FINANCIAL REPRESSION

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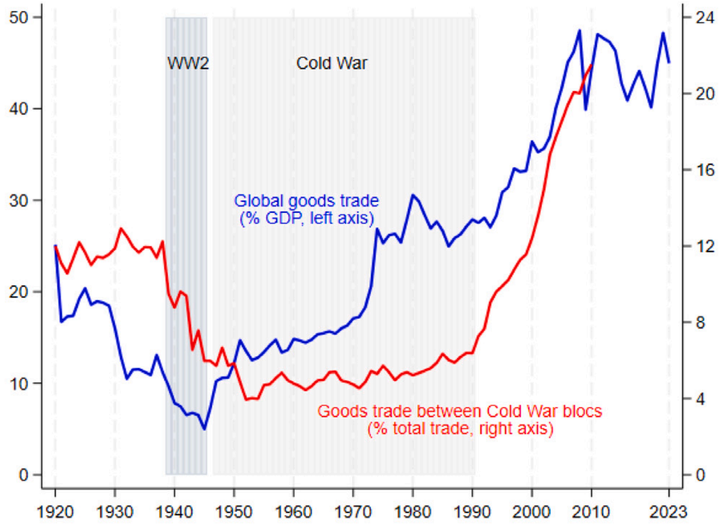
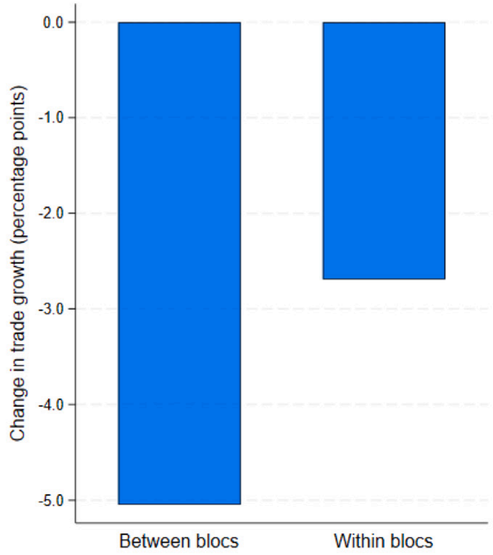
13th of June 2025
FLAR
Cartagena, Colombia

Industrial policy, trade wars, geo-fragmentation



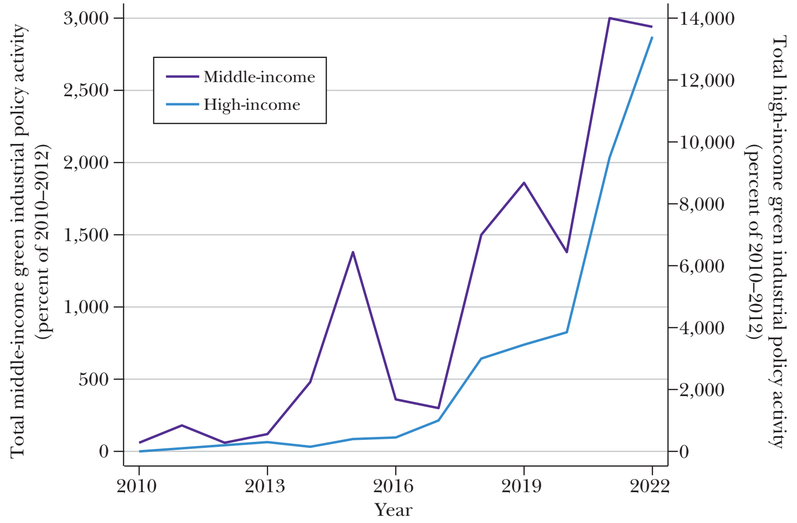
(a) Trade between blocs in history



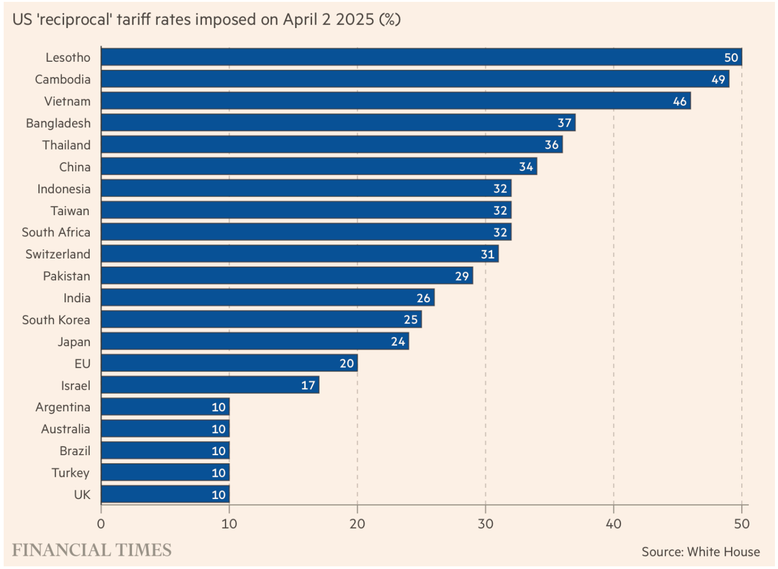
(b) Trade in the current period

Figure 1

Green Industrial Policy Activity in G20 Countries, 2010–2022 (Annual Count of Policies Relative to 2010–2012 Average)



Source: Green industrial policies are classified based on the industrial policies identified in Juhász et al. (2022), who use data from the Global Trade Alert. High- and middle-income status is classified using data from the World Bank.
Note: An industrial policy is classified as being "green" if the text of the policy description contains keywords associated with green policies. G20 countries are listed in online Appendix A.



Financial repression?

Sources: Financial Times, Juhasz Lane (2024), Gopinath Gourinchas (2024)

What is financial repression?

- **Broad set of policies often categorized in two ways**
  - **Tools**: Controls on international capital flows and regulations over domestic financial intermediaries (McKinnon, Shaw)
  - **Effects**: repressed interest rates, and distorted allocation of credit (Reinhart, Rogoff)

- **Take perspective of the government budget constraint**
  - b_t : market value of the debt, include different composition and maturities
  - s_t : spending, or negative of primary surplus
  - g_t : both debt and spending as ratios of GDP, growing at this rate
  - r_t : real return on the debt: coupon plus capital gain, endogenous.

$$\underbrace{db_t}_{\text{Total deficit}} = \underbrace{-s_t dt}_{\text{Primary surpus}} + \underbrace{(r_t - g_t)b_t dt}_{\text{Return to debtholders}}$$

What sustains the government debt?

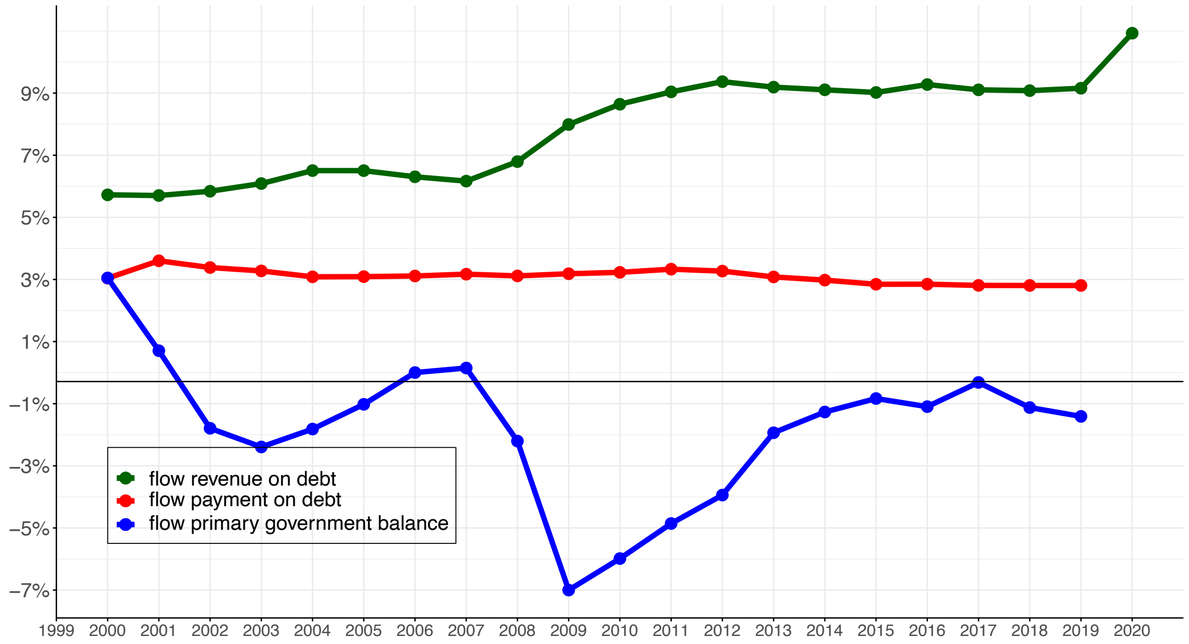
- Intertemporal version using a discount rate m_t (neglect uncertainty and $\bar{m}_t = \int_0^t m_j dj$.)

