International Monetary Fund

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The International Monetary System: Current and Future Challenges

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Bank of Canada, 2023 John Kuszczak Memorial Lecture

Note: The views expressed do not necessarily represent the views of the IMF, its Executive Board, or IMF management

The International Monetary System: Current and Future Challenges

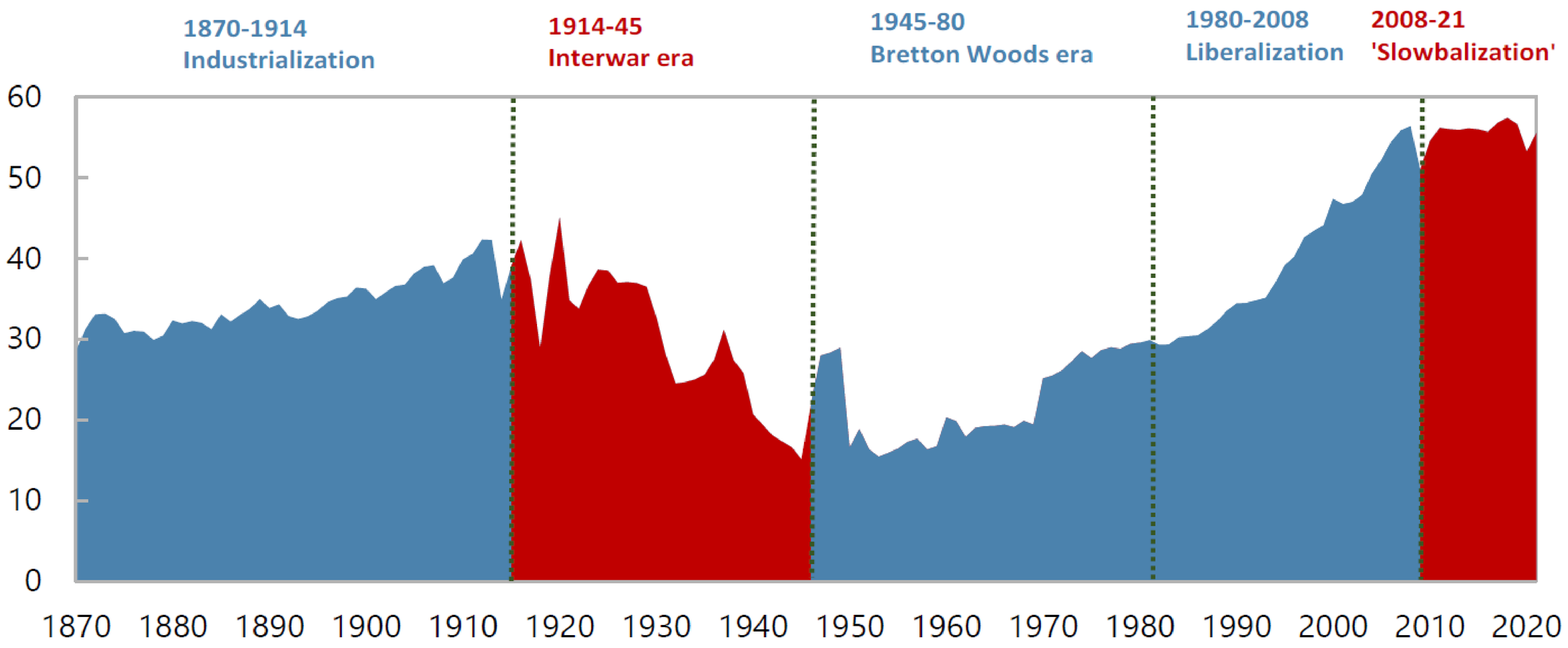
The International Monetary System:

- The Bretton Woods institutions were founded on a double proposition to ensure mutual prosperity (and peace)
  - ‘Free’ trade under WTO rules, and current account convertibility;
  - IMF’s safety net to help manage temporary external imbalances (BoP)

- Followed by an explosion, first in global trade, then in cross-border financial transactions.
- Along the way, the nature of the IMS changed (end of Bretton Woods, floating exchange rates….) but the general architecture remained unchanged.

- In this lecture, I want to ask how the system has changed (or not) and what challenges lie ahead.

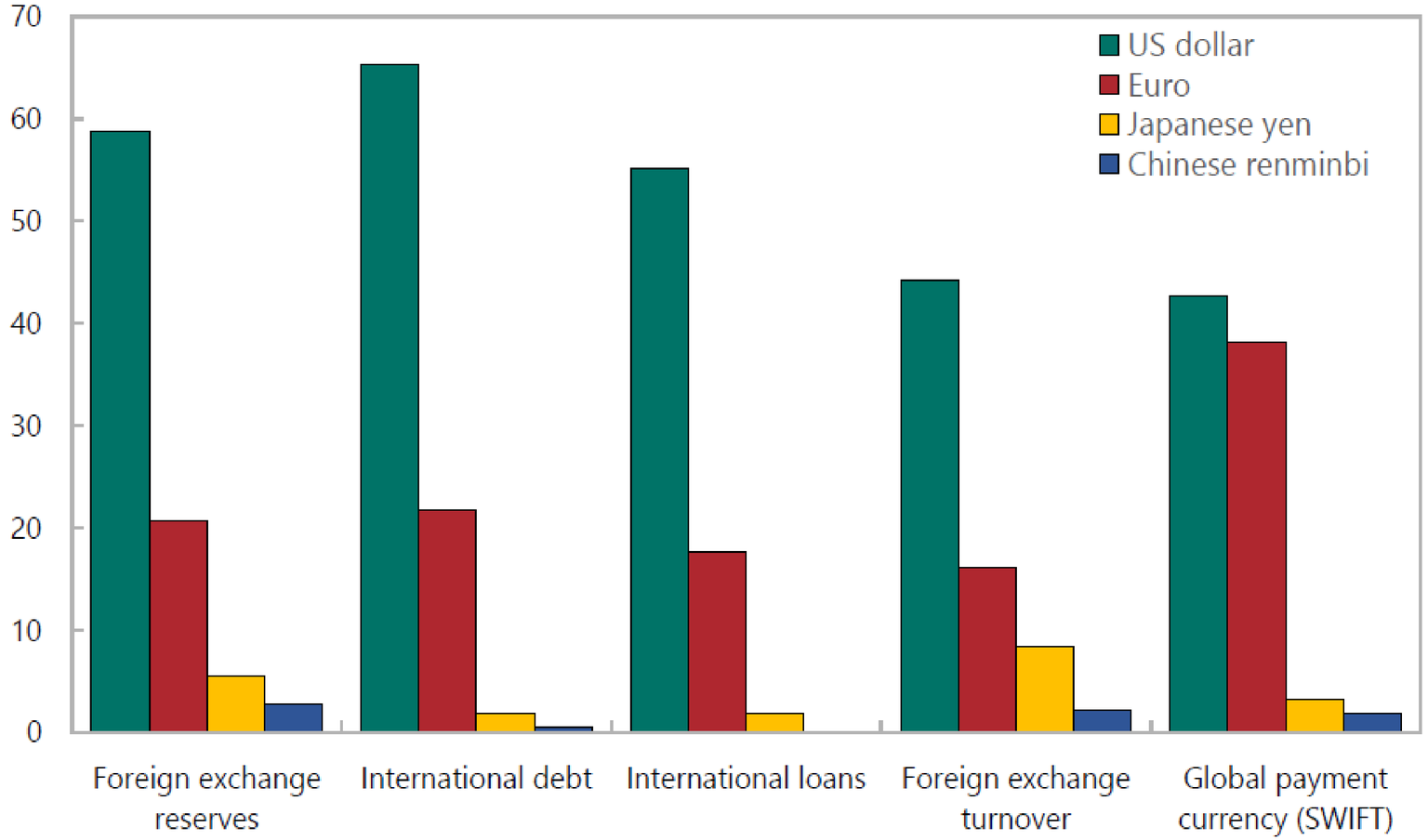
Trade Openness, 1870-2021
(sum of exports and imports, percent of GDP)



Sources: Jordà -Schularick-Taylor Macrohistory Database; Penn World Data (10.0); Peterson Institute for International Economics; World Bank; and IMF staff calculations.
Note: Sample composition changes over time.

Sources: Aiyar et al (2023), Geoeconomic Fragmentation and the Future of Multilateralism, Staff Discussion Note, 2023/001

Role of Major Currencies in the International Monetary System

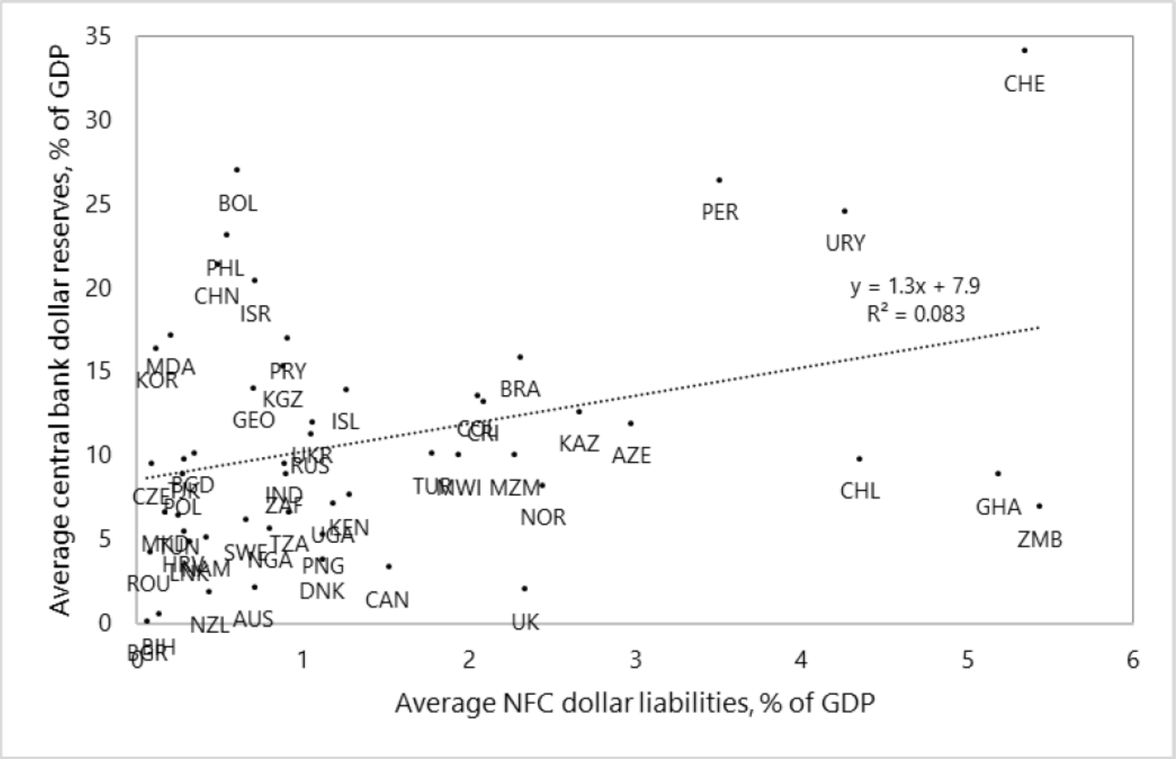


Sources: Bank for International Settlements; IMF; Society for Worldwide Interbank Financial Telecommunication (SWIFT); and ECB calculations. The latest data for foreign exchange reserves, international debt and international loans are for the fourth quarter of 2021. Foreign exchange turnover data as of April 2019. SWIFT data as of December 2021.

Sources: Aiyar et al (2023), Geoeconomic Fragmentation and the Future of Multilateralism, Staff Discussion Note, 2023/001

Non Financial Company dollar debt and dollar reserves

Figure 2
Nonfinancial company dollar loans and central bank dollar reserves: country averages excluding Hong Kong (2013-20, 52 countries)

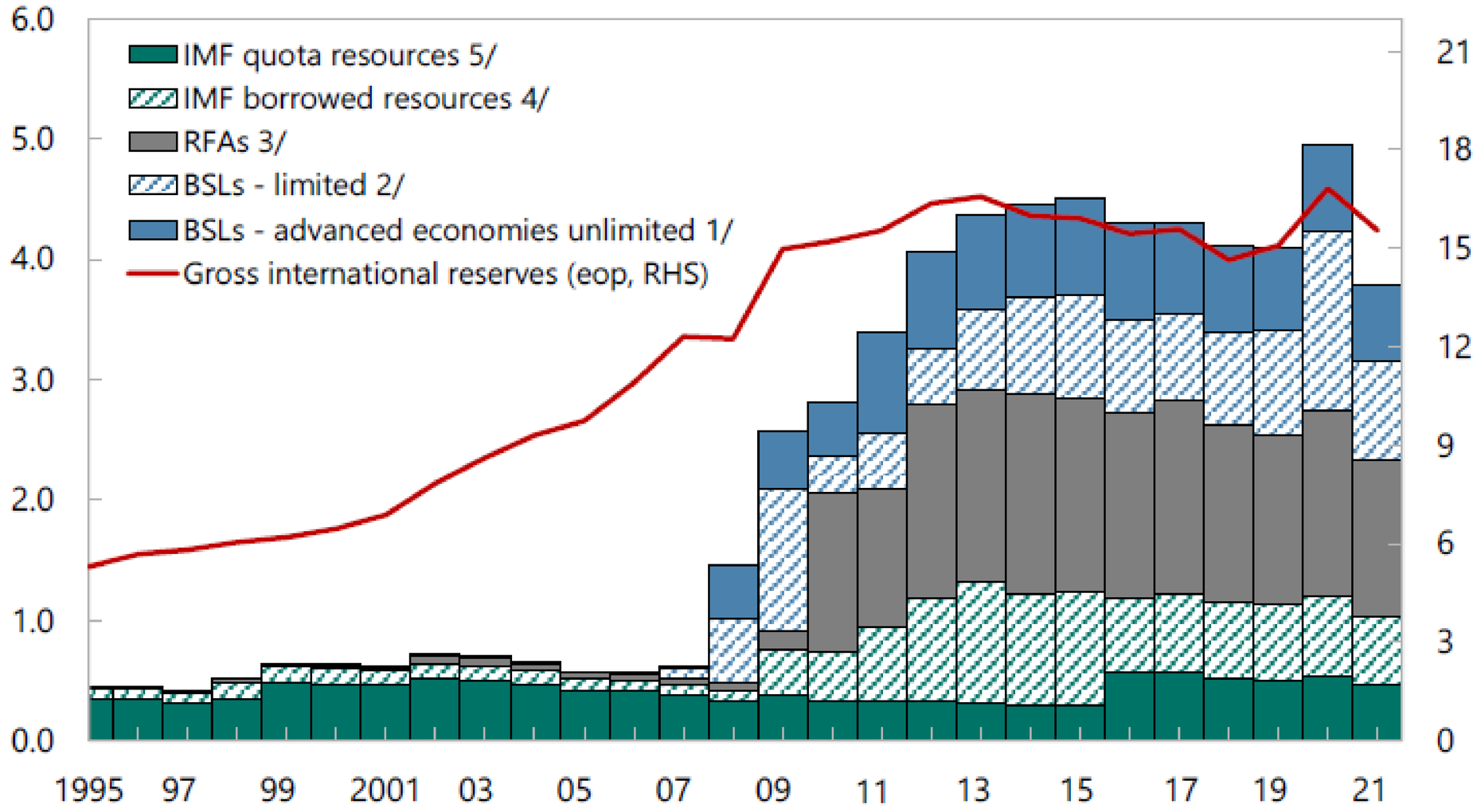


The horizontal axis in Fig. 1 shows average NFC dollar loans from cross-border banks, scaled by GDP. The vertical axis shows central bank dollar reserves, also scaled by GDP. Average loans and average reserves are calculated over different years across different countries, but the same years within a country (ranging from 1-8 years). Relative to Figure 1, this figure drops Hong Kong SAR (HKG).

Sources: BIS, Data.imf.org, IMF (2020), Chinn, Ito and Macauley (2021).

Sources: Das et al (2023)

Evolution of the Global Financial Safety Net, 1995-2021
(percent of Global GDP)



Sources: Aiyar et al (2023), Geoeconomic Fragmentation and the Future of Multilateralism, Staff Discussion Note, 2023/001

The International Monetary System: Current and Future Challenges

Well-known issues with the structure of the International Monetary System

- Uneven and limited access to global liquidity: only IMF resources are available to all.

