Global Banks and Systemic Debt Crises

Discussion by Hanno Lustig (Stanford University)

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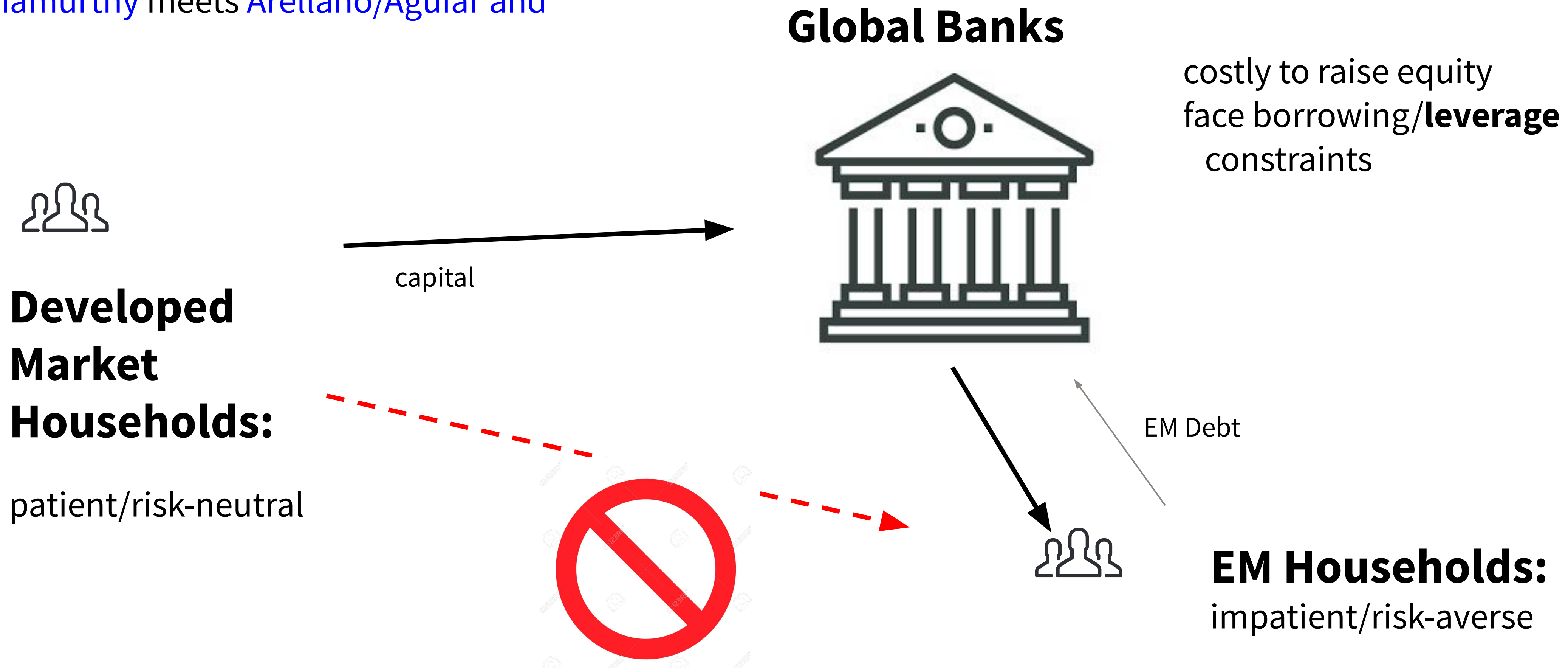
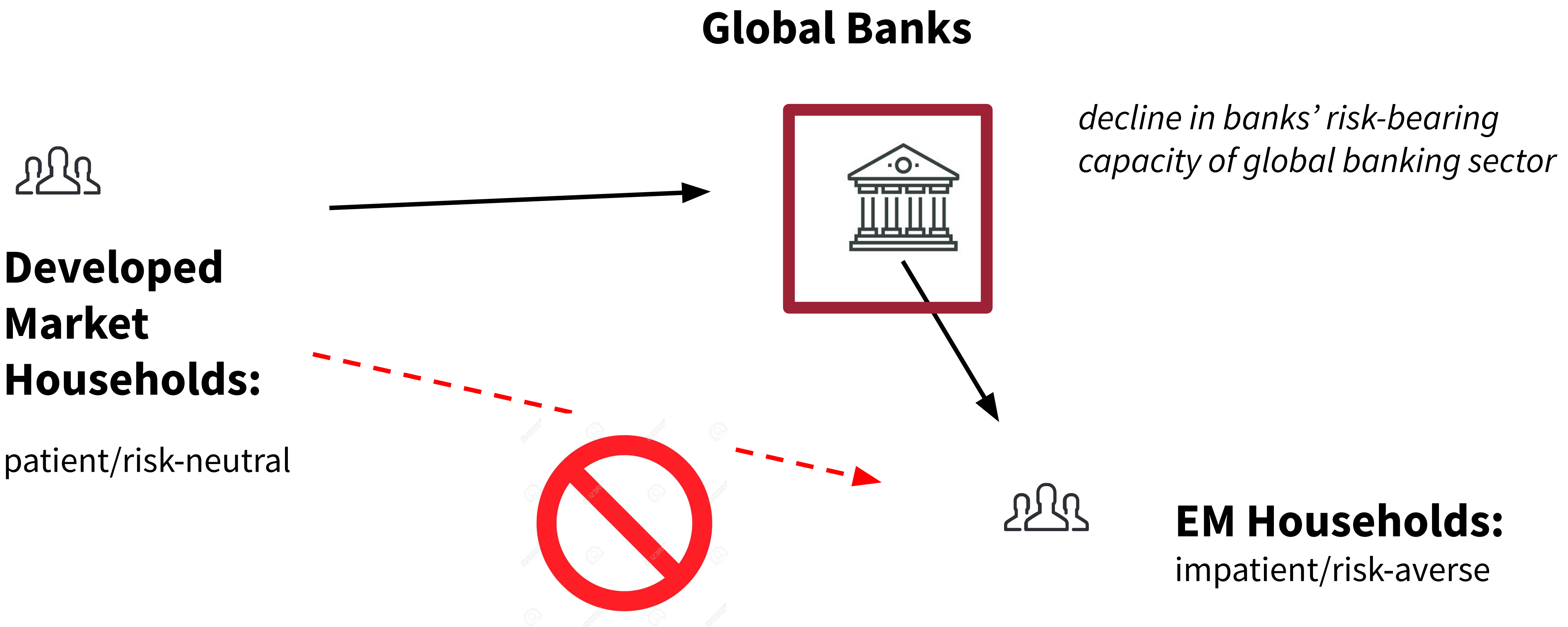
Intermediary AP in EM Debt Markets