$$b_0 - \int_0^\infty e^{-(\bar{m}_t - \bar{g}_t)t} s_t dt = \int_0^\infty e^{-(\bar{m}_t - \bar{g}_t)t} (m_t - r_t) b_t dt$$

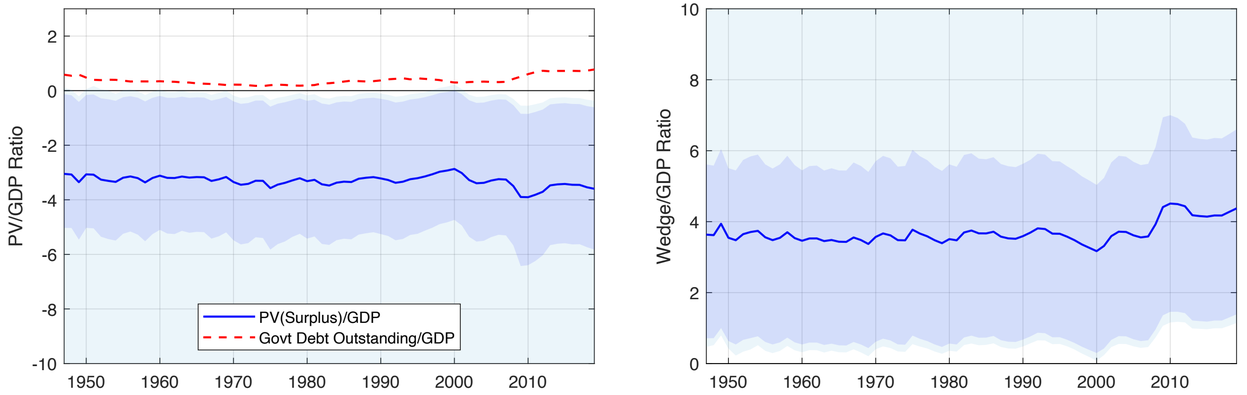
$$\underbrace{MVDebt - PV_{m-g}\left(PrimaryBalance\right)}_{\text{Unbacked Debt}} = \underbrace{PV_{m-g}\left((m-r)Debt\right)}_{?}$$

- If have unbacked debt then is the **mysterious term**:
  - A bubble?
  - The PV of a "convenience" yield?
  - A general debt revenue (reward for safety, liquidity, self-insurance)?

How large is unbacked debt?



Panel B: Present Value of Government Surpluses and the Debt Valuation Gap.



The left panel plots the present value of government surpluses and the market value of debt as fractions of the current GDP. We plot the one- and two-standard-error confidence intervals based on 10,000 bootstrap iterations. The right panel plots the wedge between the market value of debt and the present value of government surpluses.

- Need a stochastic discount factor, hard to pin down.
- Some calculations suggest that it could be quite large: Reis (2022), Jiang et al (2024)
- But shrinking fast for the United States in last 3 years (m-r is closing).

Central bank and the financial sector

- **Introduce central bank and banks**:
  - v_t : reserves held by banks at the central bank
  - h_t : currency held by all
  - b_t^c : central bank holds bonds of the government,
  - x_t : central bank makes transfers to government

- The flow **budget constraint** for the central bank

$$\underbrace{d(b_t^c - v_t - h_t)}_{\text{Reserves+Currency-Bonds}} = \underbrace{r_t b_t^c}_{\text{Gains}} - \underbrace{x_t dt}_{\text{Transfers}} - \underbrace{r_t^v v_t dt}_{\text{Interest to banks}} + \underbrace{\pi_t h_t dt}_{\text{Inflation tax}}$$

Financial repression

- Since transfers are sent to the government, the integrated budget constraint is:

$$UnbackedDebt = EPV\left((m - r)NFIHeldDebt\right)$$

$$+EPV\left((m - r)BankHoldPublicDebt\right)$$

$$+EPV\left((m - r^{v})Reserves\right)$$

$$+EPV\left((m + \pi)Currency\right)$$

Financial repression:

- Underpay government bonds to banks, through **regulation**
- Do not pay interest on **required reserves**
- Seignorage by having steady persistent **inflation**

Classic measures of domestic repression

TABLE 1—THE SIZE OF REVENUE FROM FINANCIAL REPRESSION

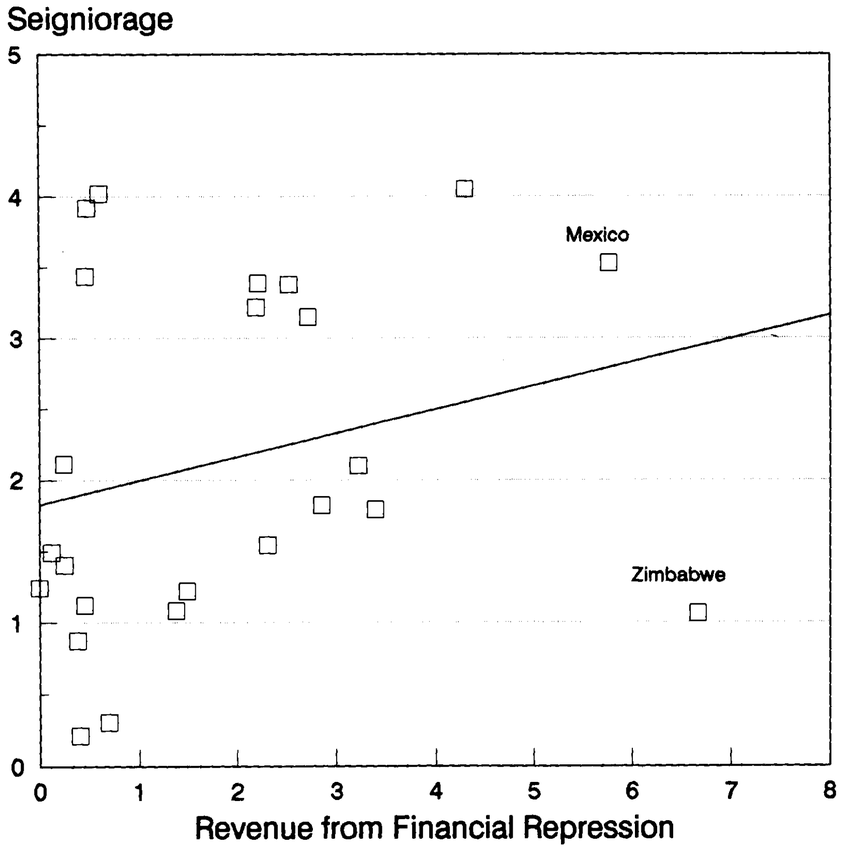
Country	Sample	Revenue from financial repression: Percentage of GDP	Revenue from financial repression: Percentage of tax revenue
Algeria	1974–1987	4.30	11.42
Brazil	1983–1987	0.48	1.57
Colombia	1980–1984	0.24	2.11
Costa Rica	1972–1984	2.33	12.76
Greece	1974–1985	2.53	7.76
India	1980–1985	2.86	22.38
Indonesia	1976–1986	0.00	0.00
Jamaica	1980, 1982	1.38	4.74
Jordan	1978–1987	0.60	2.40
Korea	1975–1987	0.25	1.36
Malaysia	1974–1981	0.12	0.31
Mexico	1984–1987	5.77	39.65
Morocco	1977–1985	2.31	8.89
Pakistan	1982–1983	3.23	20.50
Panama	1977–1987	0.69	2.49
Papua New Guinea	1981–1987	0.40	1.90
Philippines	1975–1986	0.45	3.88
Portugal	1978–1986	2.22	6.93
Sri Lanka	1981–1983	3.40	19.24
Thailand	1976–1986	0.38	2.57
Tunisia	1978–1987	1.49	4.79
Turkey	1980–1987	2.20	10.89
Zaire	1974–1986[a]	0.46	2.48
Zimbabwe	1981–1986	5.50	19.13

- Giovannini and Mello (AER, 1993): use for ***m*** the interest rate the government has to pay abroad, and for ***r*** and ***b*** the domestically held debt.
- Measure public debt of both banks and NFIs
- Scourge of the 1970s-80s
- **Financial liberalization agenda**

Deposit banks and seignorage

TABLE 2—DISTRIBUTION OF HOLDINGS OF DOMESTIC GOVERNMENT DEBT (PERCENTAGES)

Country	Sample	Central bank	Deposit money banks	Other
Algeria	1974–1987	18.7	56.2	25.1
Brazil	1983–1987	46.9	NA	53.1
Colombia	1980–1984	47.3	NA	52.7
Costa Rica	1972–1983	19.0	20.1	61.0
Greece	1974–1981	21.7	26.2	52.2
India	1980–1985	23.1	7.4	69.5
Indonesia	1976–1980	100.0	0.0	0.0
Jamaica	1980, 1982	60.3	14.1	25.7
Jordan	1978–1987	46.3	36.0	17.7
Korea	1975–1987	23.9	37.5	38.6
Malaysia	1974–1981	4.4	23.2	72.4
Mexico	1984–1987	53.7	19.1	27.2
Morocco	1977–1985	10.6	56.2	33.2
Pakistan	1982–1983	43.5	26.5	29.9
Panama	1977–1978	0.0	33.7	66.3
Papua New Guinea	1981–1987	18.3	49.6	32.1
Philippines	1975–1986	51.6	23.0	25.4
Portugal	1983–1986	46.9	10.7	42.4
Sri Lanka	1981–1983	32.4	20.2	47.4
Thailand	1976–1986	43.0	34.3	22.7
Tunisia	1978–1987	0.0	55.0	45.0
Turkey	1980–1987	40.3	NA	59.7
Zaire	1974–1986	92.8	6.8	0.4
Zimbabwe	1981–1986	16.8	18.4	64.8



