The Granular Origins of the Global Financial Cycle

Discussion of Benigni, Ehlers, Hoffmann, Hofmann and Schmieder (2024)

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The views expressed here do not necessarily reflect the position of the Bank of England.

In Search of the Holy Grail...

What is the causal association between capital flows, asset prices and exchange rates?

...We're All Searching For It!

Paper sends out two 'search parties'...but can be better 'placed' in growing literatures

#1. **Asset-Demand Systems**

- Koijen & Yogo (2019, 2024): decompose variation in FX and asset prices into portfolio flows and shifts in asset demand
- Jiang, Richmond & Zhang (2024): decompose source of global imbalances
- Camanho, Hau & Rey (2022): micro-founded equilibrium model of incomplete FX risk trading, where FX risk partially segments equity markets
- Rey, Stavrakeva & Tang (2024a, 2024b): novel empirical FX decomposition based on 'equity net currency supplies'
- ...

...We're All Searching For It!

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#2. **Granular Instrumental Variables**

- Camanho, Hau & Rey (2022): mutual funds' rebalancing flows
- Aldasoro, Beltrán, Grinberg & Mancini-Griffoli (2023): bank flows at *country-level*
- Becker, Schmeling & Schrimpf (2023): banks' syndicated loan flows
- Bippus, Lloyd & Ostry (2023): UK-based (global) banks' USD positions
- Barbiero, Bräuning, Joaquim & Stein (2024): dealer risk limits
- ...

This Paper: In My Own Words

Inputs:

- Security-level data for investment funds worldwide (Refinitiv Lipper)
- Decomposition of market-clearing conditions into flows and portfolio rebalancing

$$\Delta\tilde{p}_t - \mathbb{E}\Delta\tilde{e}_t = (\mathbf{I}_{C-1} - \tilde{\mathbf{M}}\tilde{\mathbf{P}}')^{-1}(\underbrace{\Delta\tilde{\mu}_t}_{\text{rebalancing}} + \underbrace{\tilde{\Phi}_t}_{\text{flows}})$$

Outputs:

- Can reasonably well match data with model-implied decomposition
- Price dynamics dominated by rebalancing, not flows
- Much larger FX multiplier for USD inflows than other currencies

#1. Exactly How 'Granular'?

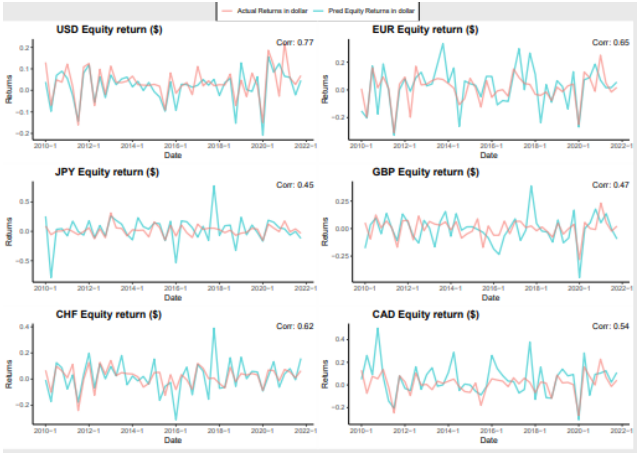
Paper sets out to offer insights on 'granular' origins of GFC...but lots of aggregation

- Wide data coverage: complete for US funds, and improving for other countries
- But aggregated by:
  - Investor currency (only 8: USD, EUR, JPY, GBP, CHF, CAD + OAE, ROW)
  - Asset currency
  - Major asset class (equity, ST debt, LT debt)

Suggestion: either remove aggregation step, or better motivate it

- Focus should be on novelties of authors' data

#1. Exactly How 'Granular'?



Would this improve fit vs. actual data?

#2. How Do Demand-System and GIV Sit Together?