He-Krishnamurthy meets Arellano/Aguiar and Gopinath



Shock to net worth



Overview

INTERMEDIARY ASSET PRICING APPLIED TO SOVEREIGN DEBT MARKETS

LEVERED INTERMEDIARIES ARE GLOBAL BANKS

- empirical evidence:
  - shocks to net worth of global banks impacts price of EM bonds held by banks after Lehman collapse
  - GFI-level EM bonds holdings data for 2008
  - bonds held by GFIs with larger decline in net worth in 2008 see larger subsequent price declines
- Model:
  - Dynamic Equilibrium Model of Global EM debt markets with default
  - explore quantitative implications
  - global banks play key role in EM consumption dynamics
- Targets:
  - correlation of sovereign yield spreads across countries

Outline

01 **who is the marginal levered investors in EM sovereign debt markets?**

02 **what do we learn from the empirical analysis in relation to model?**

Who are the Holders of EM Debt?

GLOBAL BANKS?

`global financial intermediaries included in our sample held, on average, *46% of reported bond holdings* at the end of 2008.q2, prior to the Lehman episode.'

but your Bloomberg sample of holdings only accounts for 25% of total amount outstanding of bonds (*Appendix*).

Your list of GFIs in Emp.

includes non-levered investors

1. Life insurance companies (Aegon NV, Allianz, Allstate..) : *little or no leverage*
2. Asset Management companies with mutual funds (e.g. Blackrock, Fidelity): *no leverage*

Aegon NV GE Capital Northern Trust
Allianz SE Genworth Financial PNC
Allstate Goldman Sachs Principal Financial Group
American International Group HSBC Prudential Financial
Ameriprise Financial Hartford Raieisen Bank International AG
Ares Management Huntington Bancshares Regions
BNP Paribas Intesa Sanpaolo Royal Bank of Canada
BNYM Invesco SEI Investments Co
Banca Mediolanum JPMorgan Schroders
Banco Bilbao Vizcaya Argentaria Janus Henderson Group Societe Generale
Banco Santander KBC Group NV Standard Life Aberdeen

Your list of GFIs in Emp.

excludes highly levered investors

Hedge Funds (Elliott Capital)

Not just about leverage? maybe expertise

Global Financial Intermediaries

face borrowing/**leverage** constraints?
what about expertise?
see Gabaix, Krishhamurthy and Vigneron, 2007)

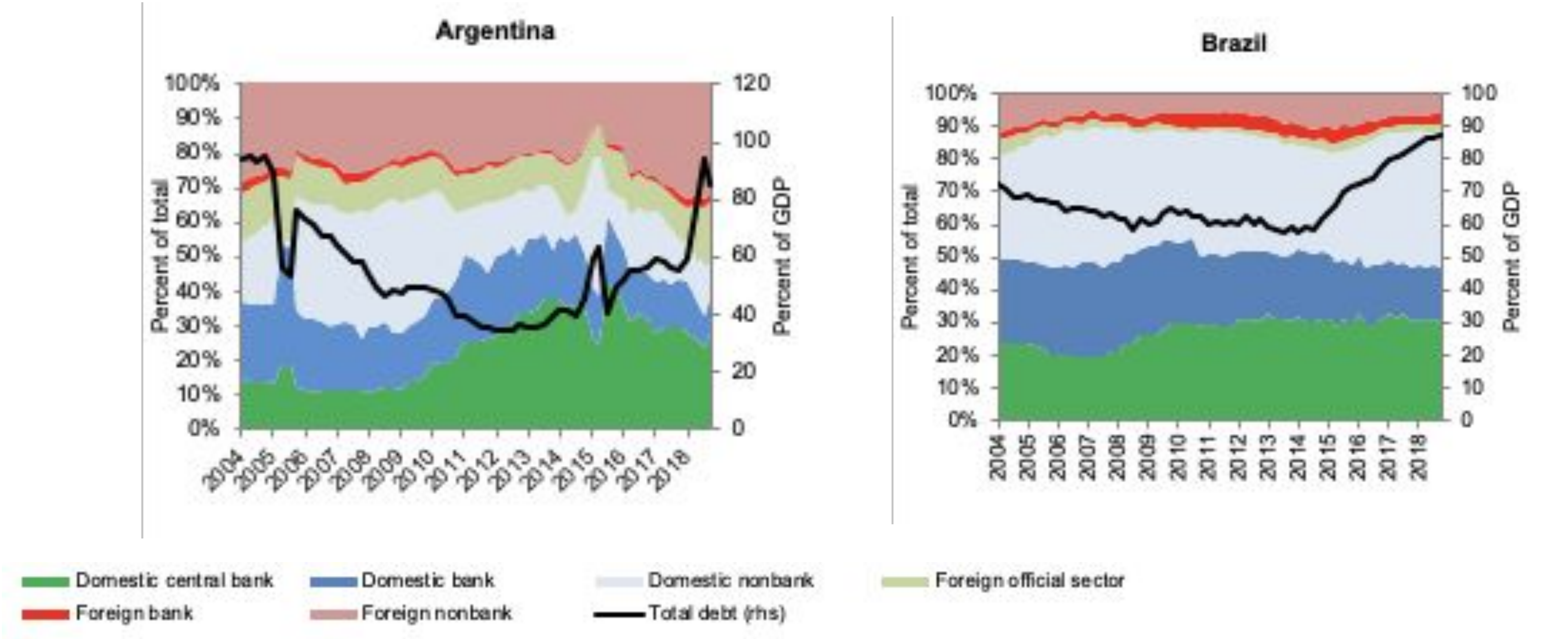
Developed Market Households:

