Financial Globalization, 1970-2015: Winners and Losers

Capelle & Pellegrino (2021)

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Federal Reserve Board

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Overview 1/2

- **What?** Quantify the aggregate and distributional consequences of financial globalization around the world from 1970-2015.

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- **What?** Quantify the aggregate and distributional consequences of financial globalization around the world from 1970-2015.
- **Why?** Long and rapid process of financial globalization
  - Profound implications for global economic activity
  - No conclusive evidence on winners / losers
- **How?** Propose and conduct a wedge accounting exercise based on a gravity model of international investment.

  $\rightarrow$ Model of international investment (PSW, 2021) that delivers gravity-type equations for foreign asset demand.
  - Frictions in international capital markets
  - Idiosyncratic taste shocks for specific location-specific investments

  $\rightarrow$ Invert model to recover frictions
  - Recover financial globalization wedges (FGW)—assumptions required because of data availability issues

  $\rightarrow$ Conduct counterfactuals

Overview 2/2

- **Methodological contribution:**
  - Inversion of model to back out FGW given available data for 1970-2015
    Reyes-Heroles (2016), EKNR (2016), and other macro-trade papers...
- **Novel quantitative results:**
  - Uneven financial globalization $\Rightarrow$ global misallocation of capital
    Interesting! Relationship to welfare effects of ToT summarized by movements in R and τ [Obstfeld and Rogoff (2001)]
  - Financial globalization $\Rightarrow$ increased inequality between countries
  - Financial globalization $\Rightarrow$ effects on inequality within countries depend on level of development

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$\rightarrow$ Nice paper with a clear contribution! Clean framework and easy to implement.

The Model

Country $i \in \{1, \ldots, N\}$ produces homogeneous final good used for con. or inv.

- **Technologies:** $y_{it} = z_i n_{it}^{\nu_i} h_{it}^{\eta_i} k_{it}^{1-\nu_i-\eta_i}$
- **Resources:** $\sum_{i=1}^{I} y_{it} = \sum_{i=1}^{I} (k_{it+1} + c_{it})$
- **Saving:** Investors save a constant share of their income

$$s_i = \gamma_i (\nu_i + \eta_j) y_i = \gamma_i (\nu_i + \eta_j) (w_{it} \ell_i + m_{it} n_i)$$

- **Bilateral investment positions:** Share that country i's investors invest in country h (if $\epsilon = 1$)

$$\pi_{hi} = \frac{(1 - \tau_{hi}) r_h k_h \exp\left(\boldsymbol{d}'_{hi}\beta\right)}{\sum_{\iota=1}^{I} (1 - \tau_{\iota i}) r_\iota k_\iota \exp\left(\boldsymbol{d}'_{\iota i}\beta\right)} \quad \rightarrow \text{Gravity!}$$

- **Asset Markets Clearing:**

$$k_i = \sum_{h=1}^{I} a_{ih} = \sum_{h=1}^{I} \pi_{ih} s_h$$

Inverting the model

Note that there are $I \times (I-1)$ π_{hi}'s and τ_{hi}, but

$$\underbrace{\pi_{hi}}_{\text{No panel data}} = \frac{(1-\tau_{hi})(1-\nu_h-\eta_h)y_h \exp\left(\boldsymbol{d}'_{hi}\beta\right)}{\sum_{\iota=1}^{I}(1-\tau_{\iota i})(1-\nu_\iota-\eta_\iota)y_\iota \exp\left(\boldsymbol{d}'_{\iota i}\beta\right)},$$

and penal data is only available for aggregate external asset and liability positions.

→ **Reduce dimensionality** of τ_{hi}: $\boxed{1-\tau_{hi} = (1-\tau_h^{\text{in}}) \times (1-\tau_i^{\text{out}})}$

$$\Rightarrow \pi_{hi} = f\left(\left\{\tau_\iota^{\text{in}}\right\}_{\iota=1,\ldots,I}, \boldsymbol{X}\right) \Rightarrow k_i^e \equiv \sum_{h\neq i} a_{ih} = \sum_{h\neq i} f\left(\left\{\tau_\iota^{\text{in}}\right\}_{\iota=1,\ldots,I}, \boldsymbol{X}\right) s_j^e$$

→ System of I equations and I unknowns → *Nice!*

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Comment 1: What do the assumptions on frictions imply for identification?

- Is τ_i^{in} isomorphic to productivity z_i? ($R_i \propto (1-\tau_{hi})r_h$) Euler equation wedge? [Reyes-Heroles (2016), EKNR (2016)]
- Is τ_i^{out} isomorphic to home-bias in models that feature such parameter?
- Use available bilateral panel data to evaluate assumptions

Model Choice

Comment 2: Does the model miss any key forces?

- Wedge accounting/decomposition $\Rightarrow$ **Correct** model by assumption
- Do we think this is the correct model for the analysis? Why?
  $\rightarrow$ Paper is missing a discussion on this issue.

Okawa and van Wincoop (2012): "Not surprising therefore, we find that a gravity specification for asset trade is much less robust to changes in model assumptions than in the trade literature."

Specific issues:

1. Portfolio diversification arises from investor heterogeneity, not risk aversion. No risk at all.
2. Asset demand depends on only one relative price.

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Very nice paper with thought-provoking results!
Much to be exploited from predictions for bilateral flows