Flexible−Exchange−Rate Price Multipliers, Avg

investment assets \ investor currencies	USD	EUR	JPY	GBP	CHF	CAD	RES
USD_LgTDebt	6.6	0.92	0.1	0.69	0.11	0.39	49.09
USD_Equity	6.87	0.92	0.1	0.69	0.11	0.39	48.47
EUR_ShTDebt	6.44	1.02	0.1	0.66	0.1	0.38	47.6
EUR_LgTDebt	6.43	0.86	0.1	0.66	0.1	0.38	47.73
EUR_Equity	6.53	0.95	0.1	0.67	0.1	0.38	47.41
JPY_ShTDebt	6.41	0.89	0.06	0.67	0.1	0.38	47.63
JPY_LgTDebt	6.41	0.89	0.06	0.67	0.1	0.38	47.62
JPY_Equity	6.48	0.89	0.11	0.68	0.1	0.38	47.41
GBP_ShTDebt	6.39	0.88	0.1	0.67	0.1	0.38	47.63
GBP_LgTDebt	6.38	0.87	0.1	0.5	0.1	0.38	47.78
GBP_Equity	6.52	0.9	0.1	0.86	0.1	0.38	47.28
CHF_ShTDebt	6.44	0.89	0.1	0.67	0.22	0.38	47.63
CHF_LgTDebt	6.43	0.88	0.1	0.67	0.2	0.38	47.69
CHF_Equity	6.54	0.91	0.1	0.68	0.11	0.38	47.42
CAD_ShTDebt	6.38	0.89	0.1	0.67	0.1	0.26	47.72
CAD_LgTDebt	6.38	0.89	0.1	0.67	0.1	0.29	47.73
CAD_Equity	6.51	0.89	0.1	0.67	0.1	0.55	47.34
RES_ShTDebt	6.5	0.9	0.1	0.68	0.1	0.38	48.29
RES_LgTDebt	6.51	0.9	0.1	0.68	0.1	0.38	48.28
RES_Equity	6.6	0.91	0.1	0.69	0.1	0.38	48.01

2SLS GIV Price Multipliers

investment assets \ investor currencies	USD	EUR	JPY	GBP	CHF	CAD
USD_ShTDebt	0.79	−0.05	0.05	0	0.15	−0.02
USD_LgTDebt	2.82	−0.3	0.2	0.01	0.75	−0.05
USD_Equity	7.22	0.26	−0.13	−0.33	0.22	0.01
EUR_ShTDebt	0.24	−0.02	−0.01	0.01	0.09	−0.02
EUR_LgTDebt	2.81	−0.08	0.17	−0.1	0.59	−0.08
EUR_Equity	3.74	0.62	−0.42	−0.54	−0.48	0.02
JPY_ShTDebt	−0.08	0	−0.01	0	0	0
JPY_LgTDebt	1.03	−0.1	0.05	−0.13	0.32	−0.03
JPY_Equity	9.85	0.1	−0.34	−0.68	0.62	0.5
GBP_ShTDebt	0.38	−0.02	0.01	0.01	0.11	−0.02
GBP_LgTDebt	2.02	−0.23	0.11	0.06	0.76	−0.11
GBP_Equity	3.92	0.24	−0.7	−0.27	0.23	−0.07
CHF_ShTDebt	−0.15	−0.01	−0.02	0	0	0
CHF_LgTDebt	0.09	−0.07	−0.09	−0.04	0.15	−0.03
CHF_Equity	−0.28	0.5	−0.8	−0.34	−0.71	0.2
CAD_ShTDebt	0.56	−0.03	0.03	0	0.12	−0.01
CAD_LgTDebt	4.77	−0.38	0.27	−0.04	1.11	−0.06
CAD_Equity	5.37	0.14	−0.38	−0.16	0	−0.1

Question: How can I square differences? LHS shows remarkable *homogeneity* across asset classes within currencies, RHS shows marked *heterogeneity*

#3. GIV Construction

- Authors construct two GIVs from unexplained portion of fund flows $\hat{\varepsilon}_{i,t}$:
  - #1 Using fund-level controls in cross-sectional regression:

$$Flow_{i,t} = F_{1,t}TNA_{i,t-1} + F_{2,t}LTDebt_{i,t} + F_{3,t}Equity_{i,t} + \mathbf{F}_{4,t}\mathbf{Curr}_{i,t} + \varepsilon_{i,t}$$

  - #2 Using PCA of flows: $Flow_{j,t}^{PCA}$

Questions: Approach seems non-standard...