patient/risk-neutral

EM Households:
impatient/risk-averse

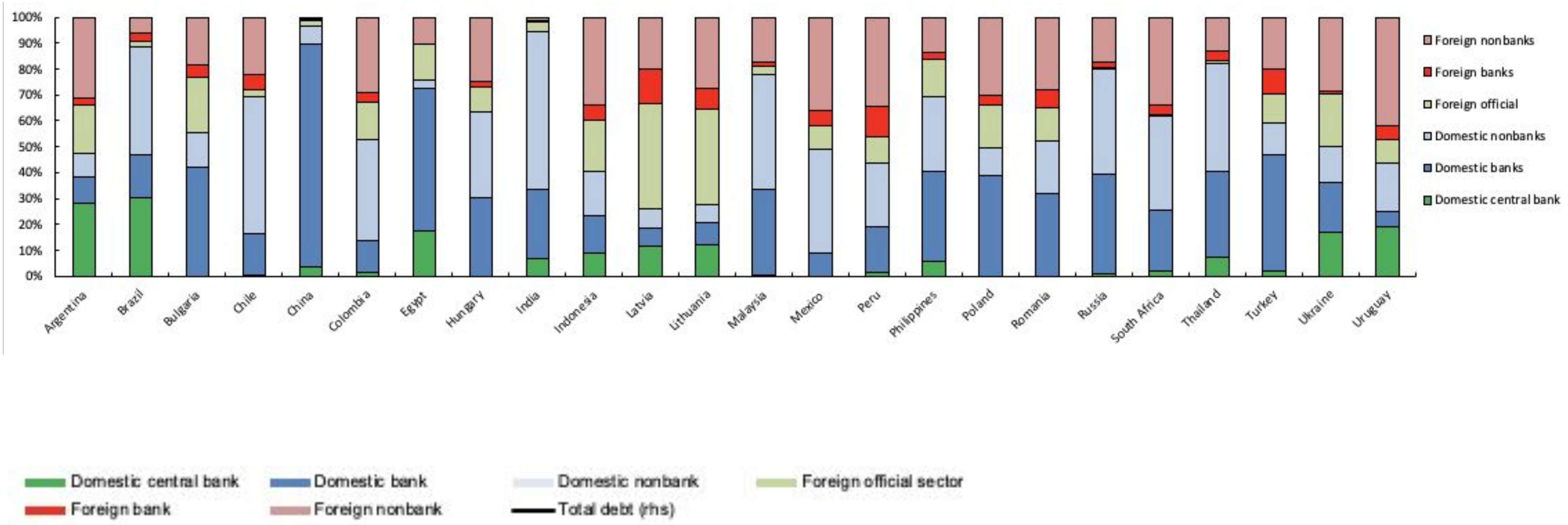
Who holds EM Sovereign Debt?

Estimates by IMF based on Arslanalp and Tsuda (2014)



Who holds EM Sovereign Debt?

Investor base of EM General Government Debt at end-2018 (% of total)