- The **doom loop**: large share of government bonds held by deposit banks banks
- These are partly passed to **depositors**
- Forms of repression are **complements**

INTERNATIONAL CAPITAL FLOWS

Take perspective of a country

- The country's **resource constraint**:

$$\underbrace{dB_t}_{\text{Net Foreign Assets}} = \underbrace{NX_t dt}_{\text{Trade Balace}} + \underbrace{(r_t^f - g_t)B_t dt}_{\text{Return on NFA}}$$

- By the precise same logic and steps, will get

$$\underbrace{-MVNFA + PV_{m-g}\left(TradeSurplus\right)}_{\text{Unbacked Debt to Foreigners}} = \underbrace{PV_{m-g}\left(-(m - r^f)NFA\right)}_{?}$$

- This term has a famous name: the country's **exorbitant privilege.**

How large is the exorbitant privilege?

Table 10.3 Various Estimates of the Excess Returns, $r^a - r^l$ (%), on the U.S. Net Foreign Asset Position

	Period		
	1952:1–2011:4	**1952:1–1972:4**	**1973:1–2011:4**
(a) OC_{t+1} allocated to flows	1.6	0.8	2.0
(b) OC_{t+1} allocated to flows (except for FDI)	2.1	0.8	2.8
(c) OC_{t+1} allocated to valuations	2.7	0.8	3.8
Previous estimates			
(d) Initial Gourinchas and Rey (2007a) on 1952–2004	2.1		
(e) Curcuru et al. (2008b) on 1994–2005	0.72		
(f) Forbes (2010) on 2002–2008	6.9		
(g) Lane and Milesi-Ferretti (2009) on 1980–2004	3.9		
(h) Obstfeld and Rogoff (2005) on 1983–2003	3.1		

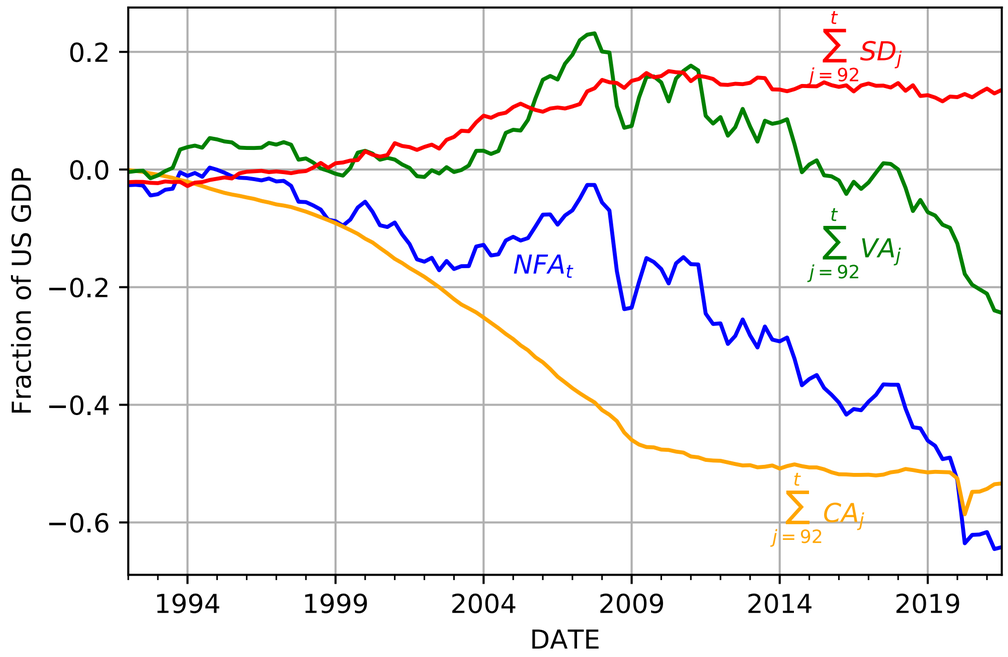


Figure 2: Decomposition of Changes in US Net Foreign Assets over GDP

- Again used the comparison between returns abroad and at home.
- Gourinchas and Rey (2007, 2014) positive vs. Atekson, Heathcote, Perri (2002) negative

The exchange rate and valuation effects

- **Market value** of the NFA, given exchange rate and market price

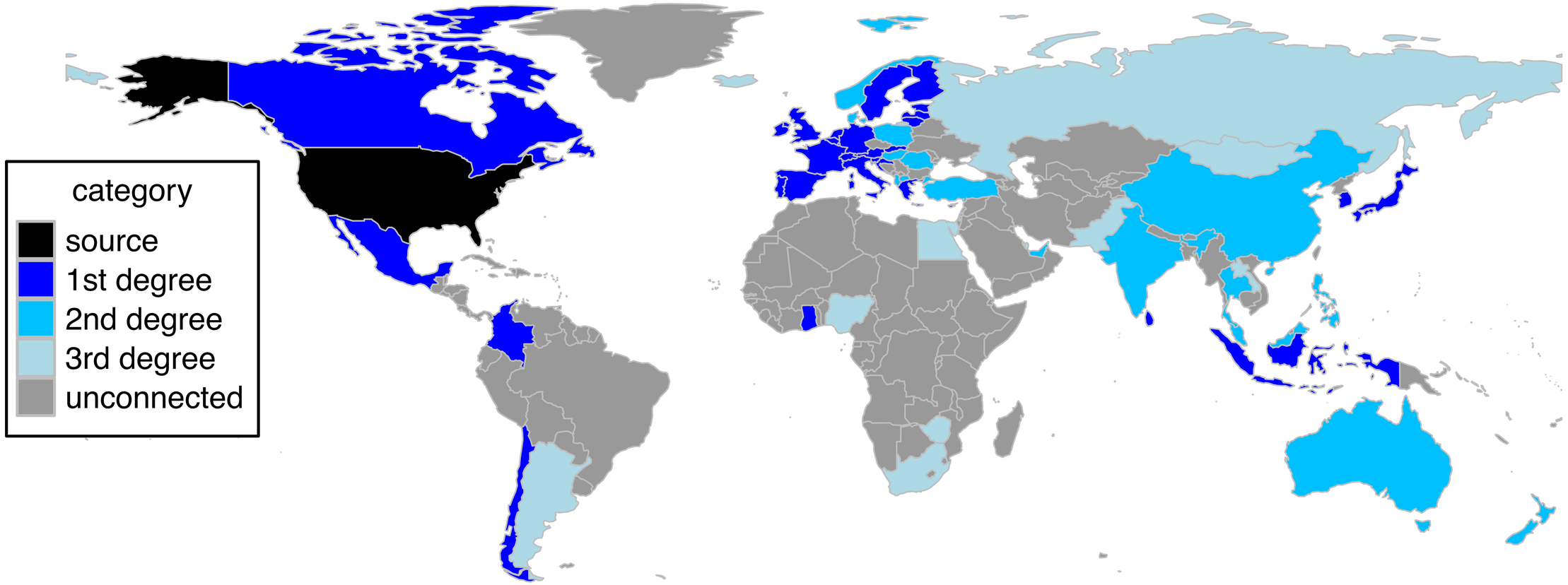
$$B_t = E_t \times Q_t \times \tilde{B}_{t-1}$$

- There are jumps in **exchange rates** (or price level in domestic context) as well as in **asset prices** (when assets have different maturities). Surprise depreciation of the exchange rate looms large, has arguably happened to USD asset holders in the past two months.