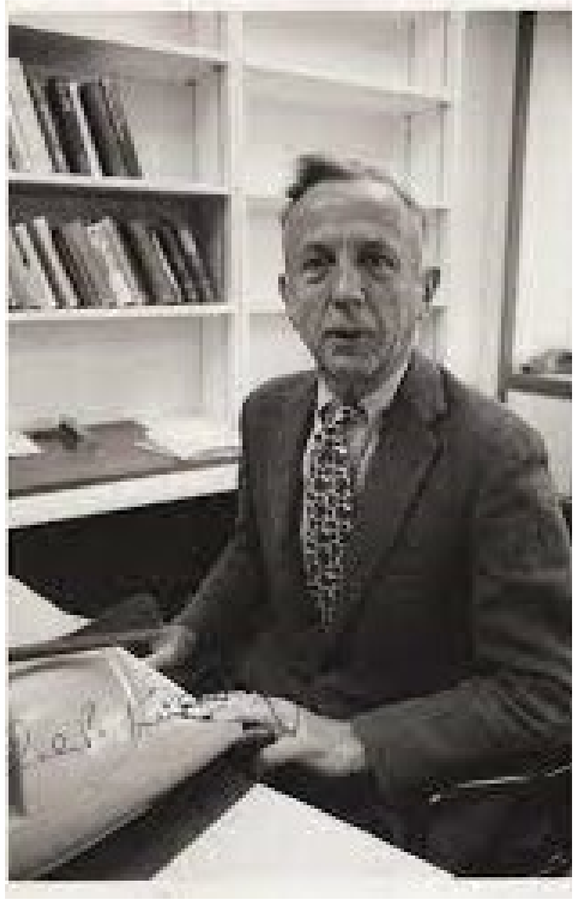
- Reliance on reserves (self-insurance) as a substitute for contingent liquidity is costly (quasi fiscal cost) and inefficient:
  - Global precautionary externality (at the Zero Lower Bound) (Fornaro and Romei, 2019): Paradox of Global Thrift.
  - Global borrowing externality: reserve accumulation encourages NFC to increase dollar borrowing (mismatch). Original Sin redux. (Das et al, 2023)

- Growing asymmetry between safe asset providers (US) and the ROW.

Unstable system or world banker? An old debate

Robert Triffin

Charlie Kindleberger



The Kindleberger View: Exorbitant Privilege (Gourinchas & Rey)

Table 1: Table 1 shows the comparison of average portfolio returns over 2005-2020 across four methods. Security-Level uses the returns by security; Index applies broad total returns indexes from MSCI or bond return sources to the holdings. The BEA ret – uses the valuation adjustments from BEA IIP table 1.3 plus the income from BEA transactions table 4.1; BEA raw estimates the valuation adjustments from the difference in positions in BEA IIP table 1.2 less the flows from BEA Transactions table 1.2 plus the income from table 4.1. Security-level and index liabilities returns are July-June to match liabilities survey; BEA returns are by calendar year. Differentials, which are returns on claims minus returns on liabilities, are based on average of current and following year liabilities returns for the security-level and index methods.

	Security-Level	Index	BEA ret	BEA raw
Claims return	7.97	7.78	7.65	8.82
Liabilities return	6.11	6.05	5.82	6.20
Return differential	1.77	1.68	1.83	2.62

Source: Bertaut, Curcuru, Faia and Gourinchas (2023)

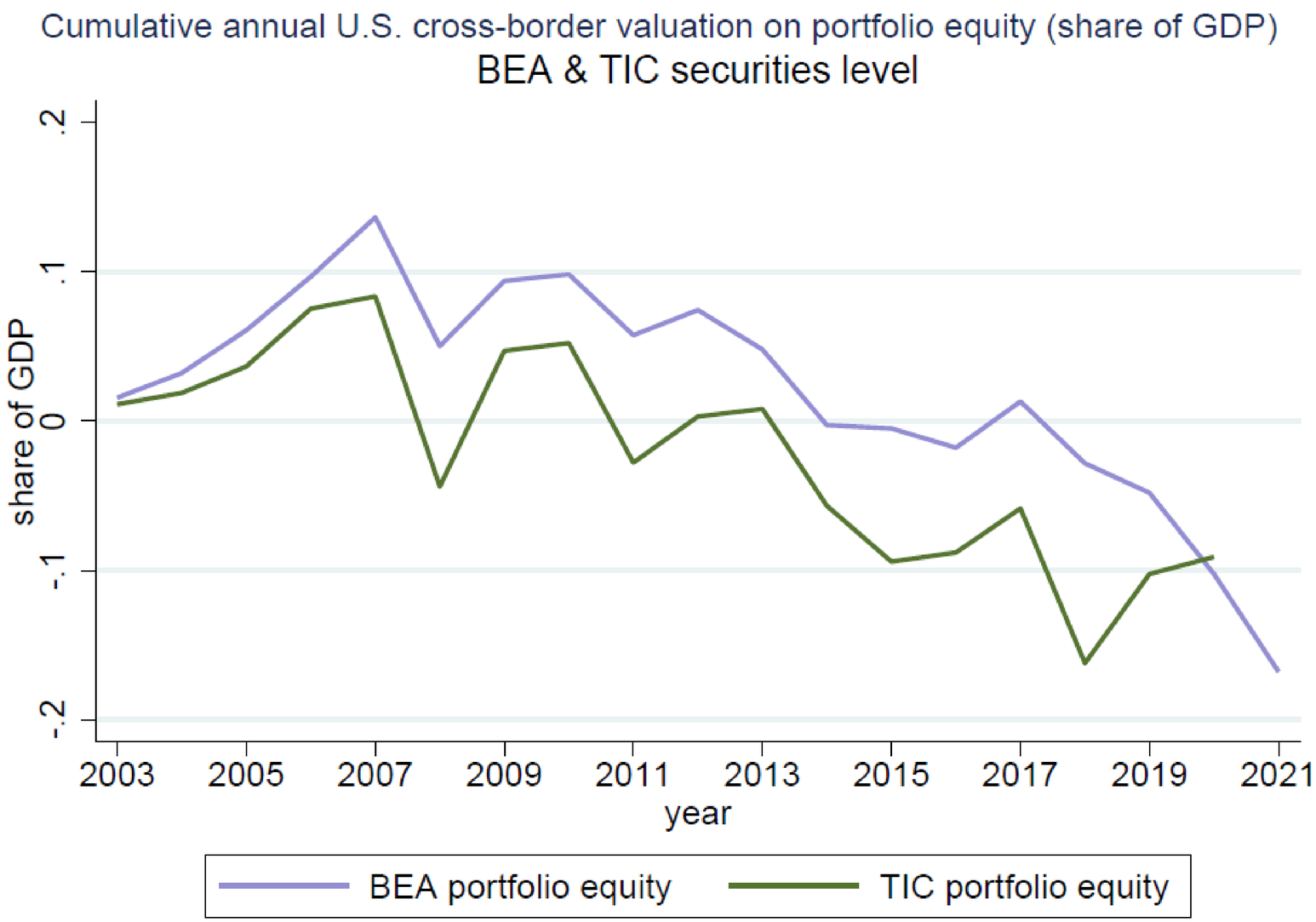
The Kindleberger View: Exorbitant Privilege (Gourinchas & Rey)

Table 2: Table 2 shows average returns and differentials by asset type from 2005-2020. Residence Basis. See Table 1 for definitions.

Security-Level	2005-2009	2010-2014	2015-2020	Total
Equity return claims	10.27	7.39	10.13	9.32
Equity return liabilities	0.69	17.44	10.80	9.71
Bond return claims	4.89	5.03	4.26	4.70
Bond return liabilities	3.94	5.07	3.29	4.05
Total return claims	8.59	6.56	8.63	7.97
Total return liabilities	2.96	9.06	6.29	6.11
Total return differential	5.23	-1.93	1.97	1.77

Source: Bertaut, Curcuru, Faia and Gourinchas (2023)

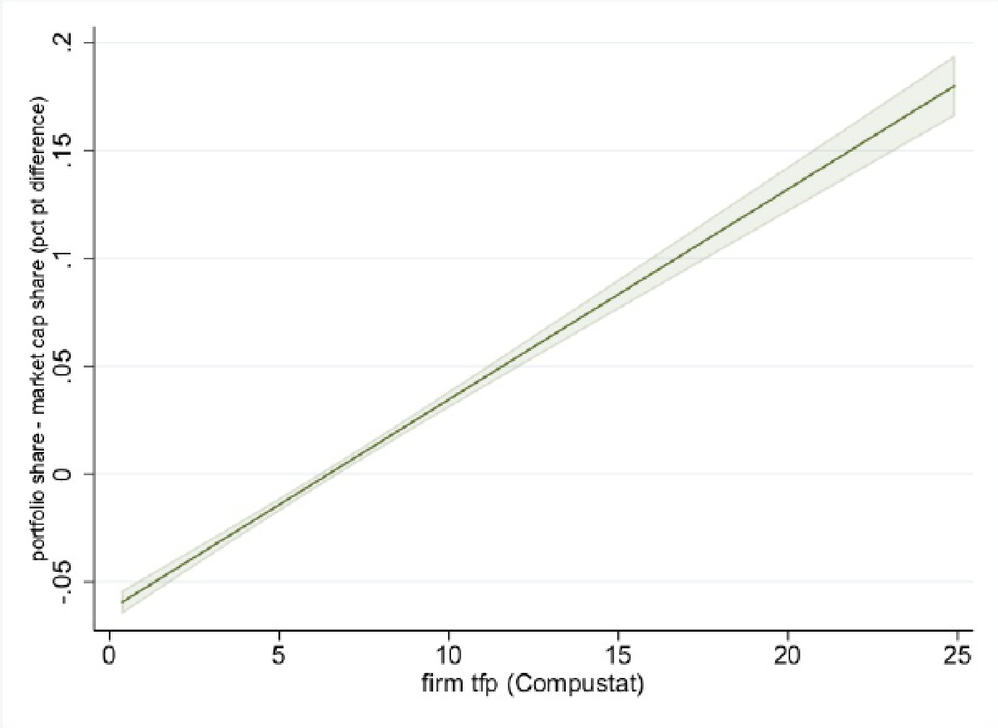
The end of Privilege? Cumulative equity valuation effects



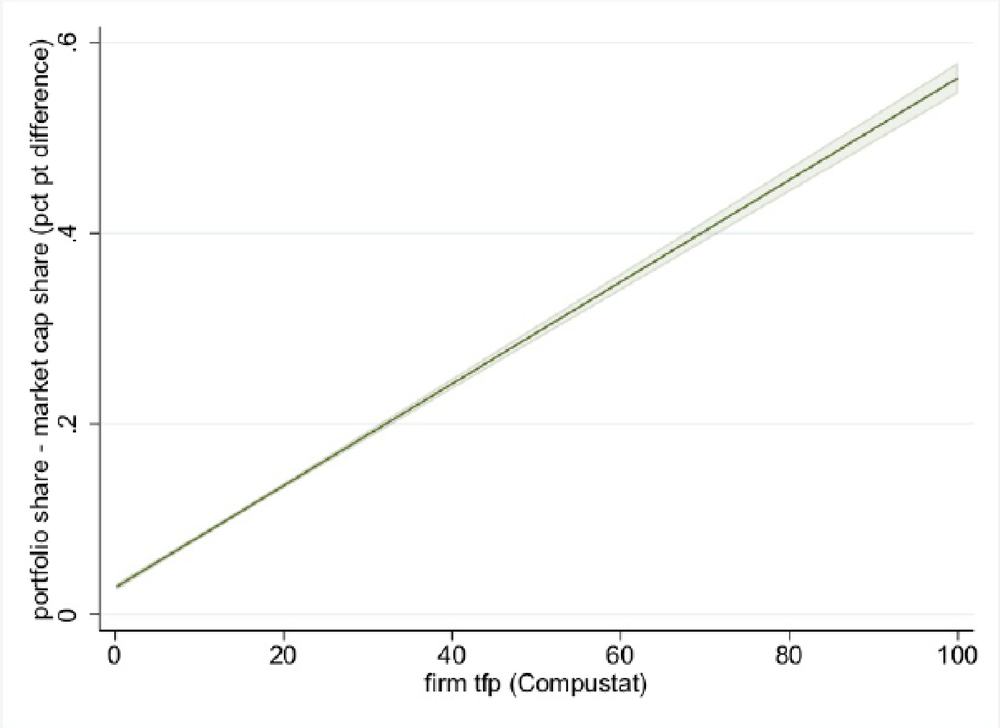
Source: Bertaut, Curcuru, Faia and Gourinchas (2023)

Allocative Effects of Cross-Border Capital Flows

Figure 9: Figure 9 plots the estimated coefficient of the equity share minus the market capitalization of firm i, for securities of U.S. liabilities and claims in the TIC dataset onto the Olley and Pakes (1996) productivity of the issuing firm estimated through Compustat data. The cross-sectional regression is estimated using the cross sectional averages on the time sample 1995-2020. Green bands are 95% confidence intervals.



U.S. Firms, liabilities

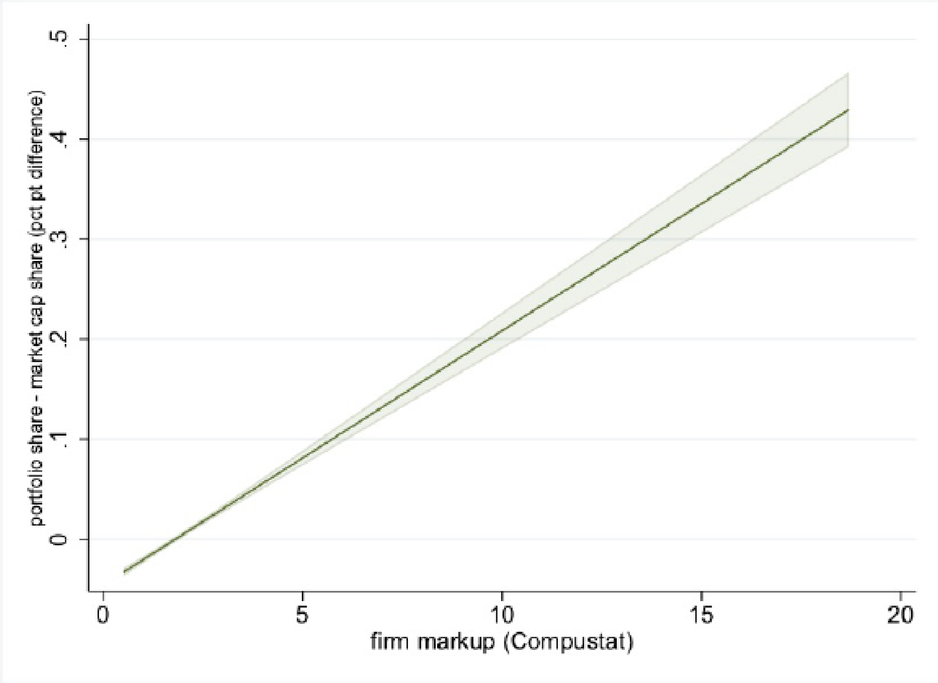


Foreign Firms, claims

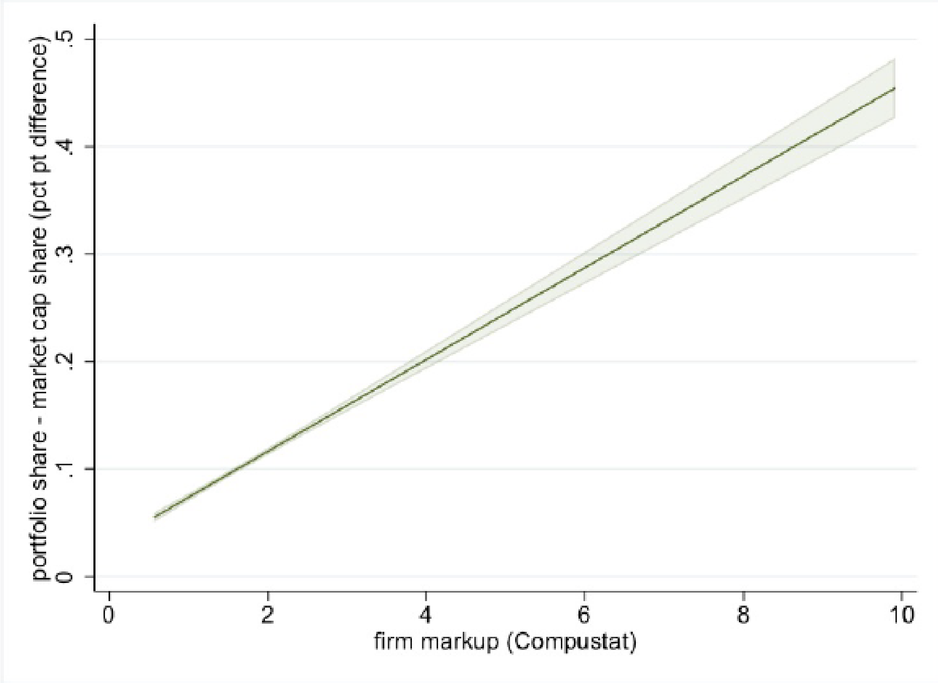
Source: Bertaut, Curcuru, Faia and Gourinchas (2023)

Allocative Effects of Cross-Border Capital Flows

Figure 10: Figure 10 plots the estimated coefficient of the equity share minus the market capitalization of firm i, for securities of U.S. liabilities and claims in the TIC dataset onto the firm mark-ups estimated through both Compustat and Worldscope data. The cross-sectional regression is estimated using the cross sectional averages on the time sample 1995-2020. Green bands are 95% confidence intervals.



