} \epsilon_{zdnt}
\end{aligned}$$

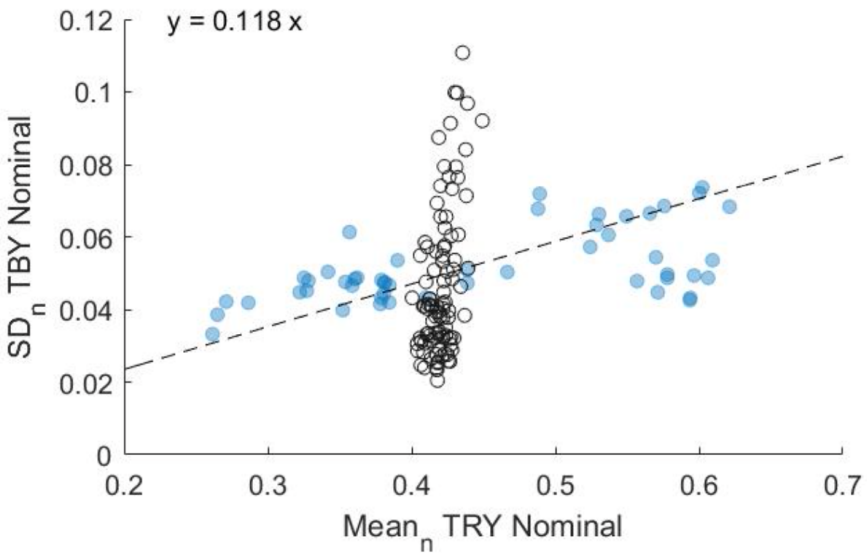
Calibration

- Calibrate to four countries: the U.S., China, Europe, ROW
  - The only difference is country size or $\bar{z}_n$
  - Countries all face the same stationary AR shock processes
  - Trade costs and financial shocks target rising gross trade and dispersion of net trade in the data
- Solution method: second-order approximation

Quantitative Results



(a) No Interest Rate Shocks



(b) No Trade Cost Shocks

- Without interest rate shocks, the model still generates the observed relation between TRY and dispersion of borrowing and lending.
- Without trade cost shocks, the model outcomes are off from the data.

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