- But this is **unexpected repression** as opposed to **systematic repression**. Distinction:
    - These are market adjustments as a result of unanticipated policies
    - The returns to the holders are unexpected, as often negative as positive
    - Example: inflating the debt versus seignorage

Repression in this international context

- **With respect to foreigners:**
  - Liquidity benefits from your assets. Foreign reserve managers



Source: Bahaj, Fuchs, Reis (2025)

Repression in this international context

- **With respect to foreigners:**
  - Liquidity benefits from your assets. Foreign reserve managers
  - Withholding taxes on foreign holdings

America's tax on foreign investors could do more damage than tariffs

Provisions in the Republican budget are a dangerous step

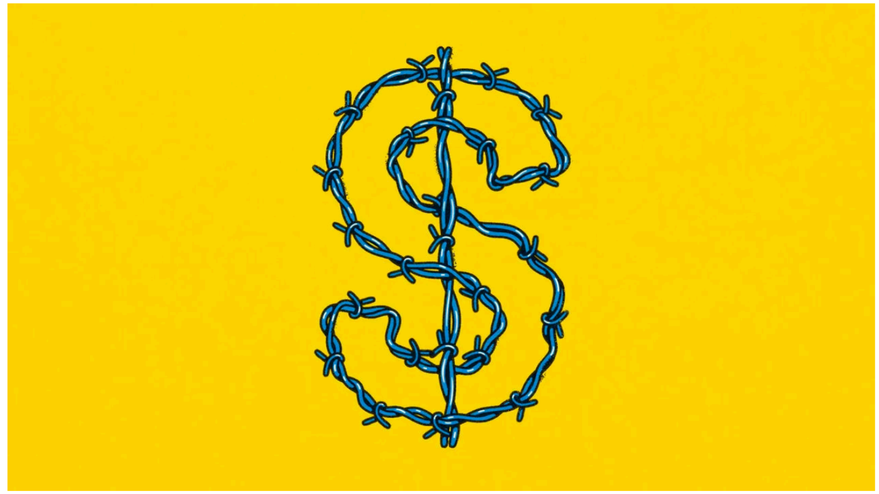


ILLUSTRATION: ALBERTO MIRANDA

Jun 5th 2025

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Source: Economist

Repression in this international context

- **With respect to foreigners:**
  - Liquidity benefits from your assets. Foreign reserve managers
  - Withholding taxes on foreign holdings.
  - Exchange rates and deviations from parity conditions. Role of the USD

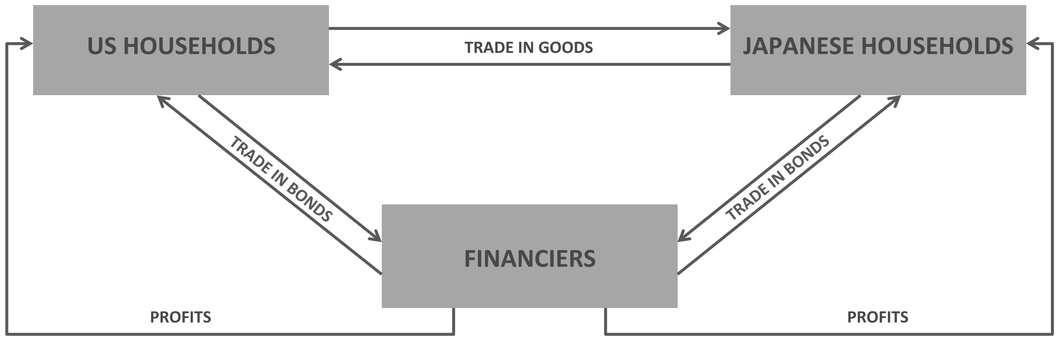


FIGURE 1 Basic structure of a segmented currency market model.

The players and structure of the flows in the goods and financial markets. Reproduced from Gabaix and Maggiori (2015).

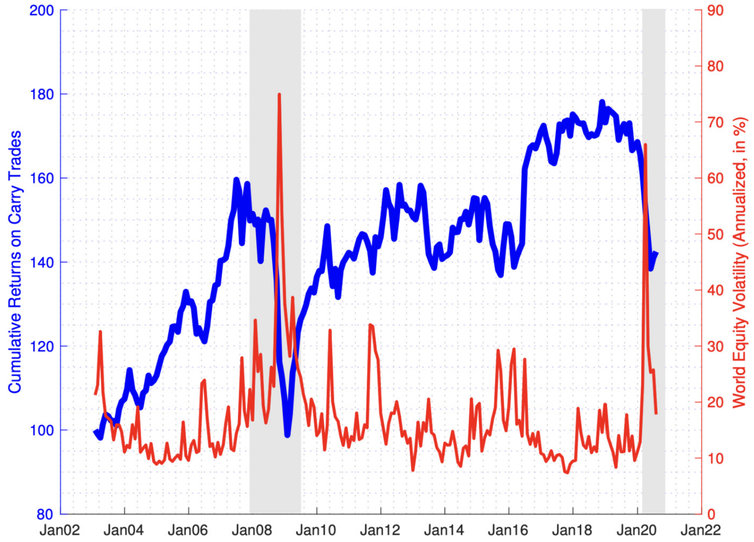


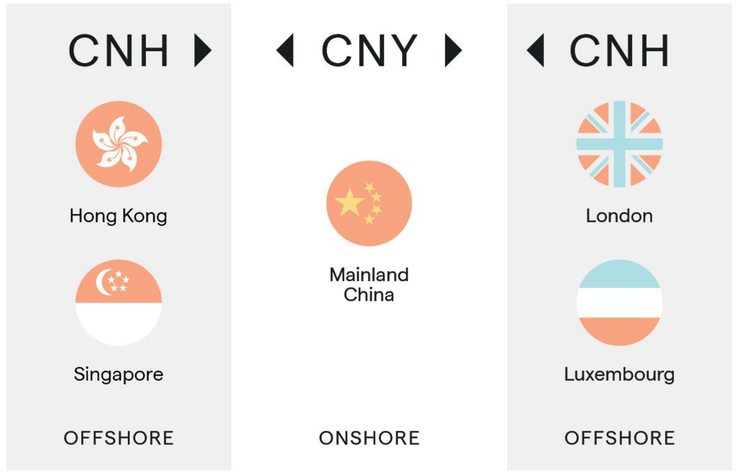
FIGURE 3 Carry trade: profitability and risk.

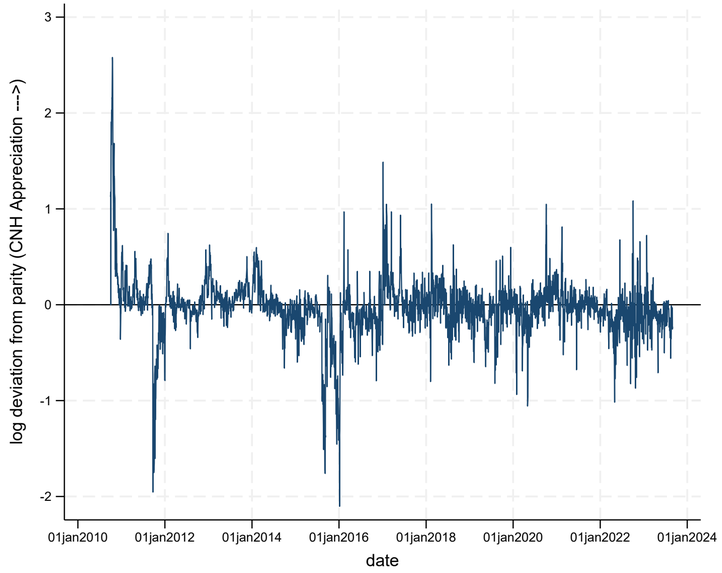
The blue thick line plots (left axis) the cumulative return of the carry trade. The trade is defined here as investing (equally weighted) in a basket of high interest-rate currencies while shorting a basket of low interest-rate currencies. The sample includes only developed countries currencies. The red thin line plots realized volatility of world equity markets. Source: the Figure is reproduced courtesy of Adrien Verdelhan from his slides for the Stanford Big-Data Initiative in International Macro-Finance.

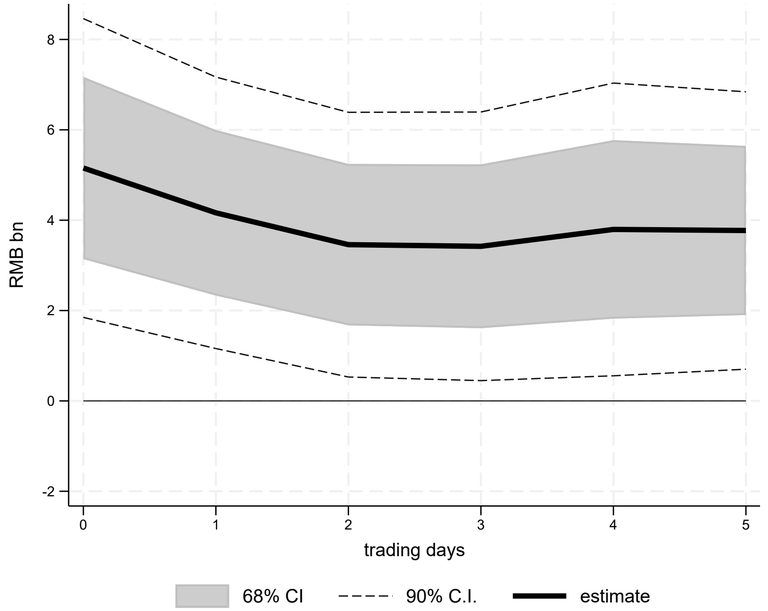
Source: Maggiori (2022)

With respect to domestics

- **China and the story of the CNH-CNY**
  - CNY in mainland China, CNH in Hong Kong and offshore centers
  - Capital controls by tight controls on conversion
  - Legalize "black market": keeping exchange rate peg to avoid Gresham's law
  - Do so by printing CNH money whenever CNH appreciates