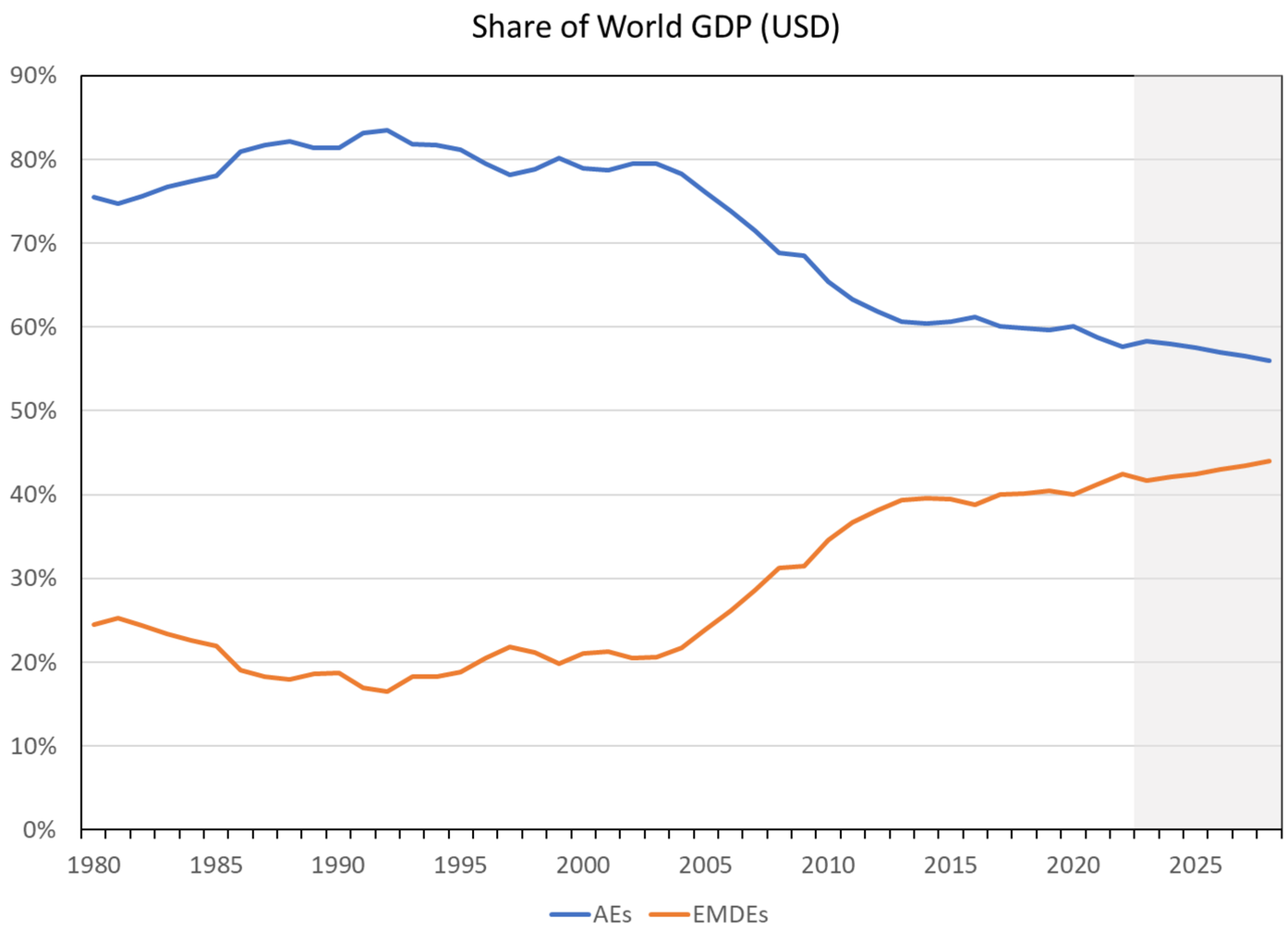
U.S. Firms, liabilities



Foreign Firms, claims

Source: Bertaut, Curcuru, Faia and Gourinchas (2023)

What about the Triffin view?

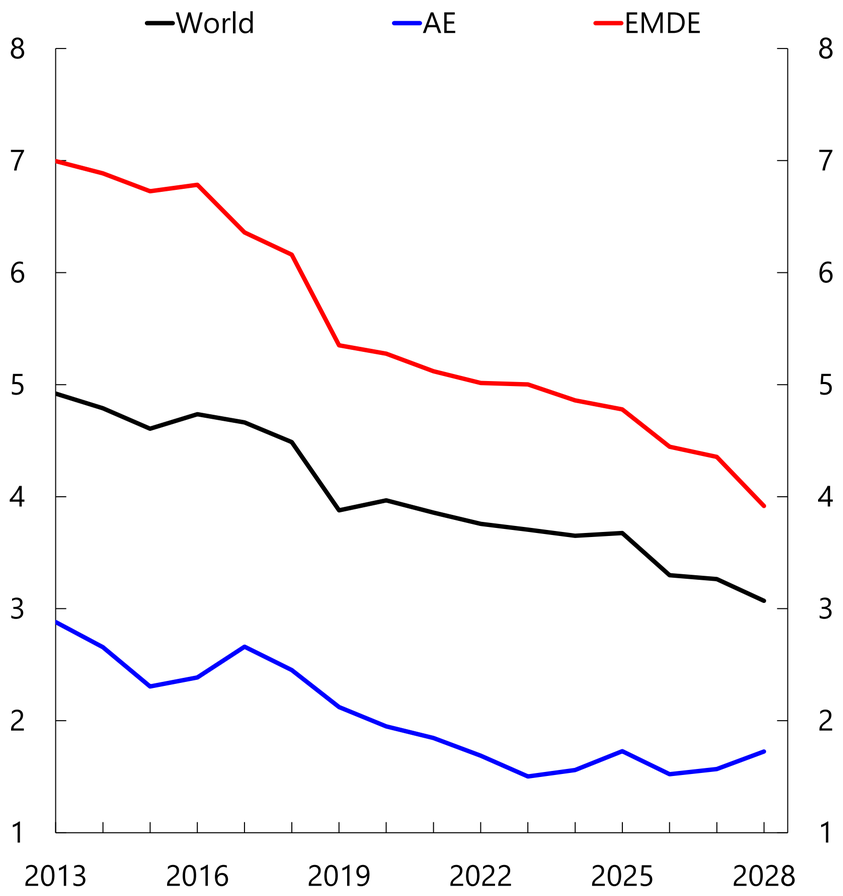


Source: IMF World Economic Outlook, Gross Domestic Product Current Prices (USD). October 2023 vintage

What about the Triffin view?

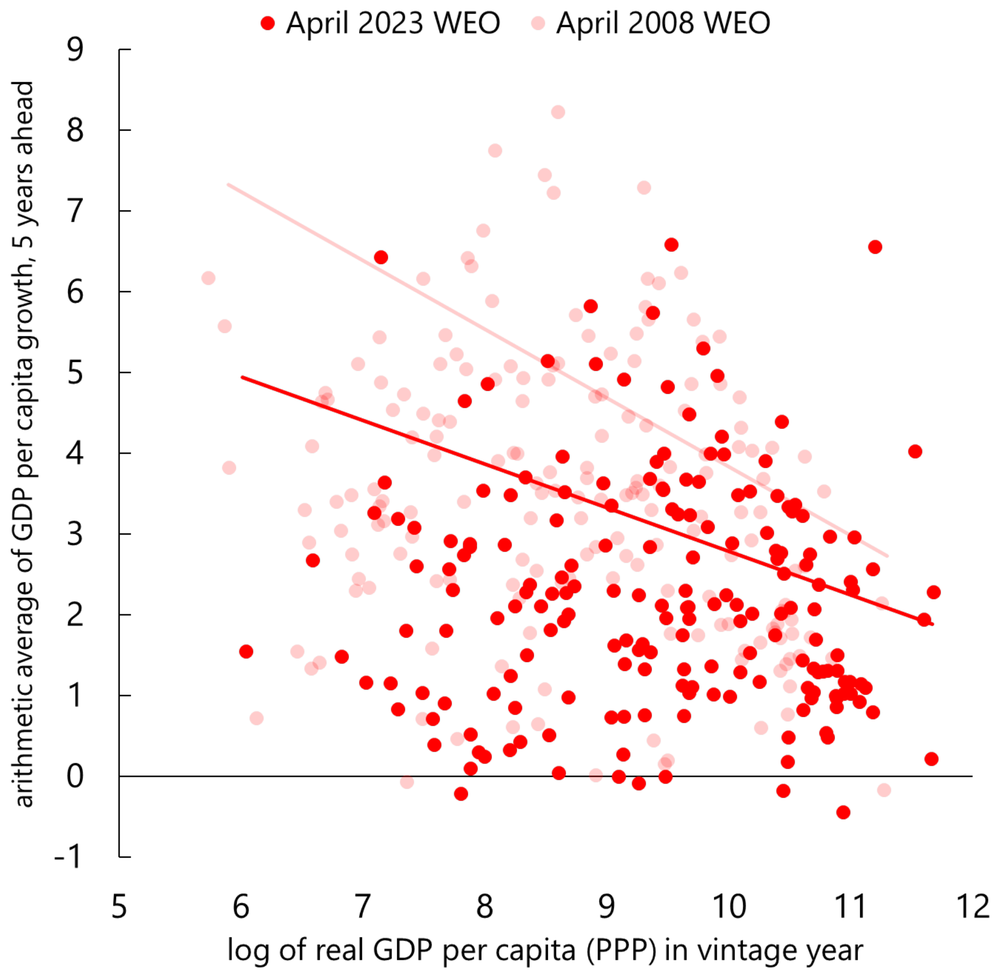
Five-year-ahead growth projections

(percent)



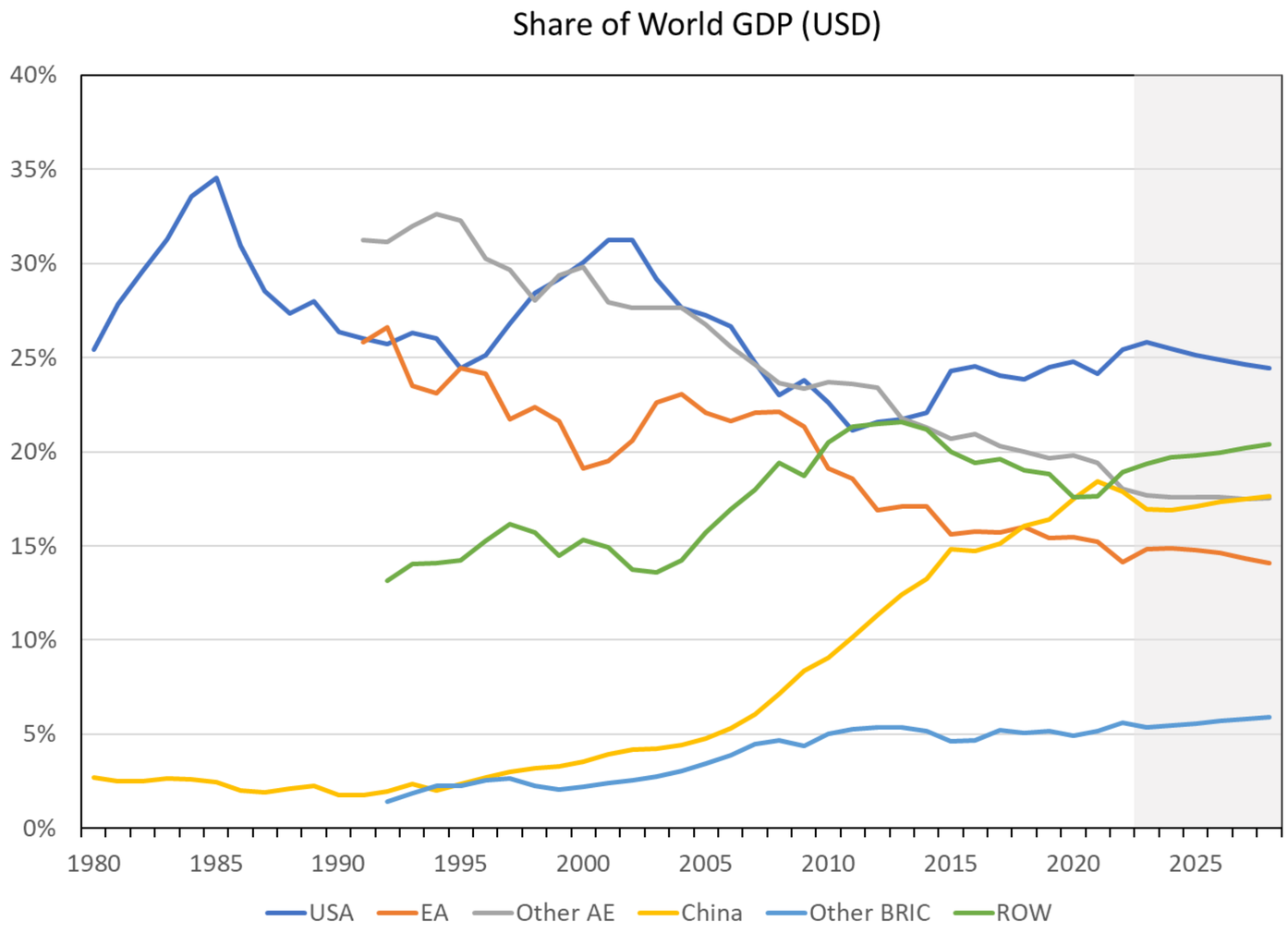
Convergence is projected to slow

(percent; arithmetic average of 5-year ahead GDP per capital growth)



Source: IMF, World Economic Outlook

What about the Triffin view?



Source: IMF World Economic Outlook, Gross Domestic Product Current Prices (USD). October 2023 vintage

The International Monetary System: New Challenges

New Challenges:

1. How to manage capital flows ?
2. Living in an era of high public debt
3. Geoeconomic Fragmentation

Managing Capital Flows

- How to manage capital flow movements? New tools and new frameworks

  - IMF's Institutional View recognizes that FX interventions (FXI) and capital flow management measures (CFM) have a role to play, 'under the right circumstances.'

  - Integrated Policy Framework articulates situations where these tools could be usefully deployed when:
    - Shallow FX markets
    - Maturity mismatches that threaten financial stability
    - Depreciations de-anchor inflation expectations

How to Manage Capital Flows? Basis Control (Gourinchas 2022)

A small open economy: endowment of T-goods y_t^T, producing N-goods $y^N = F^N(L)$.
Separable preferences, unit elasticity, $\lim \beta = 1$; Bianchi & Lorenzoni (2022)

- Supply of dollars (FE):

$$d_{t+1}^* = \mu_t x_t \tag{2}$$

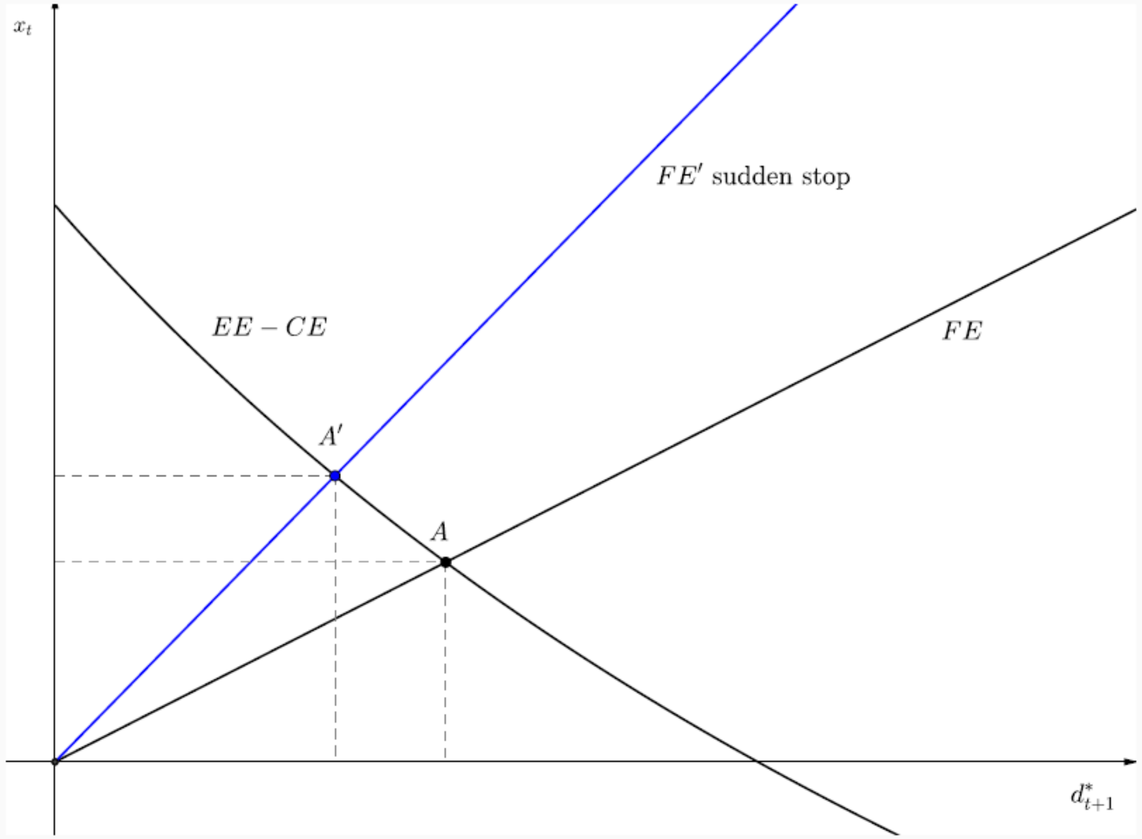
  - μ_t: risk bearing capacity of (foreign) financial intermediaries
  - $x_t \geq 0$: excess return on dollar lending required by the intermediaries.
    In equilibrium, equal to CIP deviation: $x_t = -CIP_t = i_t - (f_t - s_t) - i_t^*$

- Demand for dollar-debt for T-consumption smoothing (EE), with $R_t^* \equiv 1 + i_t^*$:

$$d_{t+1}^* = \frac{y_{t+1}^T}{R_t^* + x_t} - y_t^T \tag{3}$$

- Determines $x_t(\omega_t, R_t^*, \{y^T\})$, $d_{t+1}^*(\omega_t, R_t^*, \{y^T\})$ and $c_t^T(\omega_t, R_t^*, \{y^T\})$

