Sanctions and Financial Repression in the Currency Market

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Big Open Question

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2. "Financial Fortress Russia"
   - significant fiscal and trade surpluses
   - large and diversified FX reserves
   - little dollarization of the domestic financial market
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Under (2), and in the absence of Russian policy blunders, there was no combination of sanctions that could have inflicted crisis

Motivation

Tariffs, trade wars, and financial sanctions have become common features of the world economy

Governments increasingly consider deviating from the neoclassical Washington Consensus by using:

- FX interventions
- Capital controls
- Financial repression

Key questions:

- What policies constitute financial repression?
- How do they propagate in the macroeconomy?
- What is their case use in response to shocks?

Financial Repression: in Theory

Narrow view (McKinnon–Shaw)

- Force domestic creditors (esp. banks) hold government debt
- Tools: interest rate ceilings, reserve requirements, bank regulation, state influence
- Goals: reduce sovereign funding costs, increase fiscal capacity

e.g., Giovannini and de Melo '93, Reinhart and Sbrancia '15, Reis '25

Expanded view

- Domestic financial markets beyond government debt
- Policies affecting consumption–savings, current account, FX
- Related to: capital controls, FXI, currency controls

e.g., Obstfeld, Shambaugh, and Taylor '10, Magud, Reinhart, and Rogoff '18, Schmitt-Grohé and Uribe '24

Financial Repression: in Practice

Advanced economies

- Post-WWII US: Regulation Q, negative real rates
- Europe (2010–12): home bias in bank sovereign debt holdings
- Japan: indirect repression of savers, government pension fund
  Chien, Cole, and Lustig '25

Emerging markets

- China: interest caps, capital controls, captive h/h savings, repressed exchange rate
- Brazil (post-2009): taxes on inflows, FX market segmentation
- Turkey (2021–22): "liraization", FX market segmentation
- Russia (2022–25): full range of policy tools

Analytical Framework

We study an open economy facing trade and financial shocks interpreted as sanctions or tariffs. Key features:

- Sticky domestic prices
- Segmented currency markets
- Households derive utility from holding foreign currency

Policy instruments:

- Monetary policy
- Fiscal policy
- FX interventions
- Financial repression (interest-rate wedge on FX deposits)

Model

Households

$$\max \quad \mathbb{E} \sum_{t=0}^{\infty} \beta^t \left[u(C_{Ht}, C_{Ft}) + v\left(\frac{B^*_{t+1}}{P^*_{t+1}}; \Psi_t \right) \right]$$

$$\text{s.t.} \quad P_t C_{Ht} + \mathcal{E}_t P^*_t C_{Ft} + \frac{\mathcal{E}_t B^*_{t+1}}{R^*_{Ht}} + \frac{B_{t+1}}{R_t} \leq W_t + \mathcal{E}_t B^*_t + B_t$$

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Government, Firms and Financial sector

$$\underbrace{\mathcal{E}_t\left(\frac{F^*_{t+1}}{R^*_t}-F^*_t\right)}_{\Delta\text{NFA}}-\underbrace{\mathcal{E}_t\left(\frac{B^*_{t+1}}{R^*_{Ht}}-B^*_t\right)}_{\Delta\text{FX-deposits}}-\underbrace{\left(\frac{B_{t+1}}{R_t}-B_t\right)}_{\Delta\text{LC-debt}}=\underbrace{\mathcal{E}_tQ^*_tY^*_t+P_tY_t-W_t}_{\text{primary surplus}}$$

— official FX reserves: $A^*_t\equiv F^*_t-B^*_t$

— segmented currency markets: $R^*_{Ht}\geq R^*_t$

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Market clearing: $C_{Ht}=Y_t$

Equilibrium Conditions

Import demand:

$$C_{Ft} = \frac{\gamma}{1-\gamma}\left(\frac{\mathcal{E}_t P_t^*}{P_t}\right)^{-\theta} Y_t$$

Country budget constraint (with $A^* = F^* - B^*$):

$$\frac{F_{t+1}^*}{R_t^*} - F_t^* = Q_t^* Y_t^* - P_t^* C_{Ft}$$

Demand for FX (Euler equation with $R_{Ht}^* \leq R_t^*$):

$$\beta R_{Ht}^* \mathbb{E}_t \left\{ \frac{P_t^*}{P_{t+1}^*} \left[\underbrace{\left(\frac{C_{Ft}}{C_{Ft+1}}\right)^{\frac{1}{\theta}}}_{\text{imports}} + \bar{\kappa} C_{Ft}^{\frac{1}{\theta}} \underbrace{\left(\Psi_t - \frac{B_{t+1}^*}{P_{t+1}^*}\right)}_{\text{savings}} \right] \right\} = 1$$

.