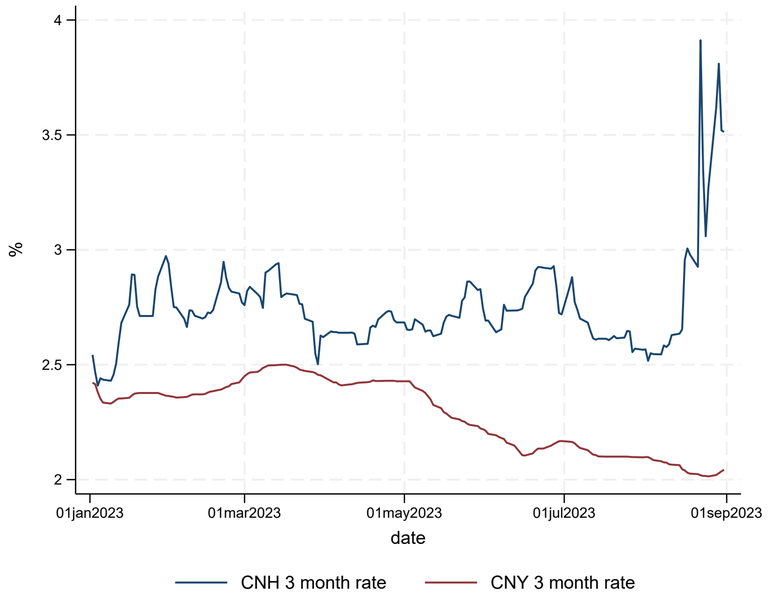


Source: Bahaj and Reis (2024)

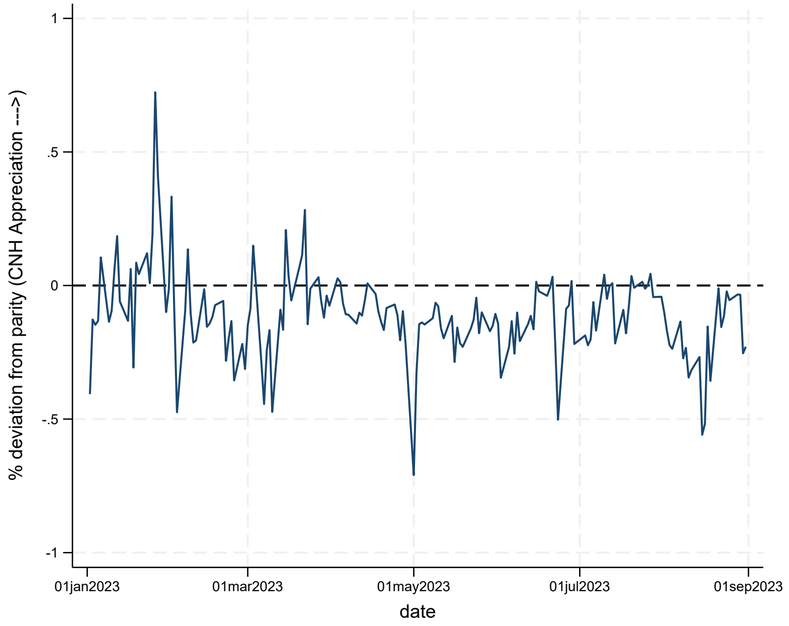
With respect to domestics

- China and the story of the CNH-CNY
  - Summer of 2023 system worked well
  - CNH velocity becoming normalized
  - Russia, Iran, Venezuela: oil market has a strong RMB (CNH) component today

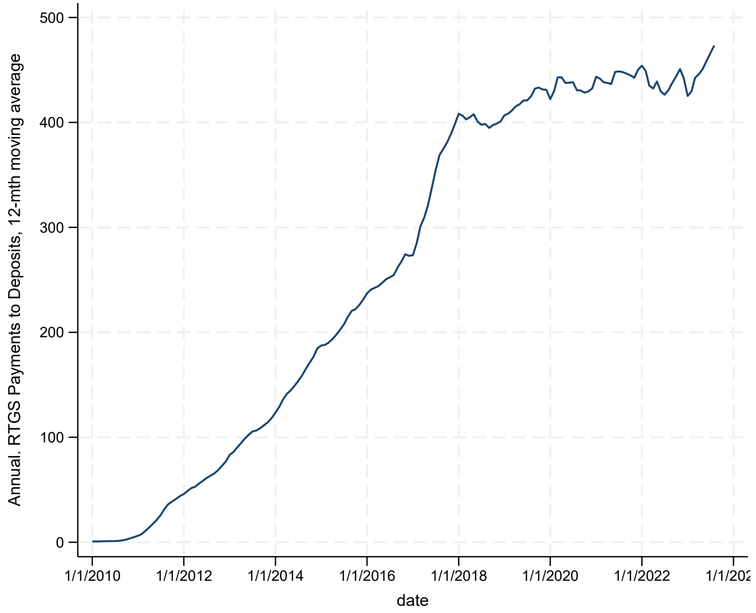
3-month interbank rates for CNH and CNY



CNH/CNY exchange rate



CNH velocity



Source: Bahaj and Reis (2024)

BUT CAN YOU REPRESS?

Elasticities

- For financial repression: foreigners **must willingly accept** lower returns on domestic assets, and domestic investors cannot have unfettered access to foreign investments.

- All of the financial repression terms have **similar structure**

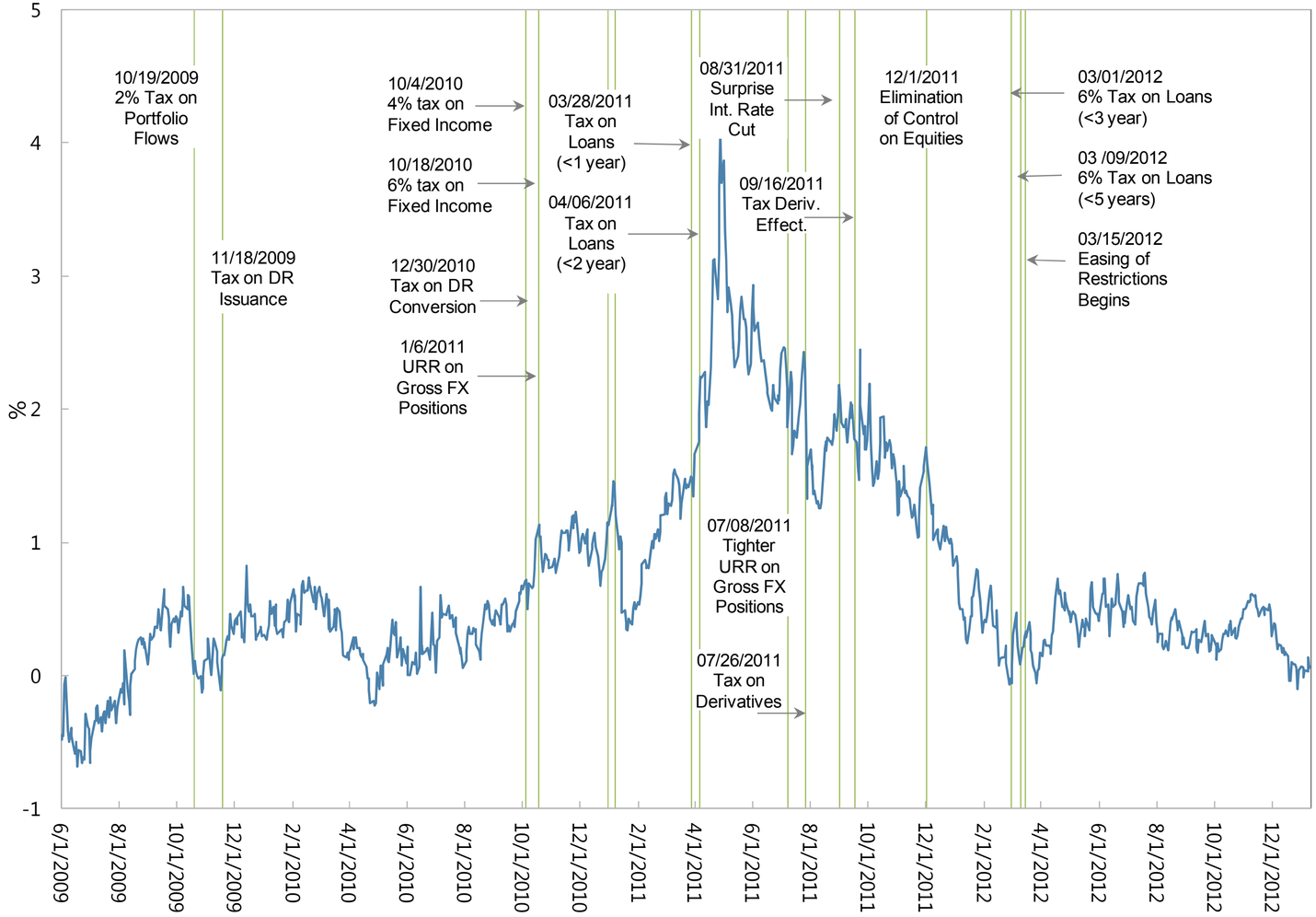
$$EPV\left[\underbrace{(m-r^i)}_{\text{wedge}} \times \underbrace{b^i}_{\text{holdings}}\right]$$

- Classic public finance, key is **elasticity of the base to the rate**

Tax Rate × Tax Base

The small open economy

Figure 2B. Evolution of the Spread Between the 360-Day Cupom Cambial, the One-Year LIBOR, and Brazil's One-Year CDS spread.