How to Manage Capital Flows? Basis Control (Gourinchas 2022)



Competitive Equilibrium

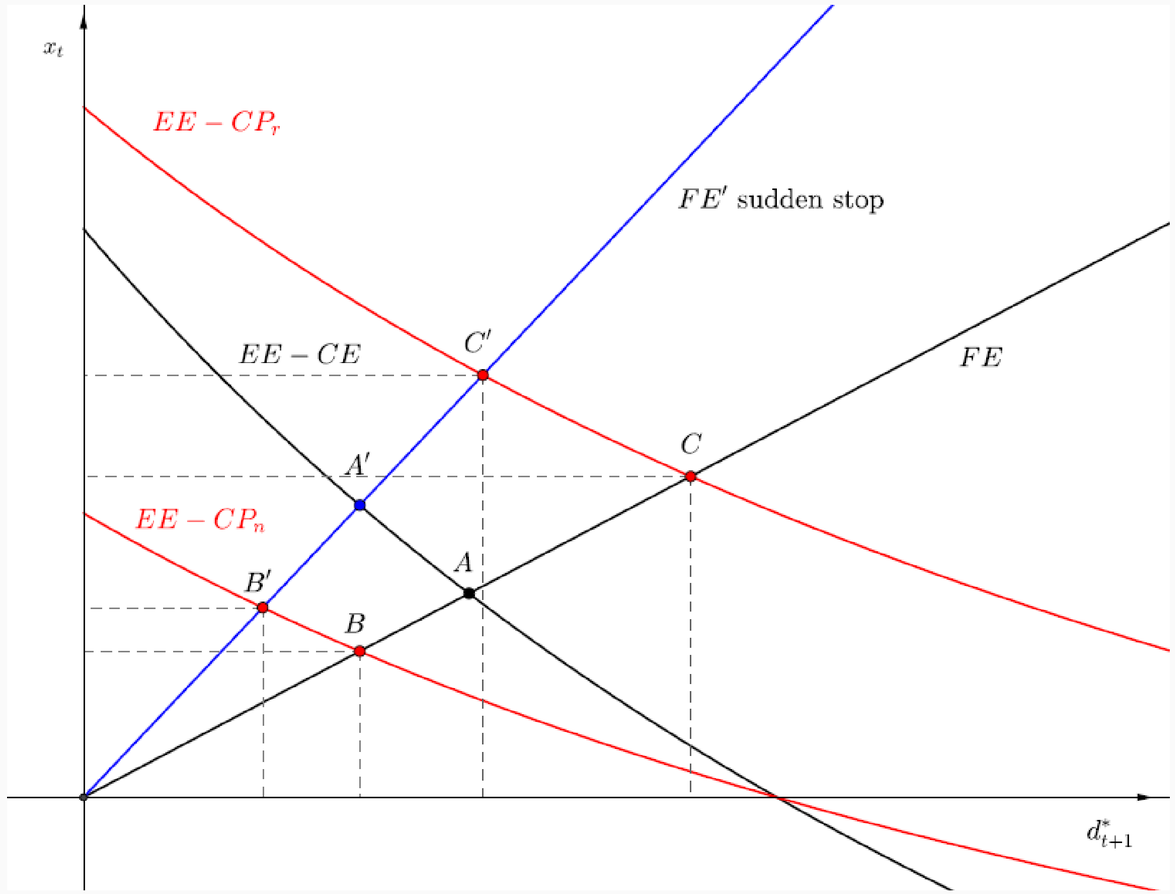
- Sudden shock ($\mu_t \downarrow$):
  - $x_t \uparrow$ and d^*_{t+1} (borrowing) $\downarrow$
  - Consumption of T-good $c_t^T \downarrow$.
- Externality: With nominal rigidities and an insufficiently flexible exchange rate, N-sector experiences a recession:

$$F^N(L) = c_t^N = c_t^T \frac{\mathcal{E}_t}{\underline{w}} \frac{1-\phi}{\phi} < F^N(\bar{L})$$

- Dichotomy: Monetary policy ($\mathcal{E}_t$) has no effect on the basis.

Ex-ante (prudential) and ex-post (crisis management) policies may improve outcomes.

How to Manage Capital Flows? Basis Control (Gourinchas 2022)



Ex-Post Constrained-Pareto

- Two externalities:
  - Terms of Trade: less borrowing reduces the basis
  - Aggregate demand: more borrowing increases output in recessions
- $EE - CP_n$: no recession. first effect. Always borrow less, smaller basis.

$$d^*_{t+1} = \frac{y^T_{t+1}}{R^*_t + 2x_t} - y^T_t$$

- $EE - CP_r$: in recession: both effects. Borrow more, larger basis ($\phi < 0.5$).

$$d^*_{t+1} = \frac{y^T_{t+1}}{\phi(R^*_t + 2x_t)} - y^T_t$$

Optimal crisis management: expand basis during SS-recessions, otherwise keep it tight.

How to Manage Capital Flows? Basis Control (Gourinchas 2022)

Basis x_t acts as a 'sufficient statistic,' with optimal level x_t^n.

Can implement optimal policy with a basis targeting rule:

$$\tau_t = \tau(x_t, E_t x_{t+1}, L_t, E_t L_{t+1}, \ldots)$$

For instance, in our simple model, ex-post capital controls take the following simple form:

- Outside a recession:

$$\tau_t = \frac{x_t}{R_t^* + 2x_t} > 0$$

- In a recession:

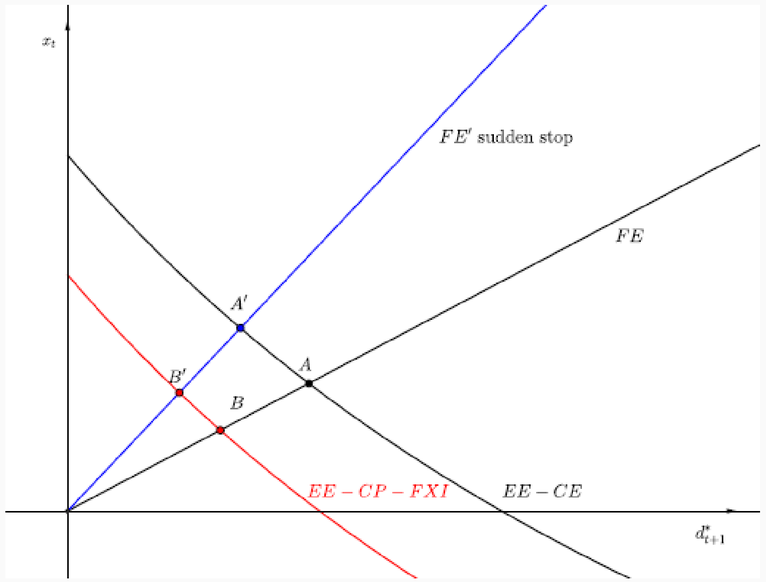
$$\tau_t = -\frac{(1-2\phi)x_t + (1-\phi)R_t^*}{\phi(R_t^* + 2x_t)} < 0 \quad \text{when } \phi < 0.5$$

How to Manage Capital Flows? Basis Control (Gourinchas 2022)

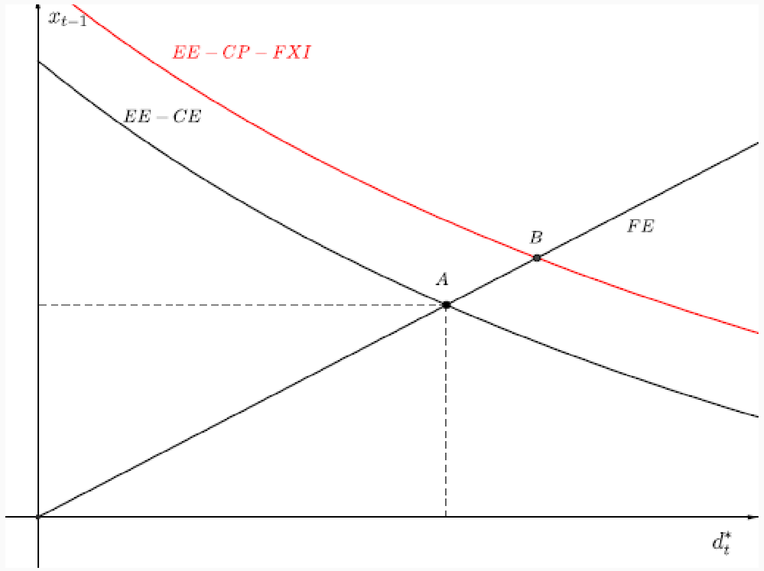
FXI intervention:

$$FXI_t = FXI(x_t, E_t x_{t+1}, L_t, E_t L_{t+1}, \ldots)$$

- Spot FXI interventions generically not optimal. Reduces basis ex-post but can increase the basis ex-ante (quasi-fiscal cost). Can still improve welfare (locally) but potential negative externalities. Fornaro & Romei
- Forward FXI interventions can be more effective?



Ex-Post FXI Intervention



Ex-Ante FXI Intervention

How to Manage Capital Flows? Basis Control (Dao & Gourinchas 2023)

Recent growth in literature on CIP deviation, focused on G-10 currencies.

- Documenting permanently wider CIP basis in AE after the GFC
  - Attributed to balance sheet constraint
- Hardly any literature on CIP deviation in EM's
  - Problem of measuring risk-free yields in EM's and comparability of benchmark rates across EM and US.
  - Capital controls, market segmentation additionally complicate interpretation of CIP.

- Dao & Gourinchas (2023):

  - Constructs CIP deviation free of credit risk from supranational bonds issued in EM currencies
  - Confirms that the 'purified' CIP deviation conforms with model predictions better than 'naive' ones
  - Explore policy levers to target the CIP deviation in EM's ('basis targeting')

How to Manage Capital Flows? Basis Control (Dao & Gourinchas 2023)

- Two countries: Home and US (*)
- FX Intermediary:
  - can borrow in USD (R_t^*) or LC (R_t)
  - can invest in USD reserves ($\tilde{R}_t^*$), or invest in LC ($\hat{R}_t$)
  - can offer dollars/LC forward. $\mathcal{E}_t$ spot exchange rate (LC/USD) and $\mathcal{F}_t$ price of forward,
  - Intermediaries cannot take on FX exposure (focus on CIP)

Assets	Liabilities
Reserves $B_t^* \geq 0,\ \tilde{R}_t^*$	Net worth, W_t^*
LC investment, $\hat{B}_t^* = \frac{B_t}{\mathcal{E}_t},\ \hat{R}_t \frac{\mathcal{E}_t}{\mathcal{E}_{t+1}}$	\$ interbank borrowing $D_t^*,\ R_t^*$ LC borrowing, $\hat{D}_t^* = \frac{D_t}{\mathcal{E}_t},\ R_t \frac{\mathcal{E}_t}{\mathcal{E}_{t+1}}$
Off-balance-sheet forward dollar sales $F_t^*,\ \frac{\mathcal{F}_t}{\mathcal{E}_{t+1}} - 1$	

$$W_t^* + D_t^* + \hat{D}_t^* = B_t^* + \hat{B}_t^*$$

How to Manage Capital Flows? Basis Control (Dao & Gourinchas 2023)

Wealth of the intermediary follows:

$$W^*_{t+1} = R^*_t W^*_t + (\tilde{R}^*_t - R^*_t)B^*_t + (\hat{R}_t - R_t)\frac{R^*_t}{R_t}\hat{B}^*_t$$
$$+ \underbrace{\left(\frac{R^*_t}{R_t}\frac{\mathcal{F}_t}{\mathcal{E}_t} - 1\right)}_{CIP} F^*_t + \underbrace{\left(R_t\frac{\mathcal{E}_t}{\mathcal{E}_{t+1}} - R^*_t\right)}_{UIP}\left(\frac{\hat{R}_t}{R_t}\hat{B}^*_t - \hat{D}^*_t + \frac{\mathcal{F}_t}{\mathcal{E}_t}\frac{F^*_t}{R_t}\right)$$

Imposing no FX-exposure simplifies:

$$W^*_{t+1} = R^*_t W^*_t + (\tilde{R}^*_t - R^*_t)B^*_t + (\hat{R}_t - R_t)\frac{R^*_t}{R_t}\hat{B}^*_t + \left(\frac{R^*_t}{R_t}\frac{\mathcal{F}_t}{\mathcal{E}_t} - 1\right)F^*_t \tag{1}$$

How to Manage Capital Flows? Basis Control (Dao & Gourinchas 2023)

Problem of the intermediary:

$$\max_{(B_t^*, \hat{B}_t^*) \geq 0, F_t^*} \mathbb{E}_t W_{t+1}^*$$

subject to

$$W_{t+1}^* = R_t^* W_t^* + (\tilde{R}_t^* - R_t^*) B_t^* + (\hat{R}_t - R_t) \frac{R_t^*}{R_t} \hat{B}_t^* + \left(\frac{R_t^*}{R_t} \frac{\mathcal{F}_t}{\mathcal{E}_t} - 1 \right) F_t^*$$

and

$$B_t^* \geq \alpha_t |F_t^*| + \gamma_t (D_t^* + \hat{D}_t^* - B_t^*)_+$$

The latter is a 'regulatory constraint' with

$$\alpha_t \equiv \frac{a}{1+\alpha} \left(\frac{|F_t^*|}{W_t^*} \right)^\alpha, \qquad \gamma_t \equiv \frac{b}{1+\gamma} \left(\frac{D_t^* + \hat{D}_t^* - B_t^*}{W_t^*} \right)_+^\gamma$$

How to Manage Capital Flows? Basis Control (Dao & Gourinchas 2023)

Under these assumptions, general formula for CIP deviation

$$\frac{R_t^*}{R_t}\frac{\mathcal{F}_t}{\mathcal{E}_t} - 1 = \mu_t a \left(\frac{|F_t^*|}{W_t^*}\right)^{\alpha} \text{sign}(F_t^*)$$

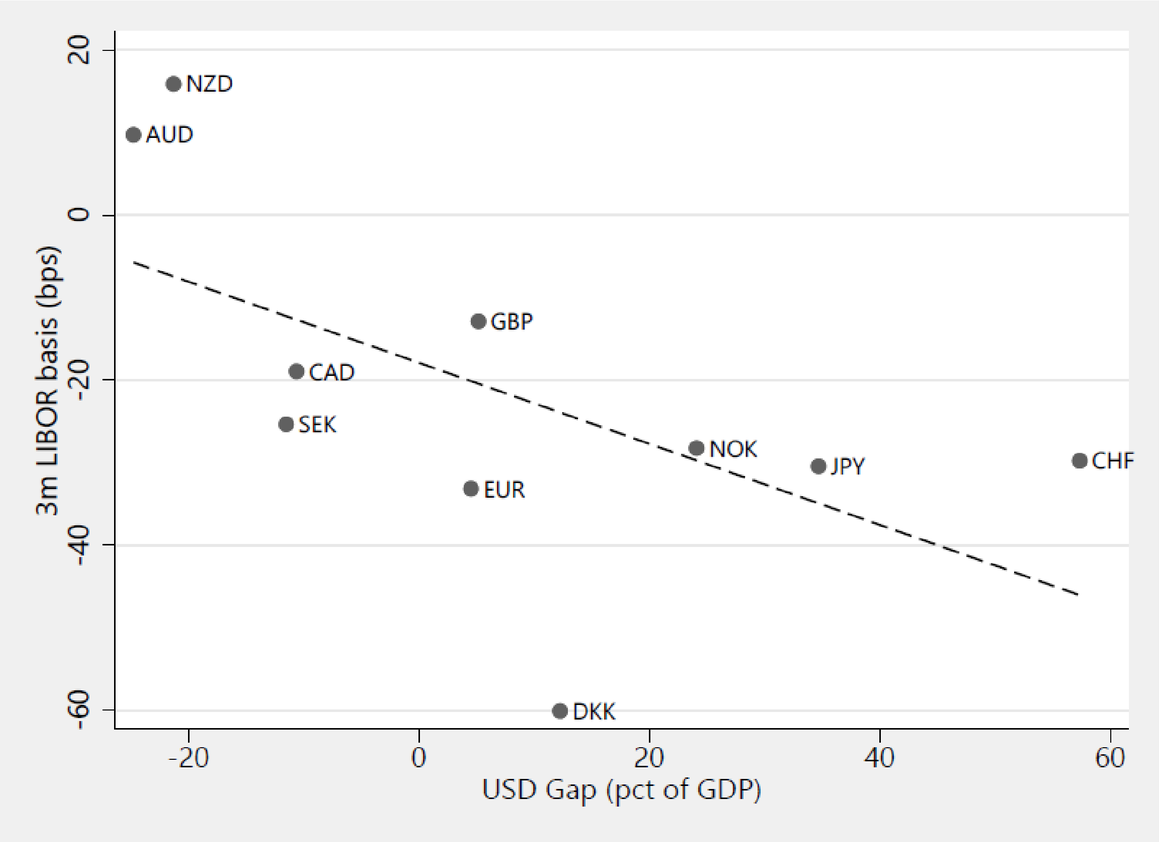
where μ_t is the Lagrange multiplier on the regulatory constraint (shadow cost of reserves)

- sign of CIP deviation same as sign of the demand for dollar hedging (F_t^*). $F_t^* > 0$: net demand for dollar forwards to hedge net dollar liabilities by domestic debtors and/or LC assets by foreign investors. $F_t^* < 0$: net demand for LC forwards to hedge USD net assets by domestic investors and/or LC liabilities by foreign investors (hedging demand determination of exchange rates).
- CIP basis increases with overall forward exposure and shadow cost of reserves

