Rising Current Account Dispersion: Financial or Trade Integration?

Alessandria, Bai & Woo (2021)

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Federal Reserve Board

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Overview 1/2

- **What?** Identify the key forces driving the increase in net trade flows observed since 1970
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  - Inefficient? Risks of rebalancing?

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  - Forces: Trade vs. financial integration
- **Why?** Rapid increase in international borrowing and lending → global phenomenon
  - Inefficient? Risks of rebalancing?
- **How?**

1. Analyze empirically the increase in $\frac{X-M}{Y}$
   - Simple decomposition $\frac{X-M}{Y} = \frac{X-M}{X+M}\frac{X+M}{Y}$ and regression analysis
2. Develop a multi-country GE model of international trade
   - Armington trade model + non-contingent bond for borrowing and lending
   - **Frictions: Iceberg-type trade barriers + debt-elastic interest rate**

→ Examine how borrowing and lending change with trade and financial frictions

- Estimate model (including debt elasticity F) with different global trade cost (generate $\frac{X+M}{Y}$)
- Analyze model dynamics and dispersion of $\frac{X-M}{Y}$ for each level of trade costs and different F

Overview 2/2

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  1. Fitzgerald (2012): Trade costs limit risk sharing
  2. Eaton, Kortum & Neiman (2016): Trade costs partially account for Feldestein-Horioka puzzle
  3. Reyes-Heroles (2016): Declining trade costs explain increase in net trade (dispersion of NX)
  4. Alessandria and Choi (2021): Lower trade costs account for part of increase US deficit

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- **How is this paper different?**
  - Question $\rightarrow$ depart from 1. and 2.
  - Multi-country model $\rightarrow$ departs from 4.
  - Business cycle approach $\rightarrow$ departs from 1.-3.
    - Stochastic + estimation of the model (around steady state)
  - Modeling of financial frictions [Schmitt-Grohé & Uribe (2003)]
  - Findings:
    - Empirics: Increase in net trade mainly driven by trade $\rightarrow$ 50% of variation explained by trade
    - Model: Financial frictions cannot account for changes in trade and other variables

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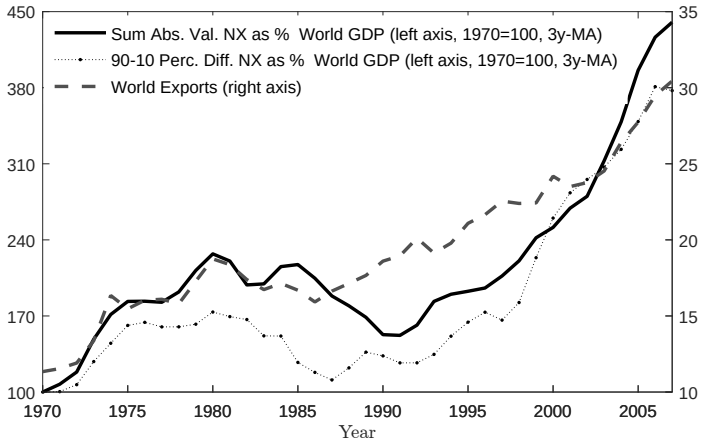
→ Very nice paper! Clear empirical and model-simulated results add to evidence on important effects of trade costs on net trade.

Some Suggestive Evidence

[Reyes-Heroles (2016)]

Figure: Gross Trade Flows and Trade Imbalances (Percent of World GDP)



The Model and Key Equations

- Multi-country canonical IRBC model [Backus et al. (1994)] + non-contingent bond assumption
- Add trade and financial frictions + other features
- The key equations: (simplified by assuming no input adjust cost)

$$\frac{p_{nmt}}{P_{nt}}\tau_{nmt} = D_{nt}^{\frac{1}{\gamma}}\omega_{nm}^{\frac{1}{\gamma}}a_{nmt}^{-\frac{1}{\gamma}}$$

$$\frac{1}{q_{nt}} = r_t + F\left(e^{-(b_{nt}-\bar{b}_n)} - 1\right) + \left(e^{\phi_{nt}-1} - 1\right)$$

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- Three challenges faced in this literature:
  - Identification of financial frictions
  - Persistence of trade cost shocks $\rightarrow$ solution method
  - Wealth effects

Identification

Identification of trade costs: Exploits gravity delivered by Armington assumption $\rightarrow$ standard

$$\tau_{nmt} = \left(\frac{\pi_{nmt}}{\pi_{nnt}}\right)^{\frac{1}{1-\gamma}} \left(\frac{\omega_{nm}}{\omega_{nn}}\right)^{\frac{1}{\gamma-1}} \frac{p_{nnt}}{p_{nmt}}$$

Question 1: Are we missing key frictions by assuming that F summarizes financial frictions?

- Is F time-invariant a reasonable assumption?
- ϕ_{nt} captures other variation in interest rates not captured by movements in b_{nt} $\rightarrow$ other frictions?
- Shocks to discount factor Ω_{nt} $\rightarrow$ other frictions?

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$\rightarrow$ Alternative more "agnostic" catch-all approach relies on time-varying Euler equation wedge [Reyes-Heroles (2016), EKN (2016), etc. Promising alternative approach: Capelle and Pellegrino (2021)]

Solution Method

Question 2: How much do we miss by approximating solution around different steady states instead of looking at the entire transition?

- Effects of changes in trade and financial frictions potentially highly non-linear
- Permanent changes in frictions rather than temporary
- Big benefit: S in DSGE $\rightarrow$ model with stochastic shocks become more tractable

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$\rightarrow$ Alternative: Focus on transition and rely on global solution, but restrict to perfect foresight models [Reyes-Heroles (2016), EKN (2016), Sposi (2021)]

Wealth Effects

Question 3: Do we expect permanent changes in trade and financial frictions to matter for wealth effects?

- EDEIR [Schmitt-Grohé & Uribe (2003)] $\rightarrow$ No wealth effects (benefit: stationarity)
- History of changes in trade and financial frictions can have sizable wealth effects $\rightarrow$ changes in $\bar{b}_n$ over time in the model
- I would expect $\bar{b}_n$ to be different in the 70s than in the 2010s
  $\rightarrow$ Divergence in NFAP vs NII

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Wealth Effects

[Reyes-Heroles (2016)]

Figure: Trade Imbalances: Sum over Absolute Values of Net Exports