Source: Chamon and Garcia (2016)

Foreigners are infinitely elastic?

No liquidity/safety benefits, plentiful alternatives

Experience with Brazilian capital controls tax: short-lived effect on onshore USD borrowing rates.

Domestic elasticities

Eliminating debt

Financial repression can wipe out large quantities of government debt in what has been called the liquidation effect. This has an effect equivalent to increasing government revenues and has been used by emerging and advanced economies.

		Liquidation effect revenues as a percent of	
Country	Period	Gross domestic product	Tax revenues
Argentina	1944-74	3.2	19.3
Australia	1945-68, 1971, 1978	5.1	20.3
Belgium	1945-74	2.5	18.6
India	1949-80	1.5	27.2
Ireland	1965-90	2.0	10.3
Italy	1945-70	5.3	127.5
South Africa	1945-74	1.2	8.9
Sweden	1945-65, 1984-90	0.9	6.5
United Kingdom	1945-80	3.6	26.0
United States	1945-90	3.2	18.9

Source: Reinhart and Sbrancia (2011).

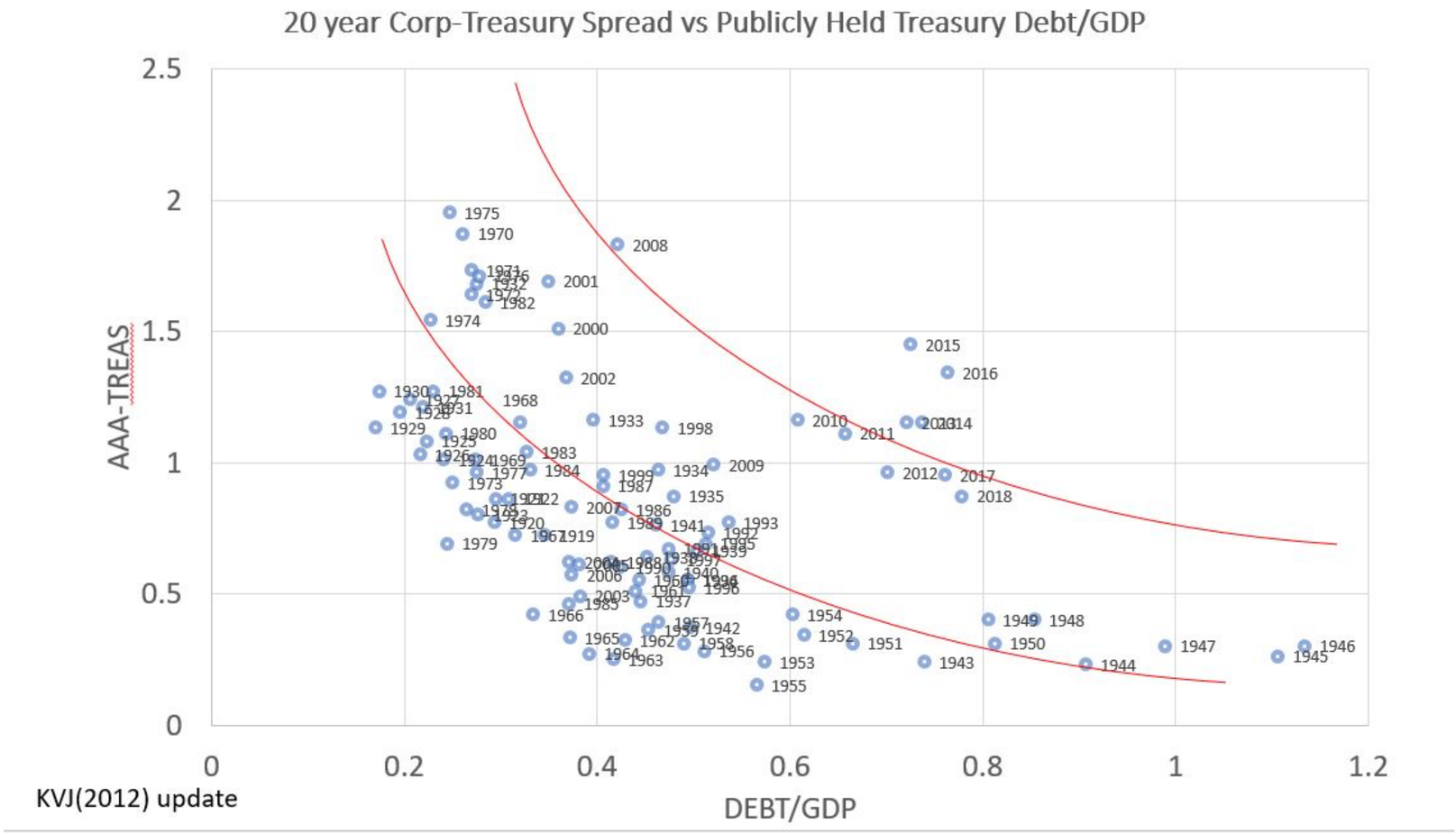
Can be large

But they are also costly:

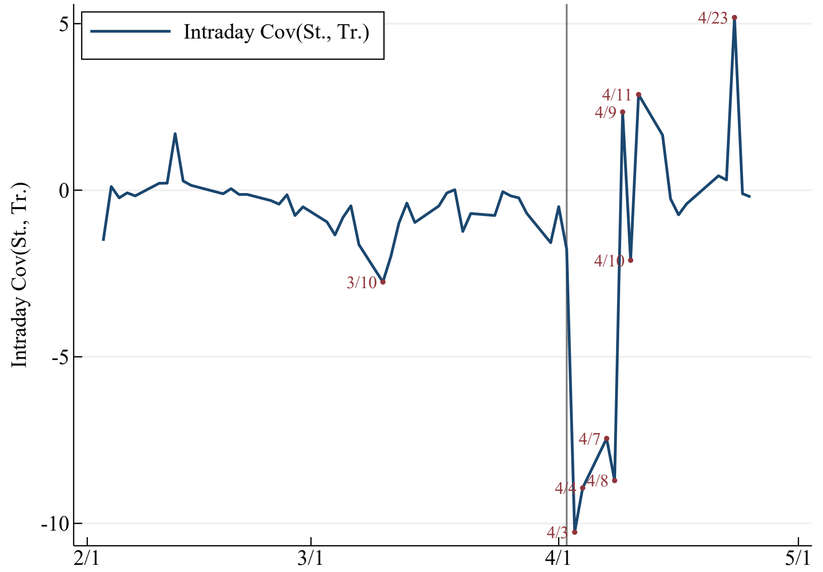
- Reserves and cost of credit
- Financial regulation, corruption, and the rise of conglomerates
- Inflation and nominal distortions

Source: Reinhart, Kierkegaard, Sbrancia (2011)

The United States: bonds?



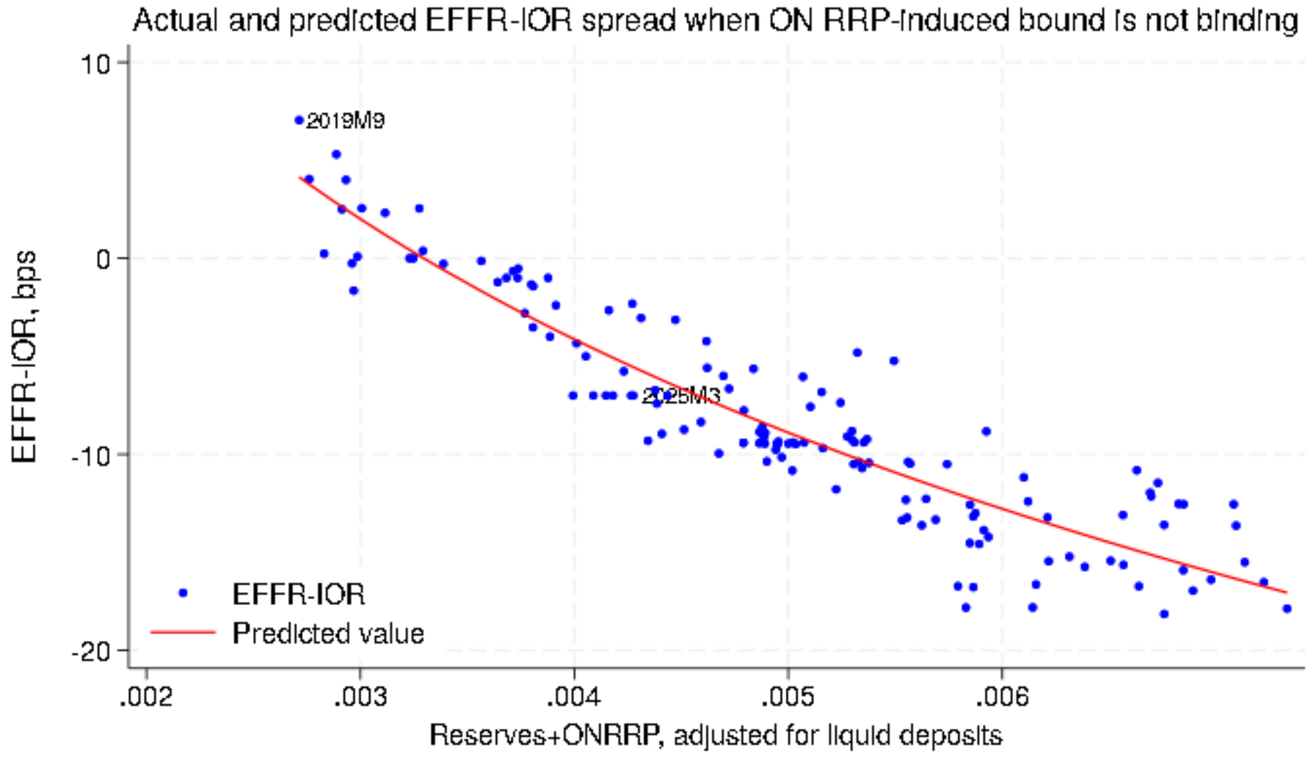
But specialness of the US Treasuries has been quickly eroding