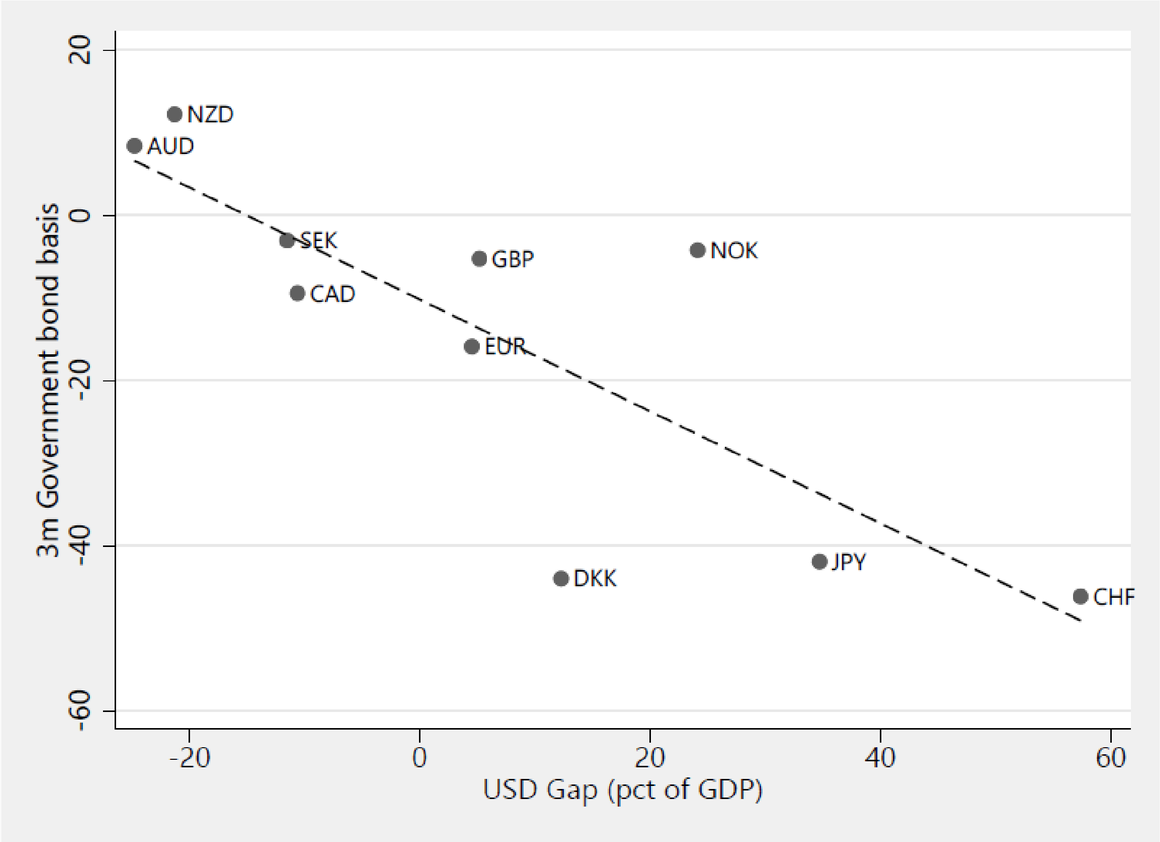
Do we observe this relationship in the data?

USD Hedging Demand and the CIP Basis: Advanced Economies

Do we observe the corresponding negative relationship in the data? Broadly yes for AE (G10):



(a) LIBOR CIP basis

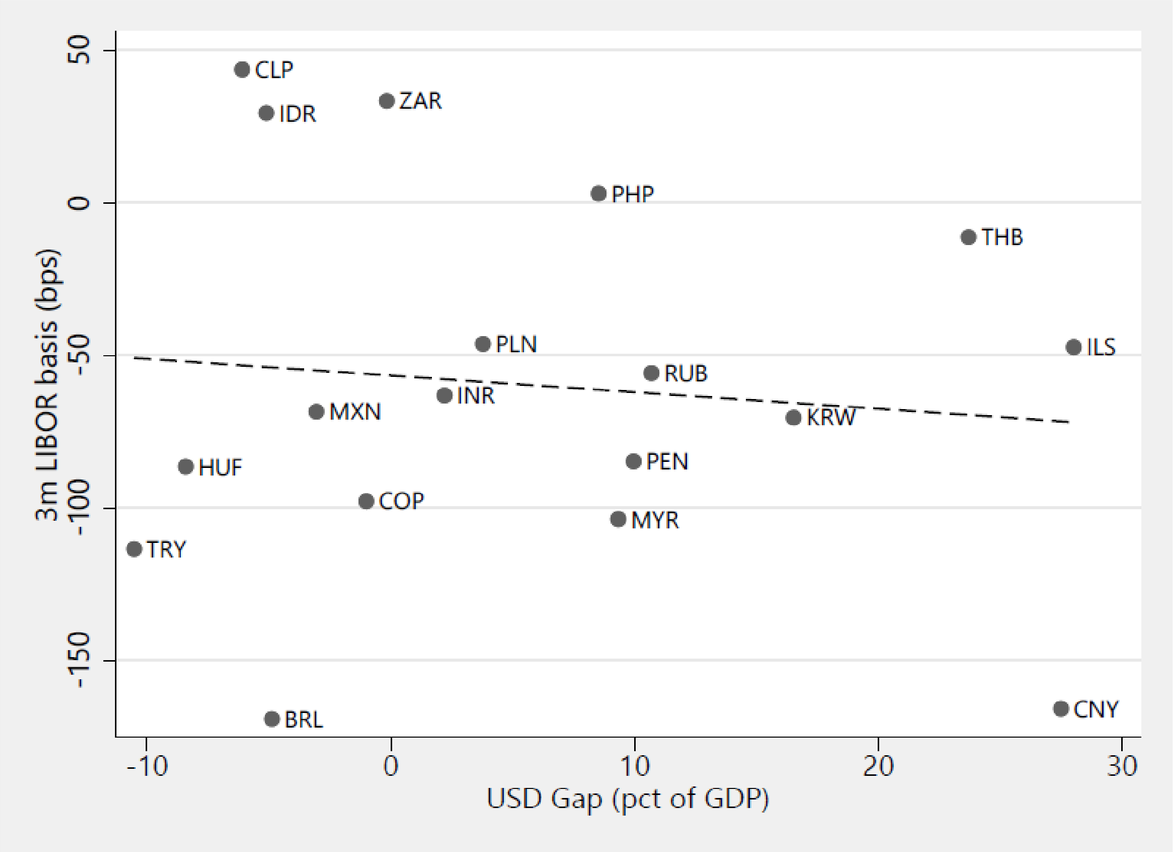


(b) Government bond CIP basis

USD Gap is the net external Dollar debt asset position from Benetrix et al. (2019), proxying for net hedging demand. Scatter plots show 2010-2018 means for both variables.

USD Hedging Demand and the CIP Basis: Emerging Economies

Do we observe the corresponding negative relationship in the data? **Not** for EM's:



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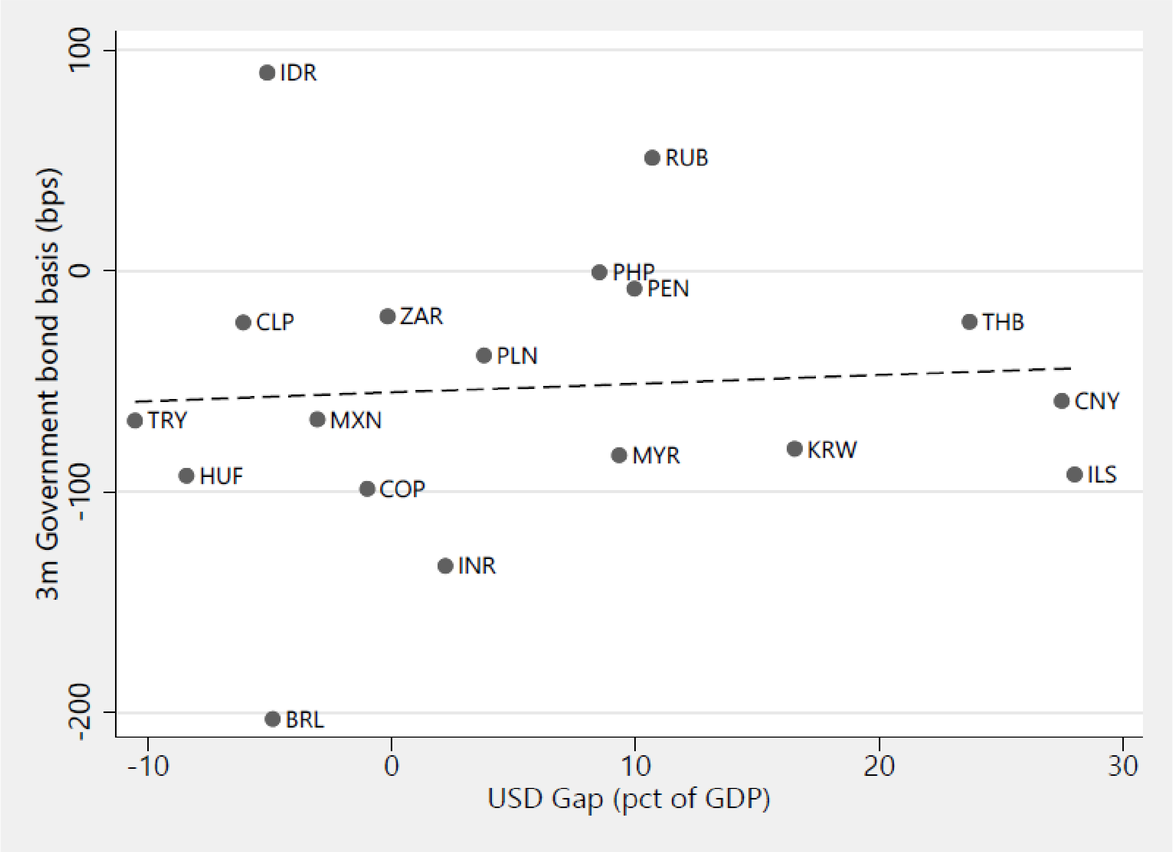
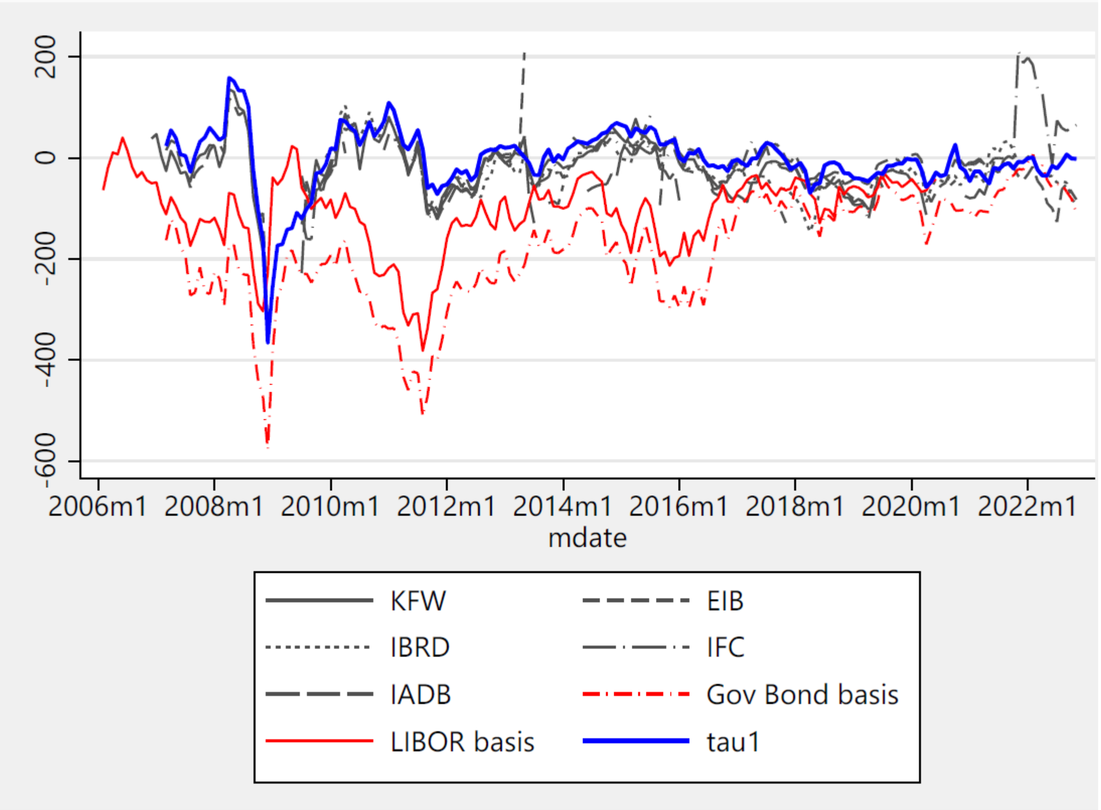


(b) Government bond CIP basis

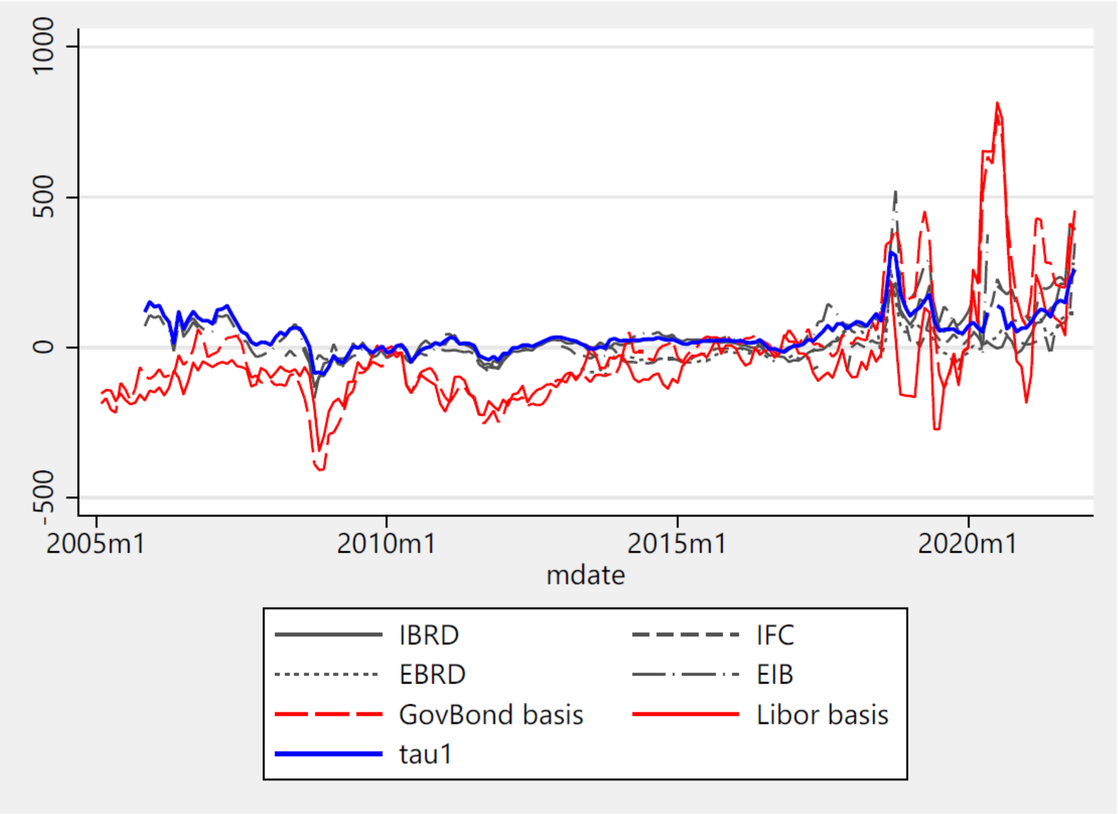
USD Gap is the net external Dollar debt asset position from Benetrix et al. (2019), proxying for net hedging demand. Scatter plots show 2010-2018 means for both variables.