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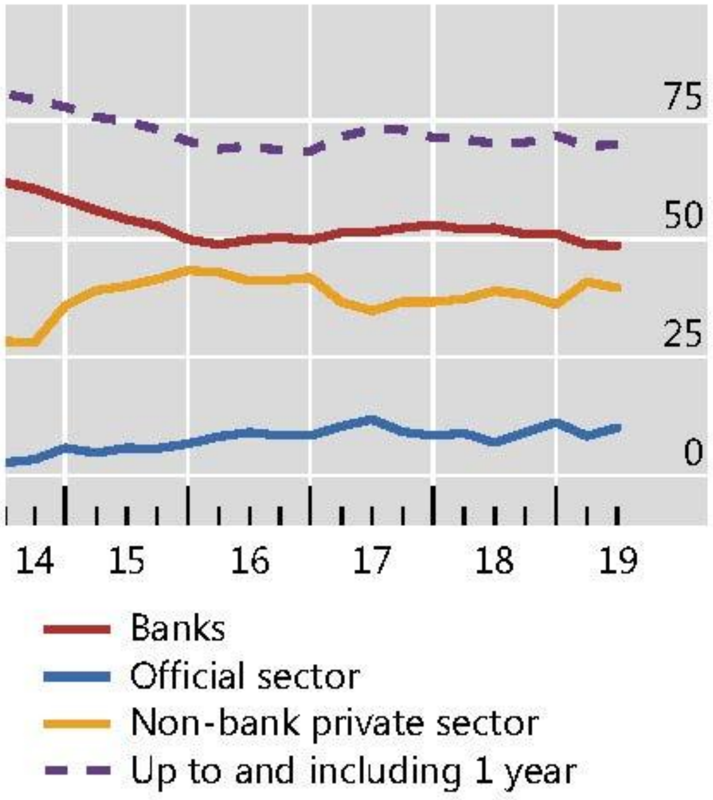
Who are the banks lending to in EM?

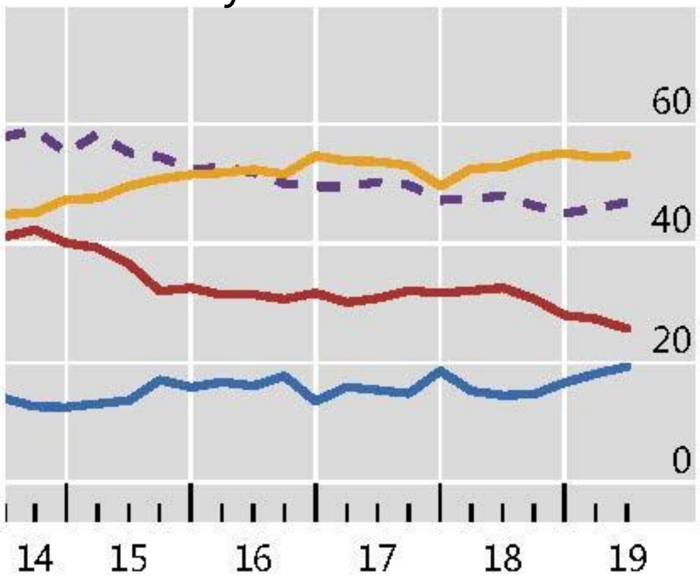
Mostly Other Banks

International claims, by sector and maturity, in per cent[4]

China



Turkey



Statistical release: BIS international banking statistics at end-June 2019

Foreign Non-banks?

He and Krishnamurthy applied to global banks in global EM debt markets

Non-bank Foreign investors hold larger share of EM Debt after crisis

costly to hold EM debt for global (U.S. and European) banks

- capital regulations
- higher risk weights for EM bonds
  - does not apply to domestic banks

more efficient for foreign non-banks to hold EM debt

same development in high-yield bonds

- see development of CLOs in U.S.

other levered foreign investors? hedge funds?