- Why not run panel regression, saturated with fixed effects, for each currency-asset class $c(a)$?

$$Flow_{i,t}^{c(a)} = F_1TNA_{i,t-1} + F_2LTDebt_{i,t} + F_3Equity_{i,t} + \mathbf{F}_4\mathbf{Curr}_{i,t} + f_i + f_t + \varepsilon_{i,t}^{c(a)}$$

- Why not merge PCA into this (i.e., PCA on estimated residuals)?

#3. GIV Construction

- GIVs constructed by scaling with total net assets:
  - #1 Regression residual:

$$GIV_t^{int,i} = \frac{\sum_i \hat{\varepsilon}_{i,t}}{\sum_i TNA_{i,t-1}}$$

  - #2 PCA residual

$$GIV_t^{PCA,i} = \frac{\sum_i (Flow_{i,t} - Flow_{i,t}^{PCA})}{\sum_i TNA_{i,t-1}}$$

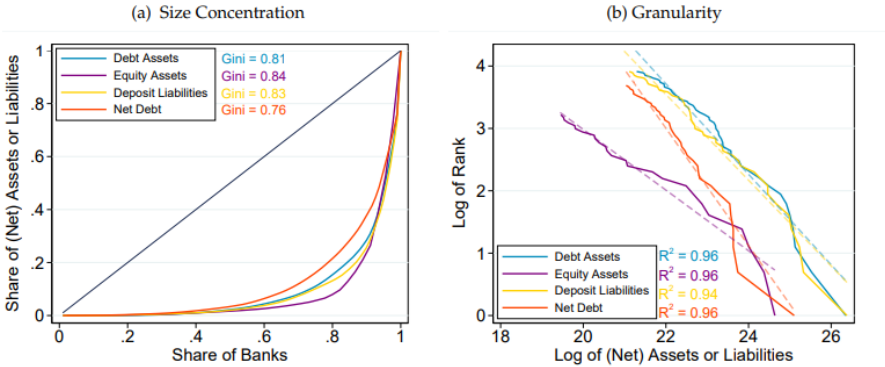
Questions: How does this preserve logic of GIV's 'relevance'?

$$GIV_t^{c(a)} = \hat{\varepsilon}_{S,t}^{c(a)} - \hat{\varepsilon}_{E,t}^{c(a)}$$

#4. GIV Exposition

Suggestion: authors could use GIV setup to better justify granularity...

Figure 3: Concentration and Granularity in Banks' Cross-Border (Net) Assets and Liabilities

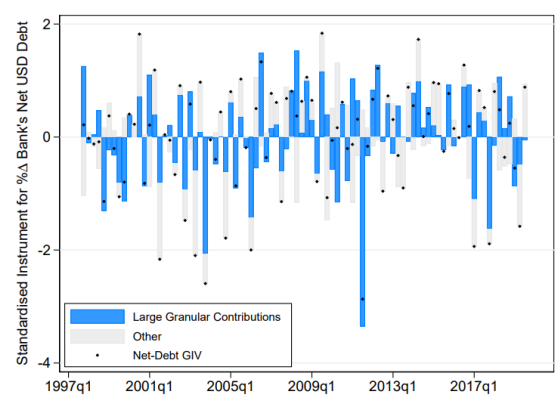


[Bippus, Lloyd & Ostry, 2023]

#4. GIV Exposition

Suggestion: ...but also explore it...

Figure 4: Granular Bank Contributions to GIV for Net USD Cross-Border Debt Claims



[Bippus, Lloyd & Ostry, 2023]

#4. GIV Exposition

Suggestion: ...to truly shed light on 'granular origins' of GFC

Figure C.1: Key Terms from Narrative Checks of Large-Bank Moves in Granular Instruments

[Bippus, Lloyd & Ostry, 2023]

[Barbiero, Bräuning, Joaquim & Stein, 2024]