‘Purified’ CIP Basis using Supra National Bond Issuance

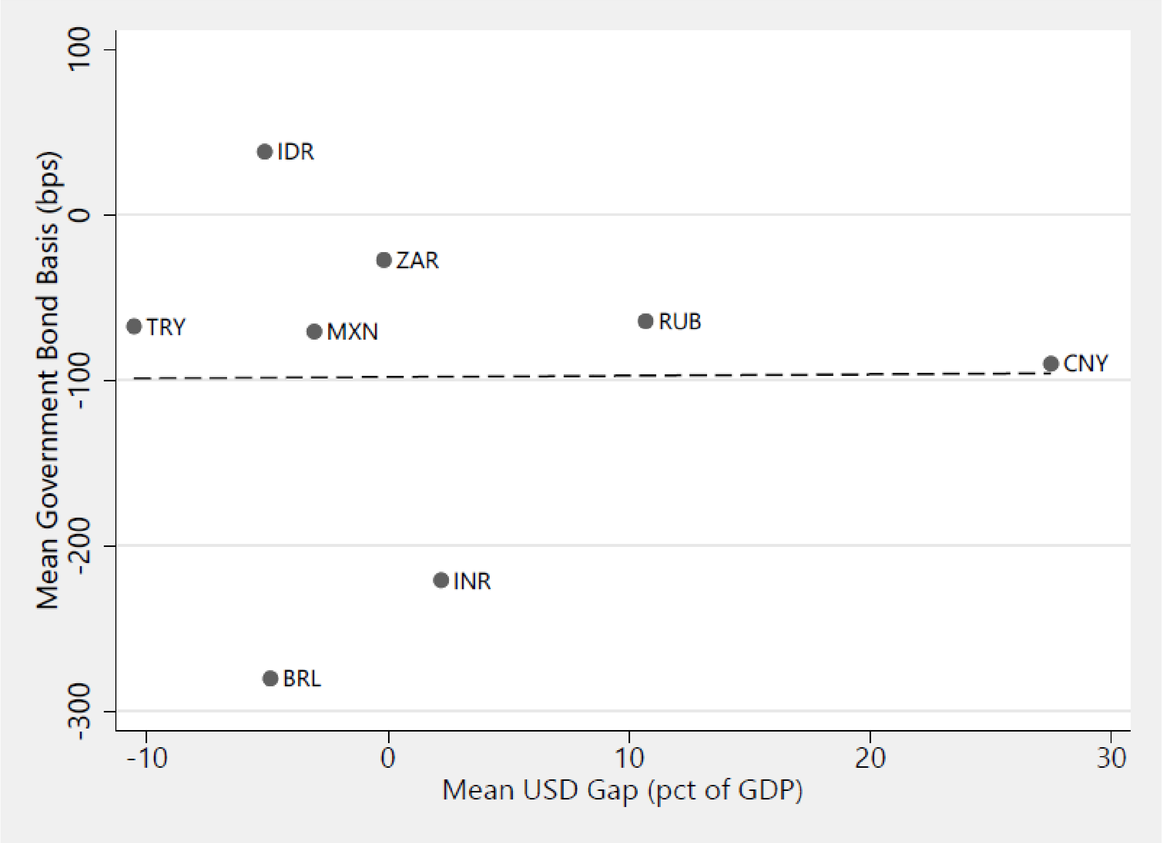
Brazil



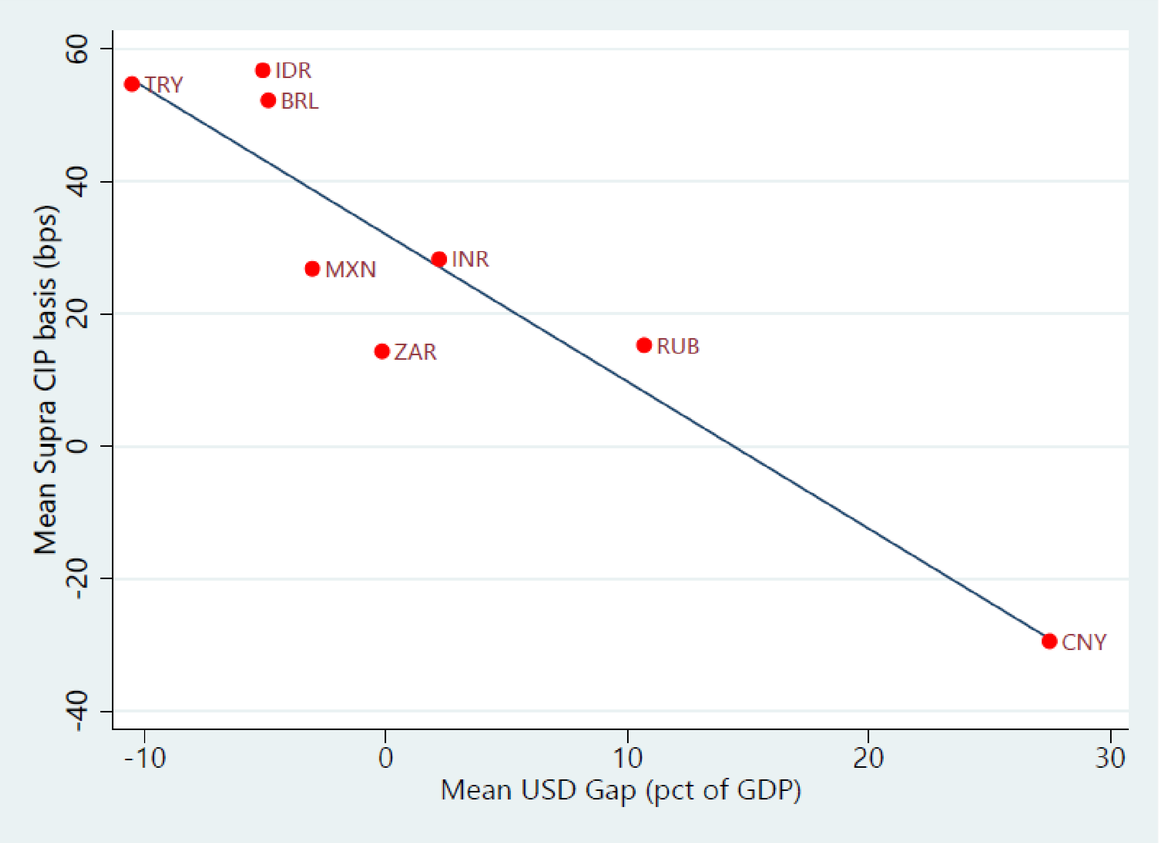
Türkiye



USD Hedging Demand and the purified CIP Basis: Emerging Economies



(a) 3-year LIBOR CIP basis



(b) 3-year Supra CIP basis

USD Hedging Demand and the purified CIP Basis: Emerging Economies

	(1)	(2)	(3)	(4)	(5)	(6)
	LIBOR CIP		Supra CIP			
$\Delta Dollar_t$	-1.662	-1.354	-4.919**	-10.418***	-7.683**	-11.257*
	(4.549)	(4.215)	(1.986)	(3.268)	(2.019)	(3.807)
$\Delta Dollar_t * USDGAP_i$	**0.459**	**0.462**	**-0.424**	**-1.108****		
	(0.576)	(0.883)	(0.337)	(0.493)		
$\Delta Dollar_t * USDGAP_i^{aug}$					**-0.353***	**-0.475*****
					(0.158)	(0.040)
Observations	2,255	901	509	322	509	322
R-squared	0.005	0.005	0.061	0.142	0.031	0.084
Number of currencies	15	6	6	3	6	3

- Results with supranational (purified) CIP consistent with model prediction.
- Results stronger for top 3 EM's currencies with most liquid supra bond markets (TRY, BRL, MXN)
- Results stronger when using augmented hedging need proxy: domestic USD gap plus LC external debt liabilities (hedging needs by foreign investors).
- Magnitude: A 10 pct broad $ appreciation raises the CIP deviation by 0.3 to 0.7 ppt more in EM in the 75th vs. 25th percentile of USD gap.

Impact of Policies on purified CIP Basis: Emerging Economies

Tighter liquidity regulation and CFM amplify CIP sensitivity: $CIP_{it} = a_{it} \frac{\mu_t}{(1+\eta_{i,t})} \times \frac{F_{it}^{*}}{Y_{it}}$

	(1)	(2)	(3)	(4)	(5)	(6)
			EM Supra CIP			
	Policy: Liquidity Reg. (i)		Policy: Liqudity Reg. (US)		Policy: CFM (i)	
$\Delta Dollar_t$	-7.658*	-6.412	-5.738	-6.489	-6.710**	-5.820
	(4.495)	(5.898)	(3.932)	(5.118)	(1.863)	(2.780)
$\Delta Dollar_t * USDGAP_i^{aug}$	-0.398	-0.032	-0.030	0.064	0.738**	1.017**
	(0.447)	(0.649)	(0.324)	(0.407)	(0.275)	(0.225)
$\Delta Dollar_t * USDGAP_i^{aug} * Policy_{it}$	**0.007**	**-0.078**	**-0.180****	**-0.271****	**-1.721*****	**-2.078****
	(0.065)	(0.104)	(0.088)	(0.114)	(0.295)	(0.217)
$Policy_{it}$	0.024*	0.101***	0.040*	0.045	2.483***	2.452***
	(0.014)	(0.031)	(0.020)	(0.038)	(0.126)	(0.201)
Observations	509	316	509	316	509	316
R-squared	0.038	0.070	0.048	0.055	0.169	0.209
Number of currencies	6	3	6	3	6	3

Notes: Liquidity Regulation indicators are calculated from the IMF's iMaPP database; CFM taken from Fernandez et al. (2016), updated.

Augmented hedging demand proxy interacts more strongly with liquidity regulation of US (global) banks than domestic banks $\Longrightarrow$ foreign investors' hedging demand accommodated by global banks.

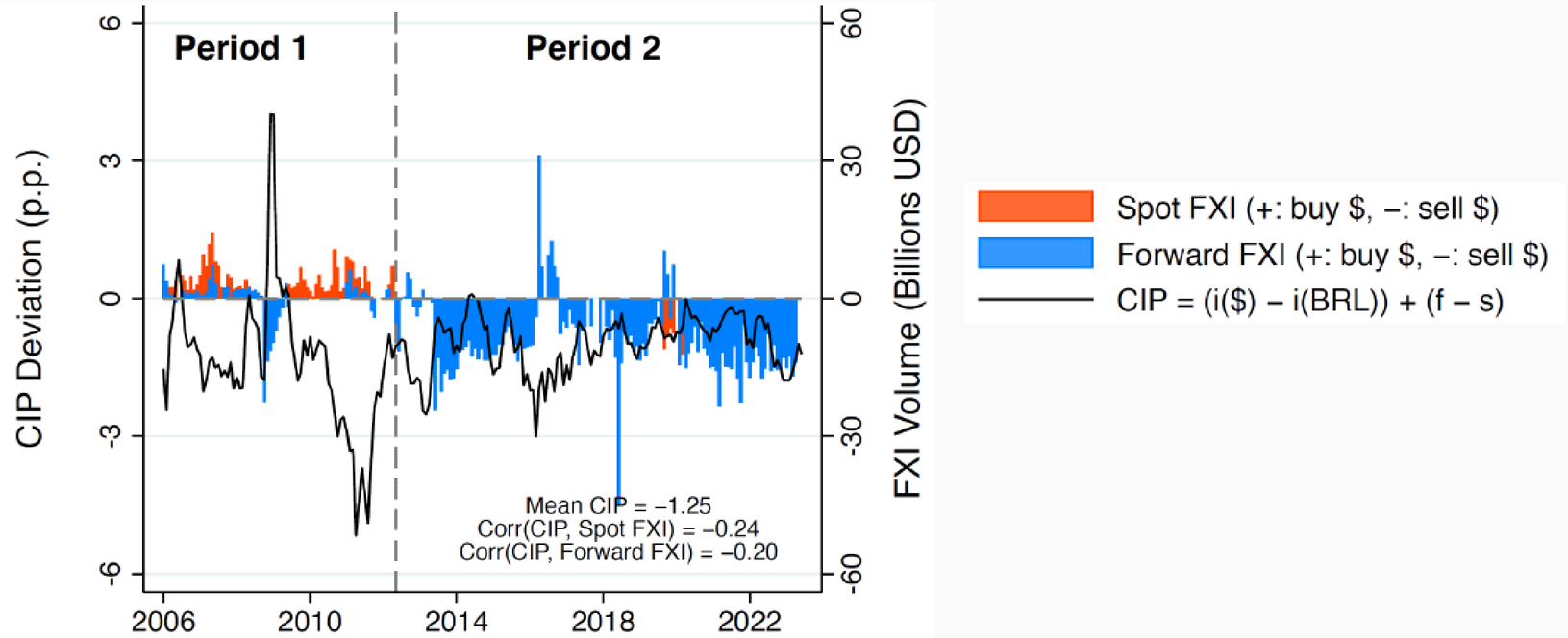
FX Interventions and CIP Basis (Dao, Gourinchas, Mano and Yago, 2023)

If CB absorbs some of the demand for Dollar fwd, then:

$$CIP_{it} = \frac{\mathcal{F}_{it}}{\mathcal{E}_{it}} \frac{R_t^*}{R_{it}} - 1 = \mu_t a_i \frac{F_{it}^*}{W_{it}^*} = \frac{\mu_t a_i}{1 + \eta_{i,t}} \times \frac{(F_{it}^* - F_{it}^{FXI})}{Y_{it}},$$

Any shock to dollar supply μ_t is dampened by the forward FXI (leaning against the wind).

Case of Brazil: have data on forward and spot intervention at daily frequency:



Living in an era of high public debt

- Increasing issuances have to be absorbed by the market (at increasing duration as QE becomes QT).
  - ‘Plumbing stress’: March 2020 dash for cash.
  - Marginal buyer increasingly inelastic
  - Increased risk of a ‘credit event’, especially if budgetary process is dysfunctional.

- Increase in 10year mostly an increase in the term premium.
  - But not associated with increased risk metric on other markets.
  - Quantity of risk vs price of risk?

- One ‘good’ consequence: moving away from ZLB. But adverse effect on debt-dynamics.

Treasury liquidity is low, volatility is high: is the safe asset still safe?

Treasury Liquidity Deteriorating…

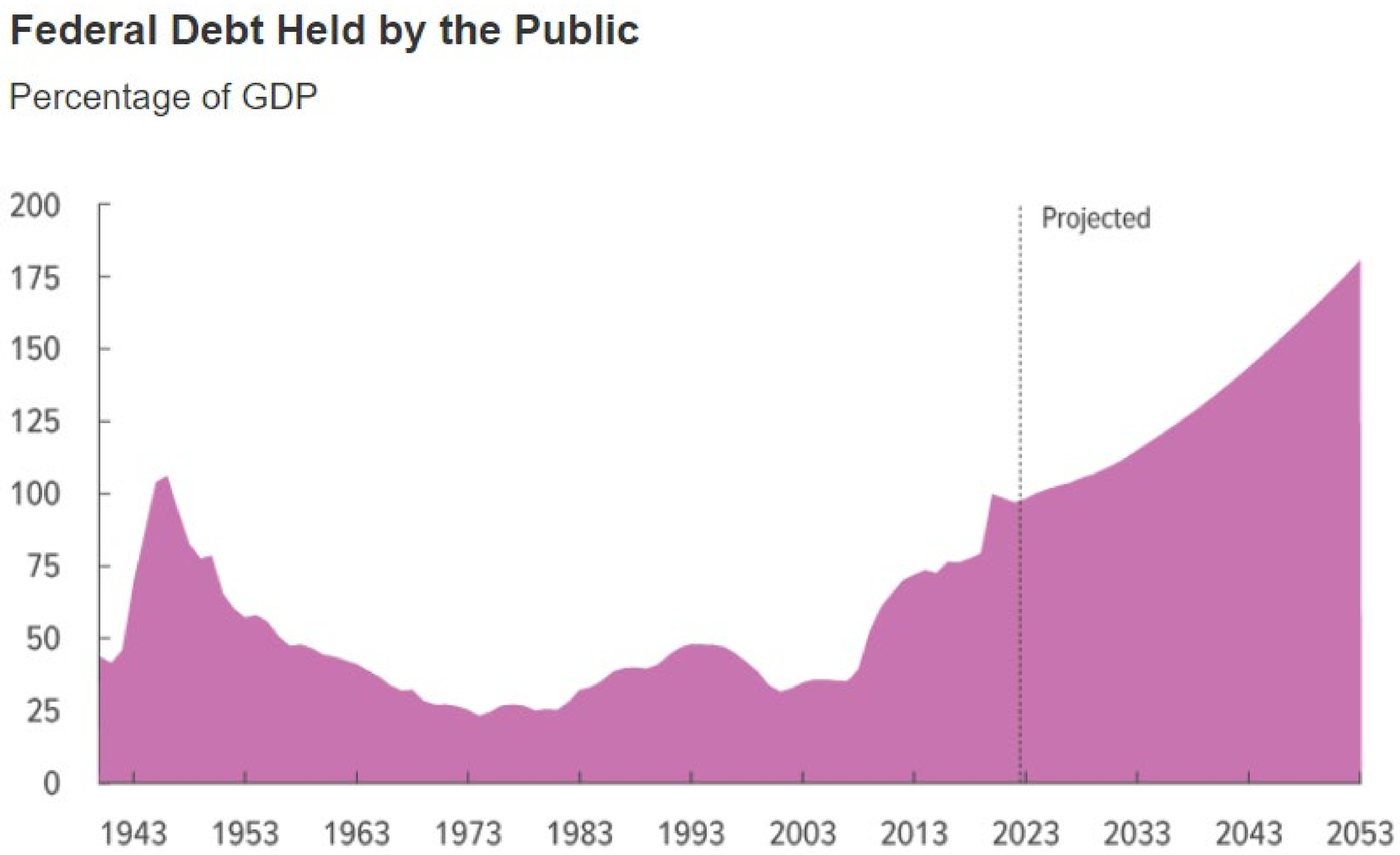
(Bloomberg US Government Debt Liquidity Index)

…As Volatility Increases

(ICE BofA Move Index)

Source: Bloomberg, 11/05/2023

Triffin moment depends on debt as much as growth



Source: CBO June 2023

Rising Geoeconomic Fragmentation

- Rising signs of geoeconomic fragmentation
  - Trade sanctions and restrictions, esp. commodity trade
  - Direct investment
  - Official reserves

- Yet the system remains profoundly integrated and –so far- supply chains become ‘elongated’ rather than severed.
  - Still less efficient, hence costly
  - May not improve resilience

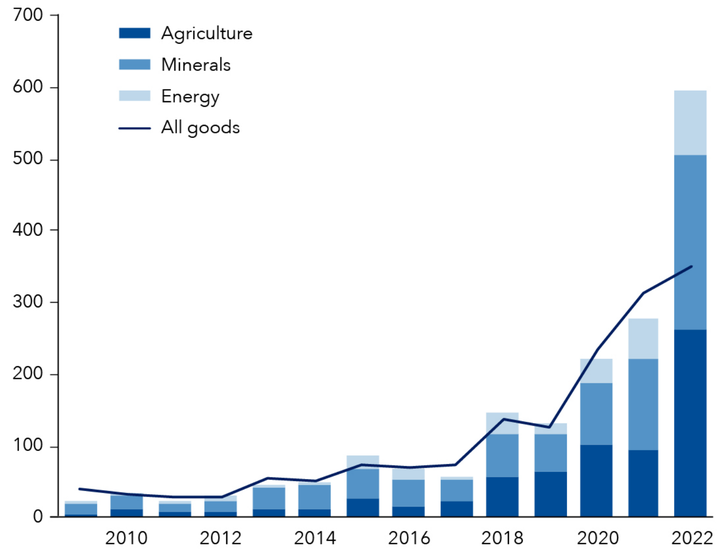
- Over-arching message: elasticities are low but not zero: systems adapt.