Outline

01 **who is the marginal levered investors in EM sovereign debt markets?**

02 **what do we learn from the empirical analysis in relation to model?**

empirical design

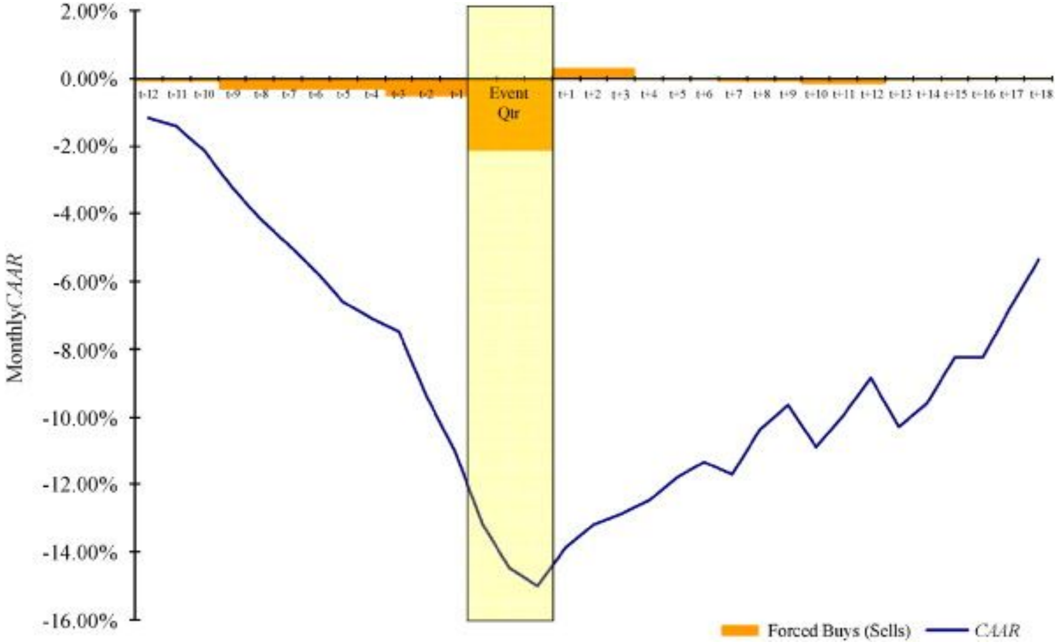
INTERMEDIARY ASSET PRICING APPLIED TO SOVEREIGN DEBT MARKETS

- empirical evidence:
  - shocks to net worth of GFIs impacts price of EM bonds held by banks in 2008
  - bonds held by GFIs with larger decline in net worth in 2008 see larger subsequent price declines
- identification in cross-section of bonds in 2008 after Lehman
  - comparing two bonds with same maturity, same issuer but held by different institution
  - clean identification of *local effect of shocks to net worth* on bond prices in GFR
  - in model: only *aggregate* banking net worth matters..segmentation?
- why do you include non-banks in empirical analysis?
  - mutual funds? outflows..that's not your mechanism
  - life insurance companies: do not use leverage
- how much can we extrapolate from Oct 2008?

Mutual Fund Flows and firesales

fund flows is a plausible channel for correlation

- Coval and Stafford show that stocks held by mutual funds which experience outflows experience abnormal returns *in normal times* (better evidence of firesales)
  - price pressure effect
- maybe you should do the same thing for EM mutual funds: do EM bonds held by mutual funds that suffer outflows do much worse?



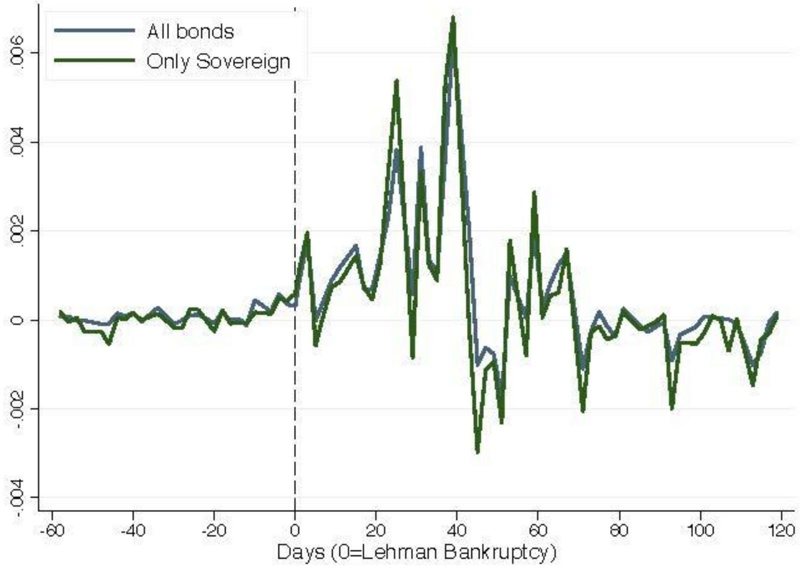
Conclusion

- ambitious paper; kudos for bringing intermediary AP to sovereign debt markets

- the model's mechanism is about
  - highly levered financial institutions that hold EM bonds and
  - shocks to aggregate net worth
- the data is about
  - non-levered financial institutions and
  - shocks to bank-level net worth
- the empirical work picks up effects for these non-levered institutions as well