Source: Krishnamurhty Vissing-Jorgensen (2024), Acharya (2025)

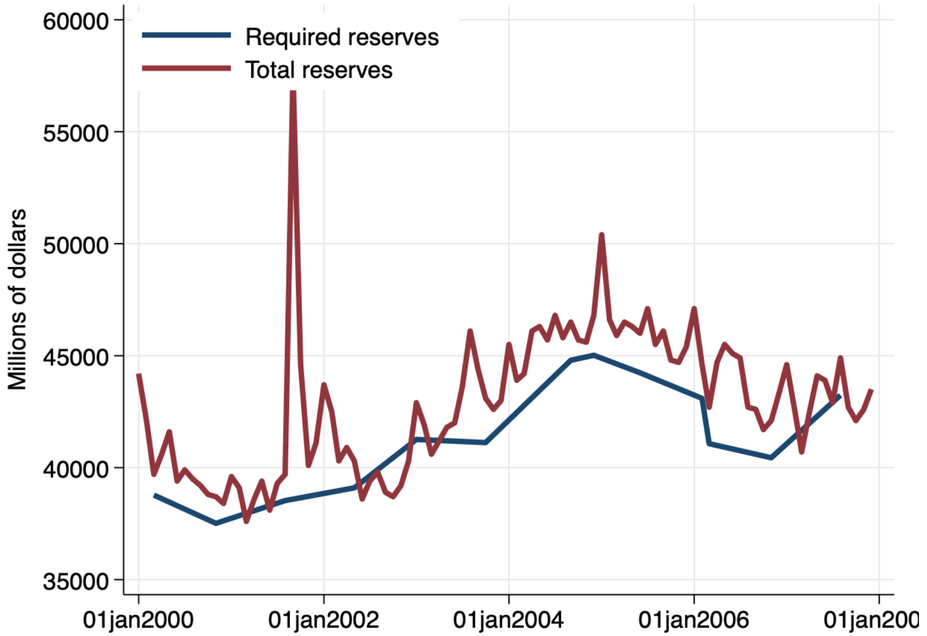
The United States: required reserves?

Panel B. EFFR-IOR spread and fitted values as a function of deposit-adjusted supply



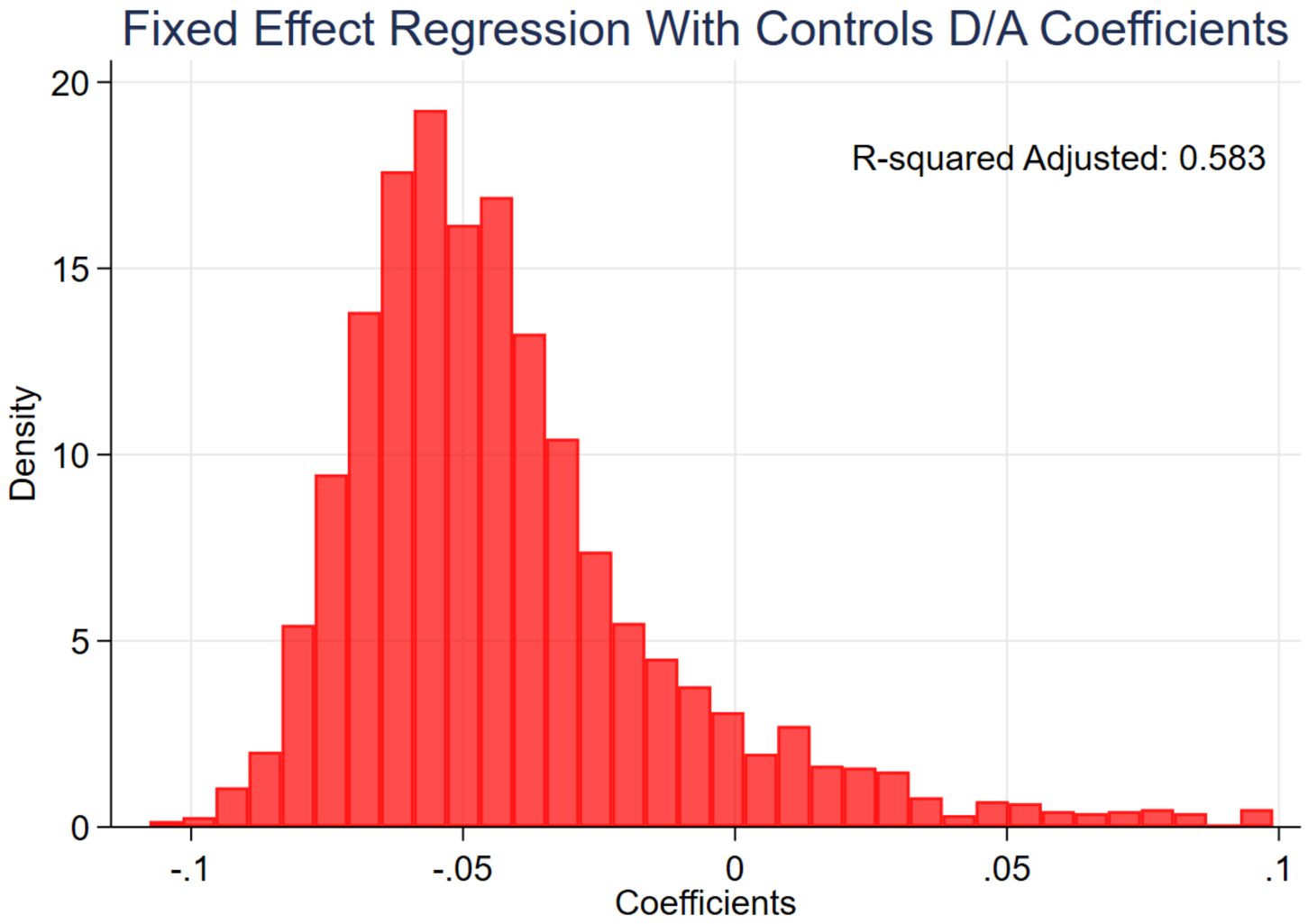
Situation in between.
Desire to be at the kink.
But hard to estimate it

US: Fed reserves, 2004-2007



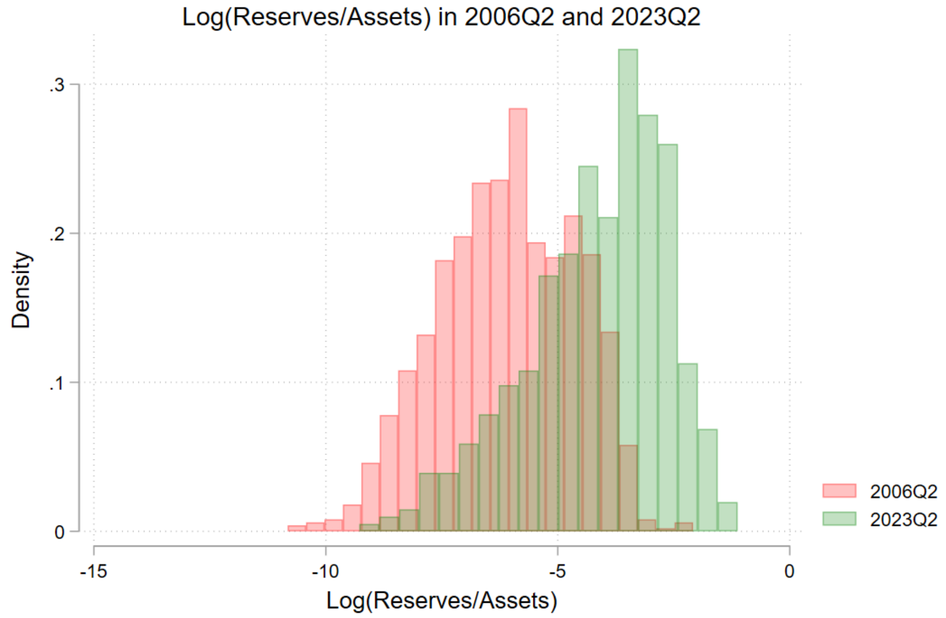
Source: Lopez-Salido Vissing-Jorhensen (2025), Reis(2023)

The United States: required reserves?