Commodity Fragmentation

Market fragmentation

Trade restrictions on commodities surged in 2022.

Number of trade interventions by sector
(indices, 2016–19 = 100)



Source: Global Trade Alert Database (adjusted for reporting lag); and IMF staff calculations.
Note: Calculations exclude trade-liberalizing interventions.

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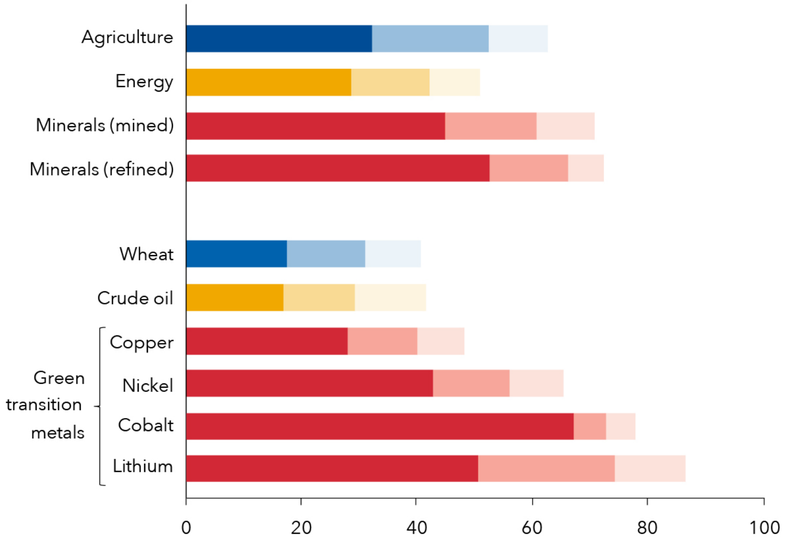
Concentrated production

A few countries supply most of each of the world's commodities.
(top 3 producing countries as percent of global production)



Source: British Geological Survey; Food and Agriculture Organization of the United Nations; International Energy Agency; US Geological Survey; and IMF staff calculations.
Note: Energy refers to coal, natural gas, and crude oil. The figure uses 2019 data to avoid distortions caused by the pandemic. The figure shows averages across commodity types.

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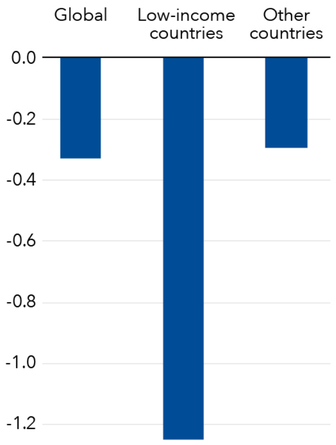
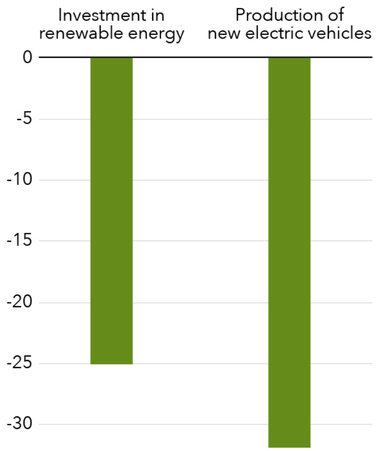
Uneven effects

Fragmentation hits low-income countries harder and could hinder investment in renewable energy and electric vehicles.

GDP impact (Trade Model)
(percent deviation from baseline)



Green transition impact (GMMET)
(percent deviation from baseline)



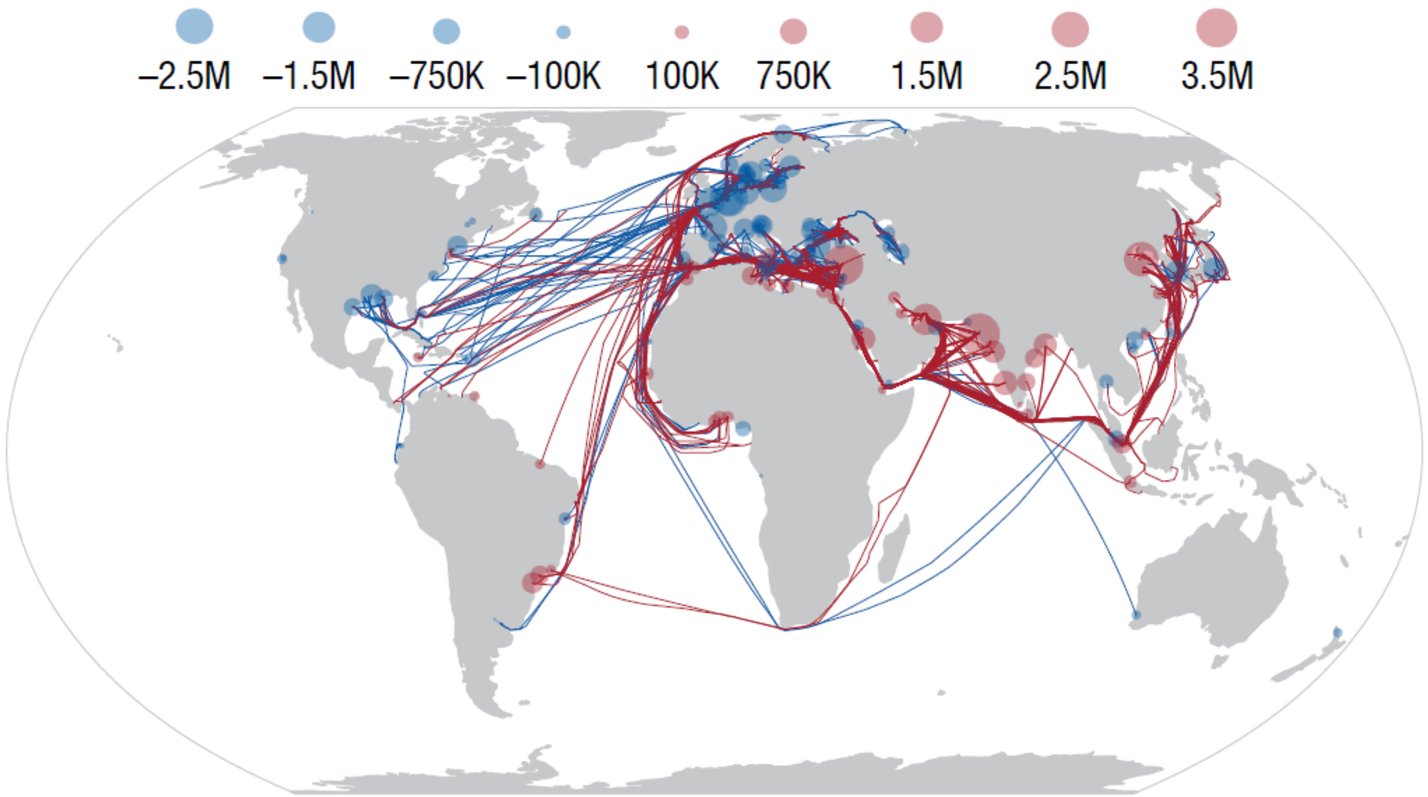
Sources: British Geological Survey; Eora Global Supply Chain database; UN FAO; Gaulier and Zignago (2010); US Geological Survey; and IMF staff calculations.
Note: Blue bars: country losses aggregated using purchasing power parity weights. Green bars: regional-level changes aggregated using 2020 greenhouse gas emissions weights. GMMET = IMF Global Macroeconomic Model for the Energy Transition. See IMF October 2023 World Economic Outlook, Chapter 3, for more information.

IMF

Source: WEO October 2023 chapter 3

Geo-economic fragmentation is under way…

Figure 3.1.1. Changes in Tanker Shipments from Russia's Ports from 2019:Q2 to 2023:Q2
(Metric tons, decreases in blue and increases in red)



Sources: Natural Earth; UN Global Platform; and IMF staff calculations.
Note: The bubble size indicates the magnitude of the change for the destination port. Lines indicate travel routes.

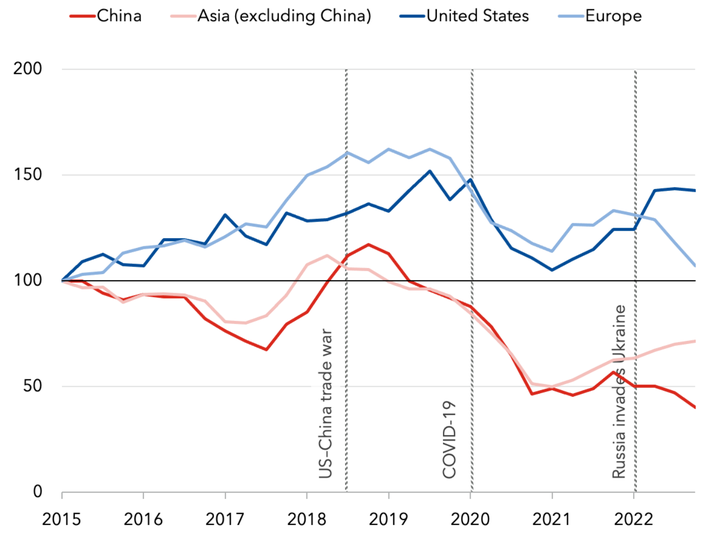
Source: WEO October 2023 chapter 3

Direct Investment: Geopolitical Distance

FDI fragmentation

Foreign direct investment flows in strategic sectors are diverging across regions, with China losing market share.

(number of investments, four-quarter moving average, 2015:Q1 = 100)



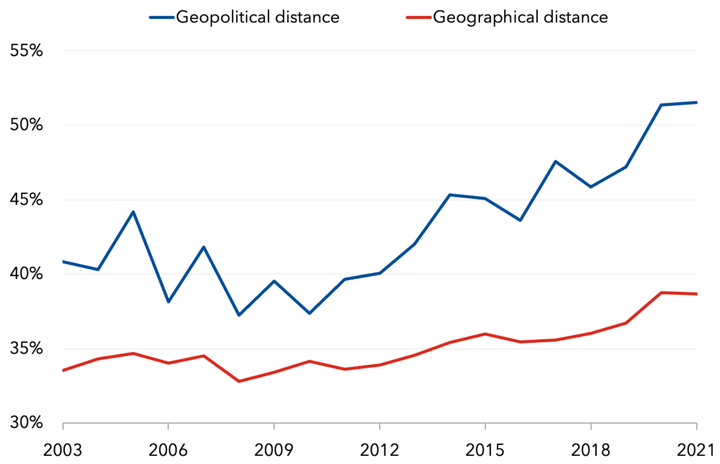
Sources: fDi Markets; and IMF staff calculations.

IMF

Flows to friends

FDI is increasingly directed to geopolitically close countries.

(share of total FDI between geopolitically and geographically close countries)



Sources: Atlantic Council; Bailey, Strezhnev, and Voeten (2017); CEPII, Gravity database; fDi Markets database; NL Analytics; and IMF staff calculations.
Note: Figure shows the annual share of total foreign direct investment between countries that are either geopolitically or geographically close. Two countries are close if they are in the same quintile of the distribution of the relevant (geopolitical or geographical) distance from the United States. Geopolitical distance is measured by the Ideal Point Distance in Bailey, Strezhnev, and Voeten (2017).

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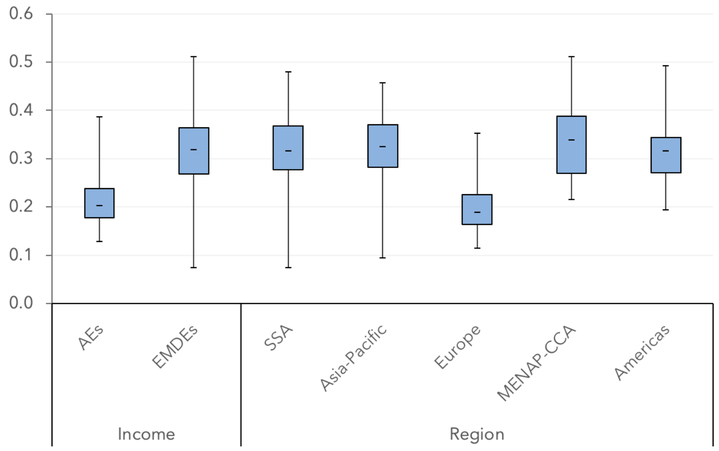
Gauging FDI relocation risk

Emerging market and developing economies are more vulnerable than advanced economies to FDI being relocated.

(vulnerability index)



Sources: Atlantic Council; Bailey, Strezhnev, and Voeten (2017); fDi Markets; NL Analytics; Trade Data Monitor; and IMF staff calculations.
Note: Figure shows distribution of vulnerability index by income and regional groups, based on post-2019 foreign direct investment. AEs = advanced economies; EMDEs = emerging market and developing economies; MENAP-CCA = Middle East, North Africa, Afghanistan, Pakistan, Caucasus and Central Asia; SSA = sub-Saharan Africa.

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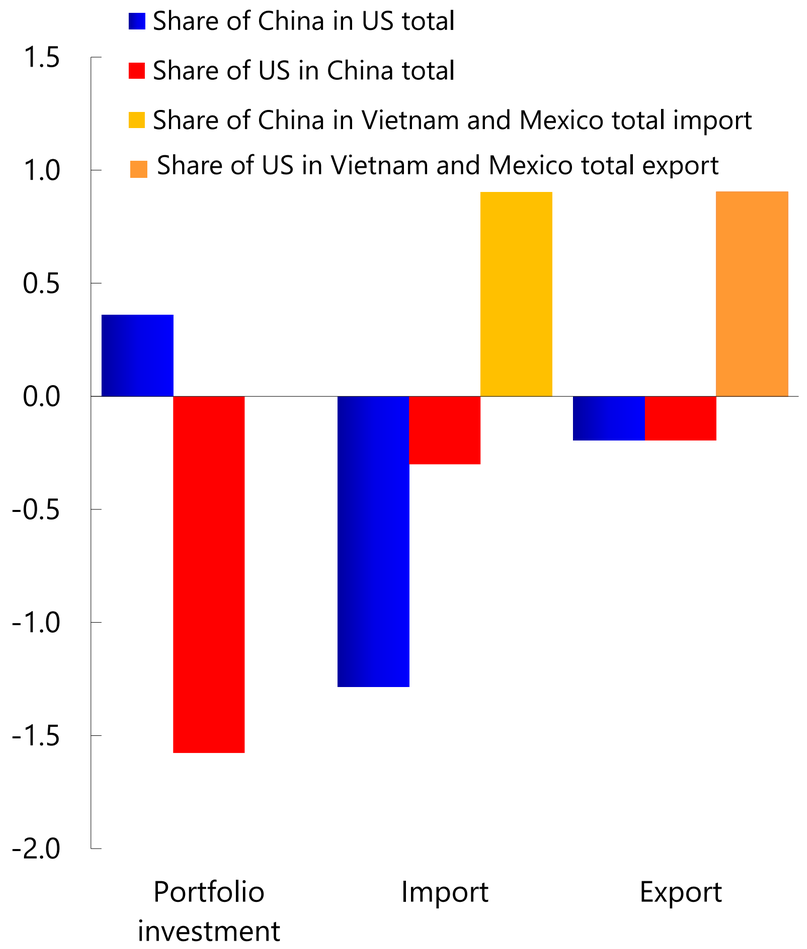
Source: WEO April 2023 chapter 4