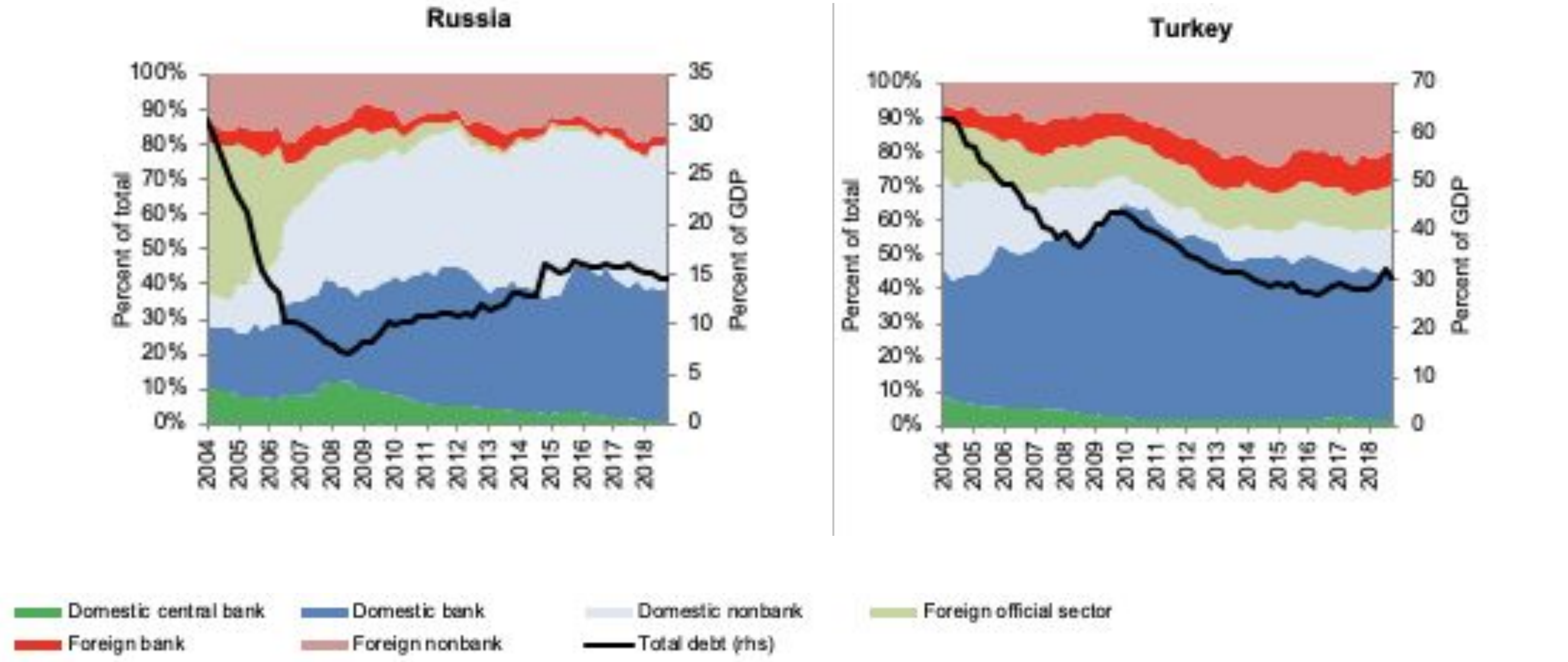
can we extrapolate from Sept.-Oct 2008?

- surely, does not mean that whole increase in EM yield spreads after Lehman is due to shock to net worth
- other sources of correlation of sovereign yield spreads across countries
- credit risk was repriced in all asset classes
- flight to safety drives up Treasury prices



Who are the Holders of EM Debt?