Tax the inframarginal

But can you detect them?

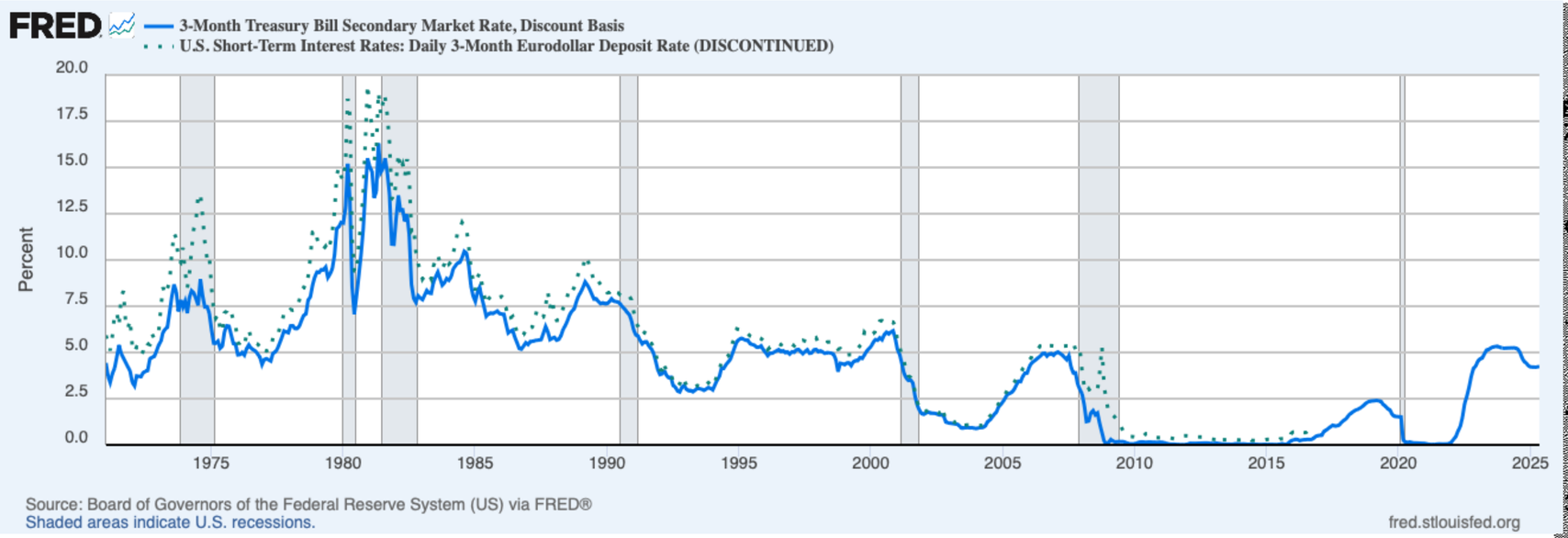


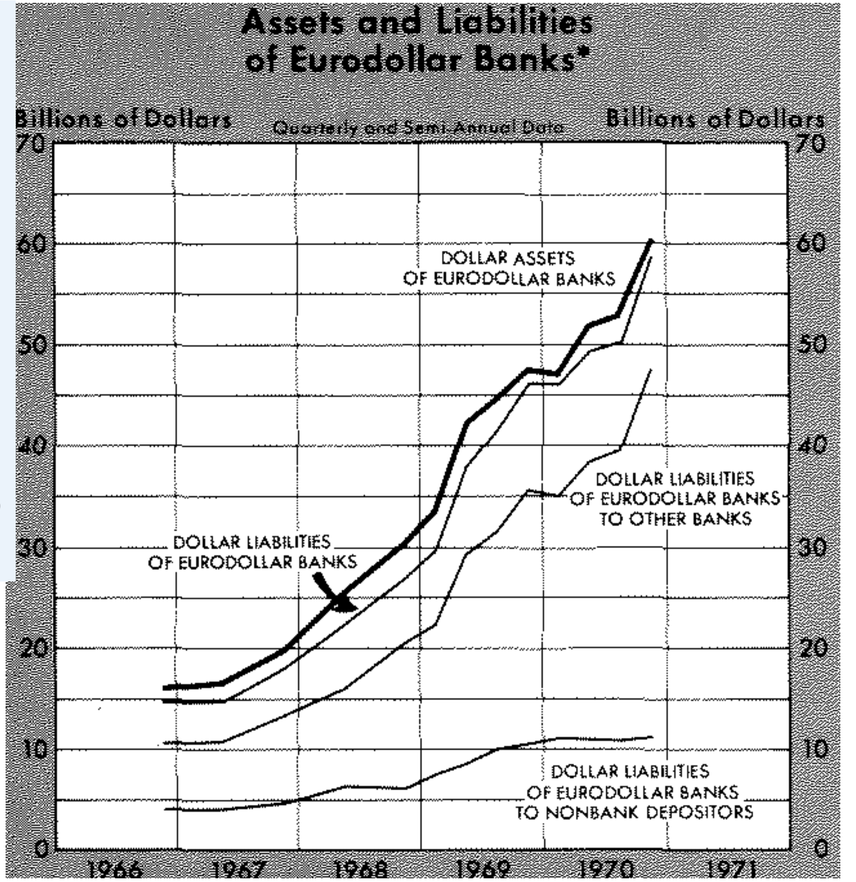
US: FDIC data on call reports, histogram at two dates

Source: Reis (2023)

OFFSHORE MARKETS

The elasticity is endogenous

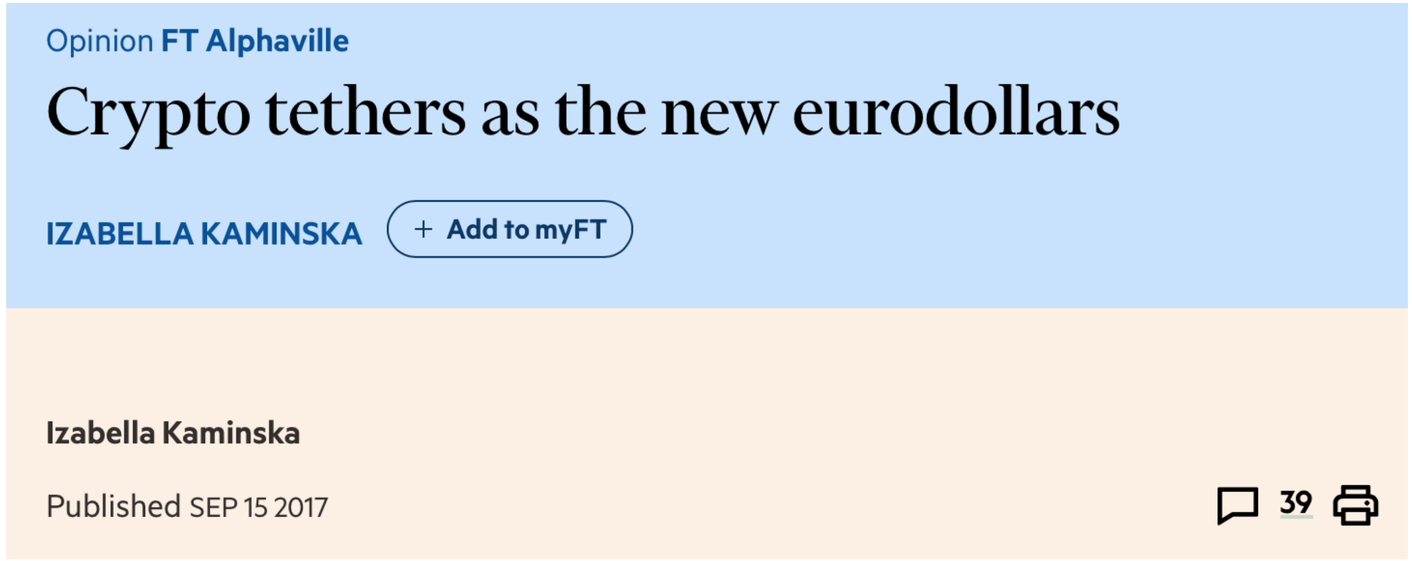




The Euro-dollar market arose as a result of financial repression. Legalized and tolerated "black market" Reflects the pressure put on the system

Source: FRED, Friedman (1971)

The elasticity is endogenous



Opinion **FT Alphaville**

Crypto tethers as the new eurodollars

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39

Stablecoins as the new eurodollars?

Like them small today, but could grow quickly, as a means to avoid financial repression.

But they involved the very best banks to reduce counterparts risk and offset absence of a lender of last resort

Source: Economist

CONCLUSION

Conclusions

- **Reasons to expect a return to financial repression:**
  - Large government debt
  - Retreat from globalization
  - Capital controls and macro prudential policies in the integrated policy framework
  - Debt revenue and exorbitant privilege are disappearing: financial repression is a direct way to try to bring them back.
- **Historical experience of small open economies: can do domestic financial repression but at a loss that is at least as large as that of taxation**
- **On domestic: liquidity lines, offshore currency peg, infra-marginal required reserves**
- **US attempts at international repression: elasticities will rise quickly**