Elongation of Supply Chains, Volatility

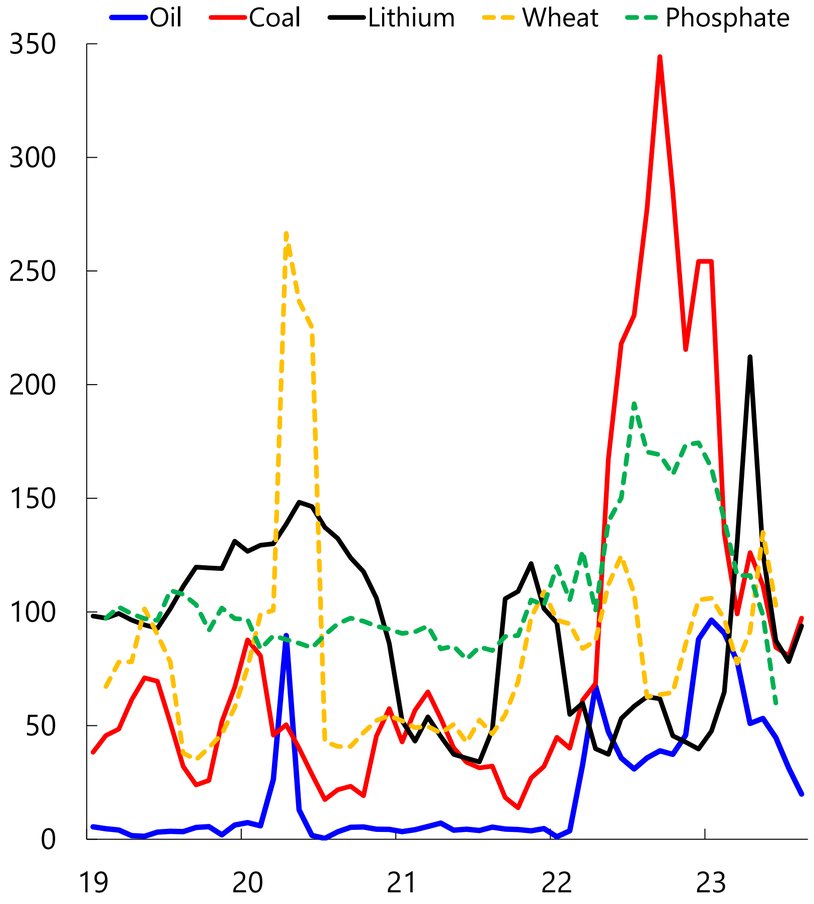
U.S.-China decoupling

(change in share of bilateral flow with US and China from 2016 to 2022; in Z-score)



Commodity price dispersion

(difference between max and min as percent of min price across regions)

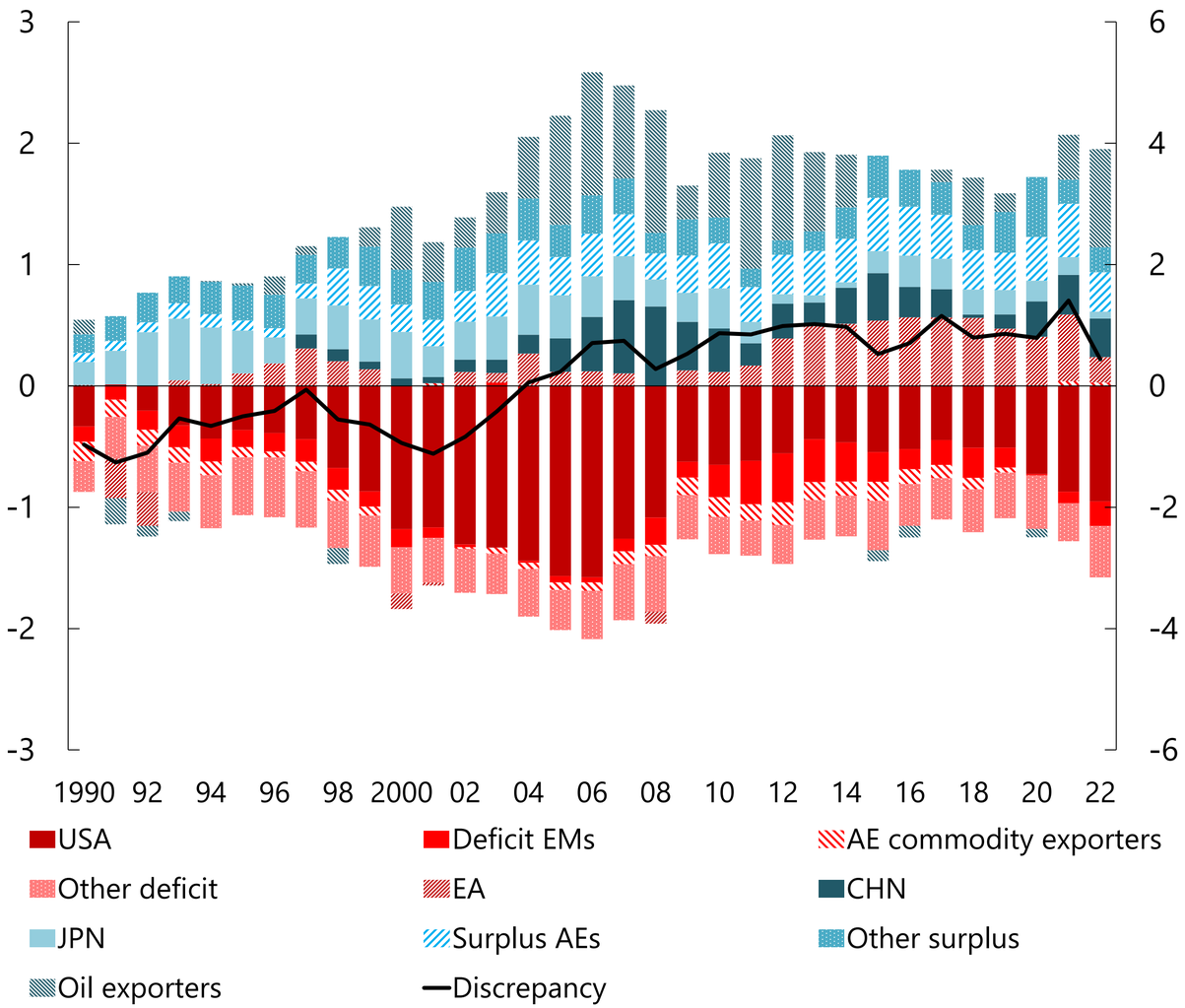


Source: IMF

The ‘blocs’ still recycle each other’s surplus/deficits

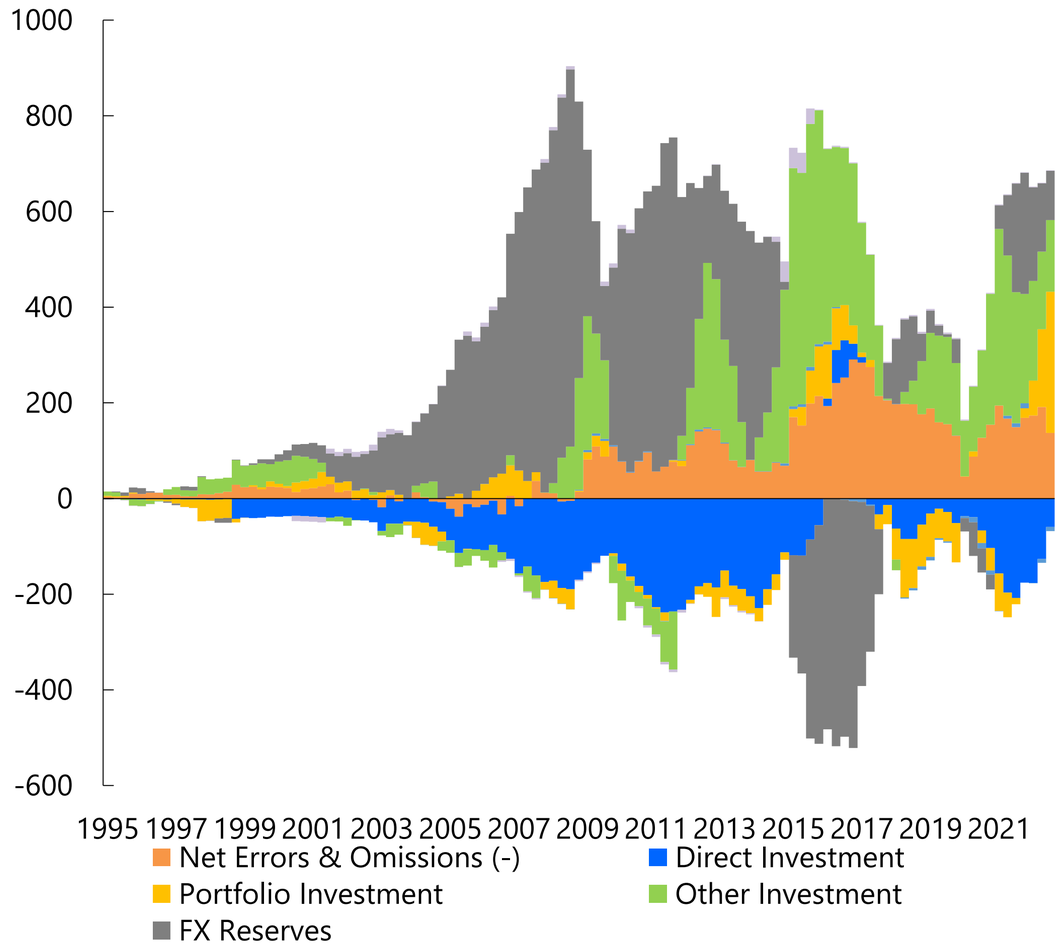
Current Account Balances, 1990 - 2022

(percent of world GDP)



Capital Flows: China, Russia, and Saudi Arabia

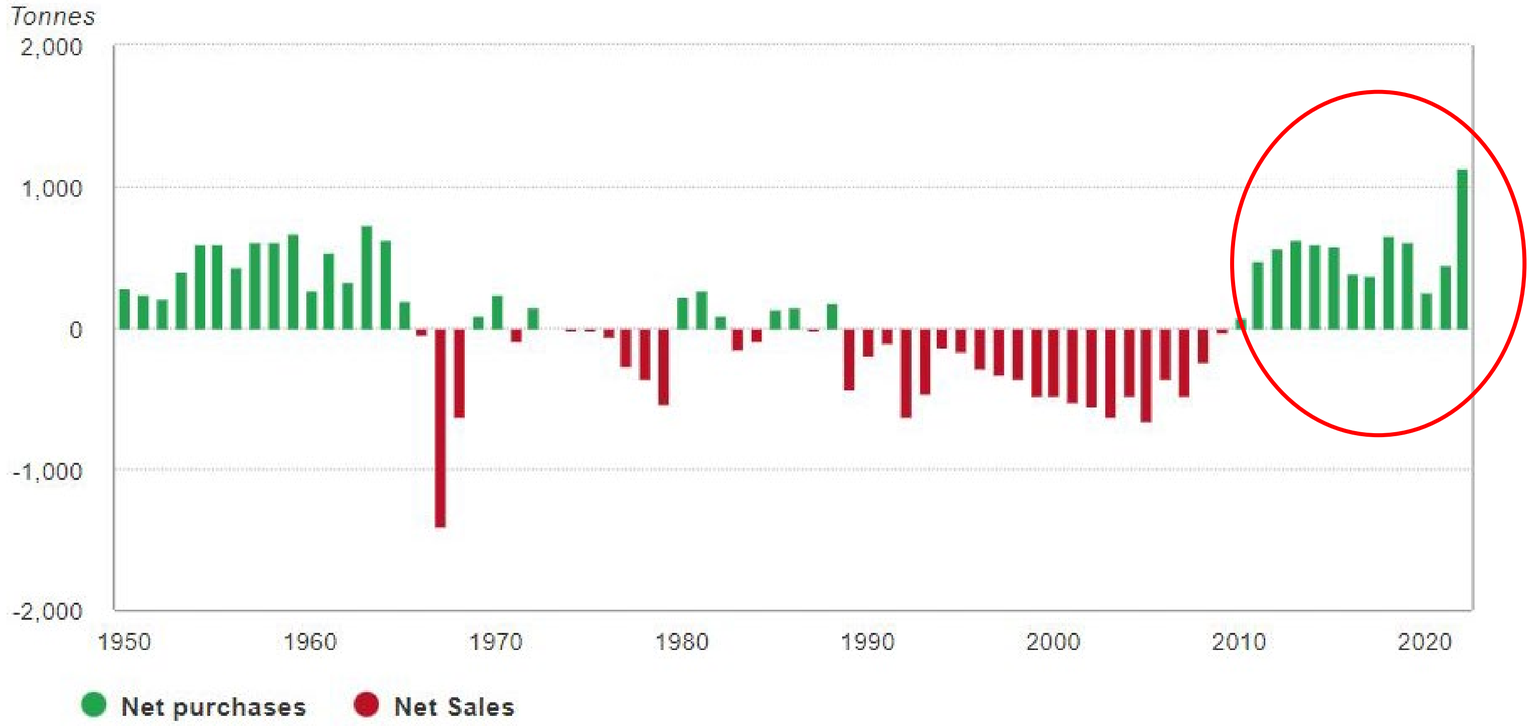
(USD bn; 4 quarter trailing sums)

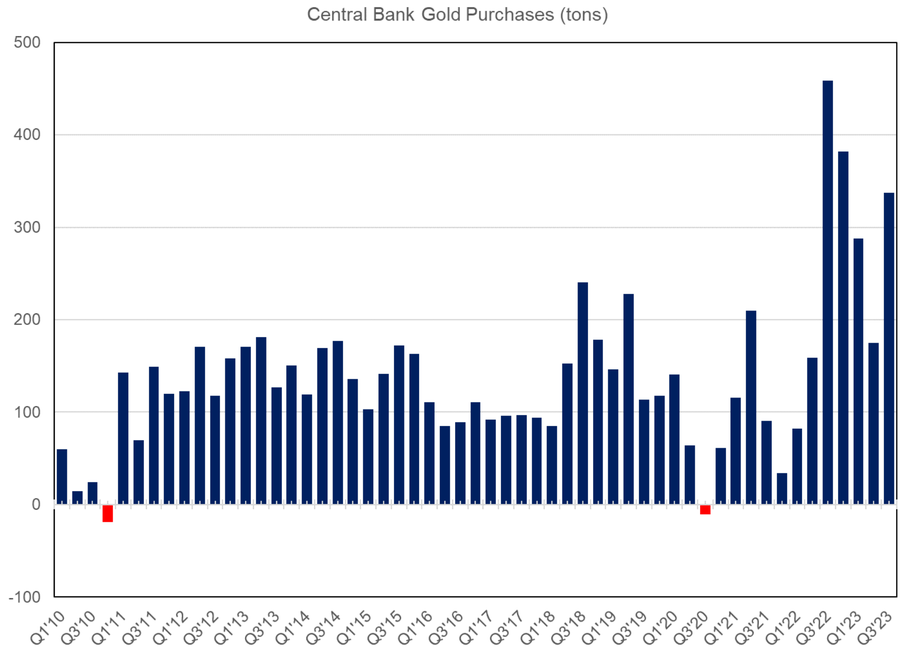


Source: IMF, World Economic Outlook, Refinitiv, Eikon and IMF Staff Calculations

Central banks are purchasing gold

Central Banks net gold purchases/sales





Sources: Metals Focus, Refinitiv GFMS, World Gold Council; Disclaimer

Source: World Gold Countil,

Sanctions on Iran, Nov 15, 1979

Wall Street Journal (1923-); Nov 15, 1979; ProQuest Historical Newspapers: The Wal
pg. 1

Risky Maneuvers?

Bank-Account Moves By Iran, U.S. Are Seen Setting Bad Precedents

Analysts Fear Other Nations Also Might Pull Funds, Spur Flight From Dollar

But So Far, OPEC Is Calm

In the latest steps in their 11-day-old confrontation, Tehran and Washington unsheathed a new economic weapon that sent shivers through international monetary markets.

Hours after Iran announced plans to withdraw its deposits from American banks, President Carter early yesterday acted to freeze billions of dollars of official Iranian assets in the U.S.

By Edward Cody Washington Post Foreign Service
The Washington Post (1974-); Nov 24, 1979; ProQuest Historical Newspapers: The Washington Post
pg. A11

U.S. Freeze on Iran's Assets Is Troubling Saudi Arabians

By Edward Cody
Washington Post Foreign Service

RIYADH, Saudi Arabia, Nov. 23—President Carter's decision to freeze Iranian assets in U.S. banks has raised troubling questions in the minds of Saudi Arabian government

access to high-level Saudi thinking report considerable concern that, in spite of Washington's assurances, the decision set an unfortunate precedent.

"The reaction here was a great deal of nervousness," said a banker.

and making decisions based on Saudi Arabia's own economic interests.

Their advice has been overruled so far, however, because of the royal family's policy of maintaining Saudi Arabia's special security ties to the United States. Prince Fahd, the first

By Hobart Rowen Washington Post Staff Writer
The Washington Post (1974-); Dec 28, 1979; ProQuest Historical Newspapers: The Washington Post
pg. A13

IMF Rejects Plea by Iran To Condemn Freeze of Assets

By Hobart Rowen
Washington Post Staff Writer

The International Monetary Fund yesterday rejected a plea by Iran that the IMF condemn or otherwise attempt to reverse the U.S. freeze of more than $8 billion in Iranian financial assets.

IMF officials explained that even had they been sympathetic to Iran's request, there was no effective move the agency could have taken to undo the U.S. freeze. But a vote of sympathy for the Iranians would have been important to Iran as it seeks to swing world opinion to its side in its battle with the United States.

Conclusion

- The International Monetary System has been resilient so far, but will be tested further

  - Reliance on self-insurance is inefficient
  - Better implementation of capital flow policies (IPF, basis control)
  - New 'shocks' are likely:
    - Elevated debt levels with low growth and high interest rates
    - 'Plumbing of the Treasury market' remains fragile
    - Geoeconomic fragmentation: careful about weaponized interdependence
    - Closer to a Triffin moment

- The system needs to adapt to these new challenges:
  - Should not assume that the system can continue to function as is
  - IMF role is central. Needs to be equipped with resources and governance