Estimates by IMF based on Arslanalp and Tsuda (2014)



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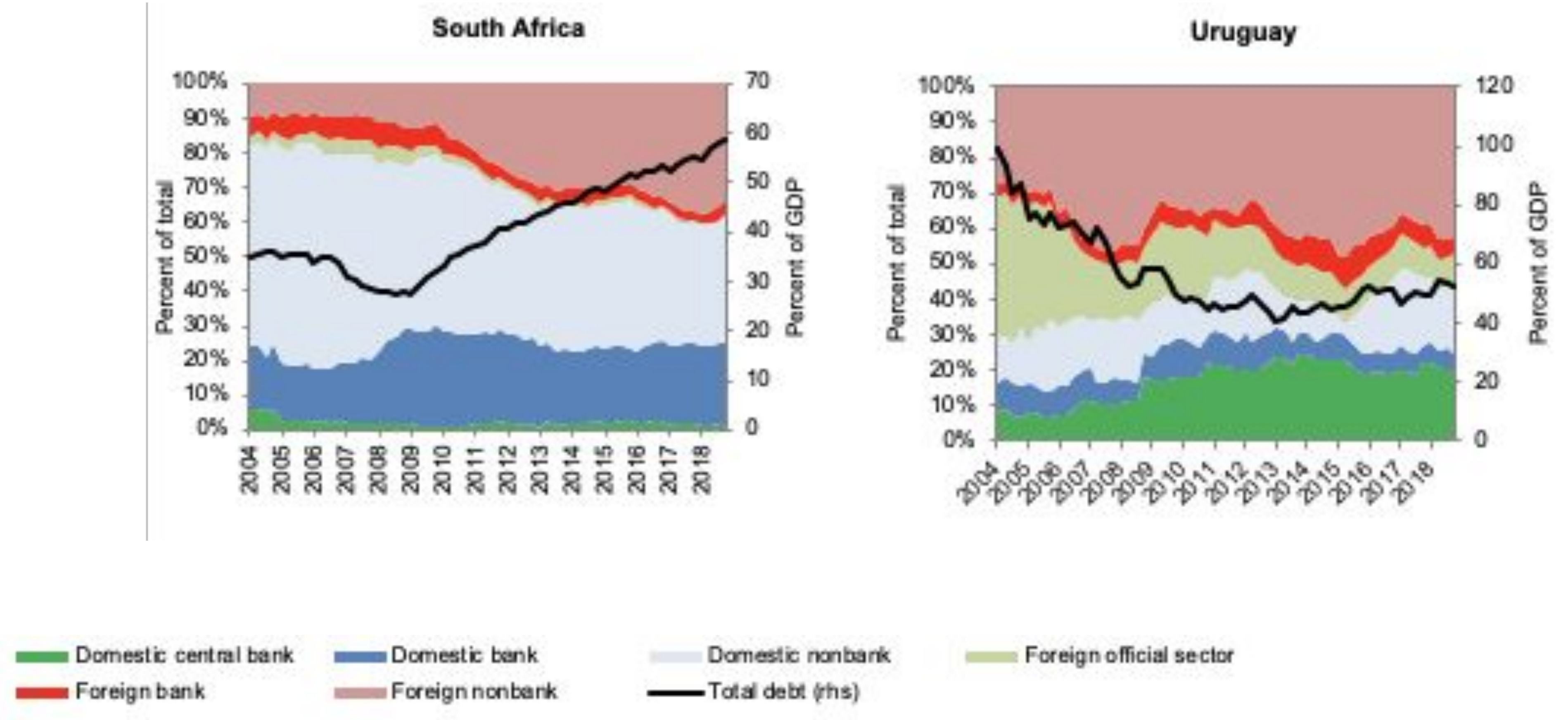

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Other levered foreign investors?

Domestic Holders

1. central bank
2. banks
3. non-banks

inelastic demand?

Foreign Holders

1. foreign official institutions (IMF etc.)
2. foreign non-banks
    - **hedge funds**
    - mutual funds
    - other asset managers: pension funds, endowments
3. foreign banks