Implementability

Lemma Any allocation satisfying the budget constraint and import demand can be implemented with an appropriate path of R_H^*.

Proposition There exists financial repression tax, $R_{Ht}^* < R_t^*$, which leaves the path of the exchange rate and imports unchanged in response to a financial shock Ψ_t, at a cost of welfare loss.

- repression shifts in the FX savings demand schedule
- but, suppresses welfare (utility loss from distorted FX savings)

Optimal Policy

Proposition (First Best) The government can achieve the first-best allocation using:

1. **Monetary policy**: target price stability
2. **FX interventions**: accommodate FX savings shocks (Ψ_t)
3. **No financial repression**: $R_H^* = R^*$.

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Proposition (Second Best) When FXI unavailable, the first best is infeasible, yet the use of financial repression is welfare-reducing.

- limited ability to create synthetic FX
- equilibrium exchange rate internalizes competing uses of FX

Heterogeneous Agents and Redistribution

Two types of households:

- hand-to-mouth: consume out of non-tradable income, share α
- Ricardian households: save in FX

Proposition Under CD, aggregate dynamics does *not* depend on α. Financial repression redistributes from Ricardian to HtM.

- Less FX saving $\rightarrow$ more FX available for imports
- HtM face lower import prices. Potentially welfare-improving

Fiscal Revenues: Seigniorage

Long-run equilibrium:

$$\bar{C}_F = \frac{(1-\beta)\bar{F}^* + \bar{Q}^*\bar{Y}^*}{\bar{P}^*} \quad \text{and} \quad \frac{\mathcal{E}}{P} = \bar{P}^* \left(\frac{\gamma}{1-\gamma} \frac{\bar{Y}}{\bar{C}_F} \right)^{1/\theta}$$

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Government seigniorage revenues from supplying FX:

$$\max \left(1 - \frac{1}{R_H^*}\right) B^* \quad \text{s.t.} \quad \beta R_H^* \left[1 + \bar{\kappa} \bar{C}_F^{\frac{1}{\theta}} \left(\bar{\Psi} - \frac{B^*}{\bar{P}^*}\right)\right] = 1$$

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Proposition Seigniorage-maximizing financial repression:

$$R_H^* = \frac{2}{1 + \beta + \beta\kappa \bar{C}_F^{1/\theta} \bar{\Psi}} < \frac{1}{\beta} = R^*$$

- optimal repression increasing in $\bar{\Psi} > 0$ (sanctions)
- distortion away from Friedman rule, $R_H^* = R^*$

Short-Run Exchange Rate Management

Primary surplus and Consumer price inflation:

$$d \log TR_t = p_t + y_t + \chi\big[(e_t - p_t) + (q_t^* + y_t^* - y_t)\big],$$
$$d \log CPI_t = p_t + \gamma\big[(e_t - p_t) + p_t^*\big],$$

Average real exchange rate $e_t - p_t$ determined by budget constraint

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Proposition Financial repression alters dynamic (short-run) path of RER, and hence of fiscal revenues and CPI, without changing their long-run average.

In particular, relaxing financial repression ($R_H^* \uparrow$):

- depreciates real exchange rate
- raises short-run fiscal revenues in local currency
- increases CPI inflation

Debt Overhang and Financial Repression

Economy with dollarized balance sheets:

$$Y_t = Y\left(\frac{D_t + \mathcal{E}_t D_t^*}{P_t}\right), \quad Y'(\cdot) < 0$$

Sanctions that depreciate the real exchange rate ($\mathcal{E}_t/P_t \uparrow$) raise the real burden of FX debt and depress output

Financial Repression can temporarily lean against depreciation, easing debt overhang and limiting deposit runs

Case Study: Russia 2022–2024

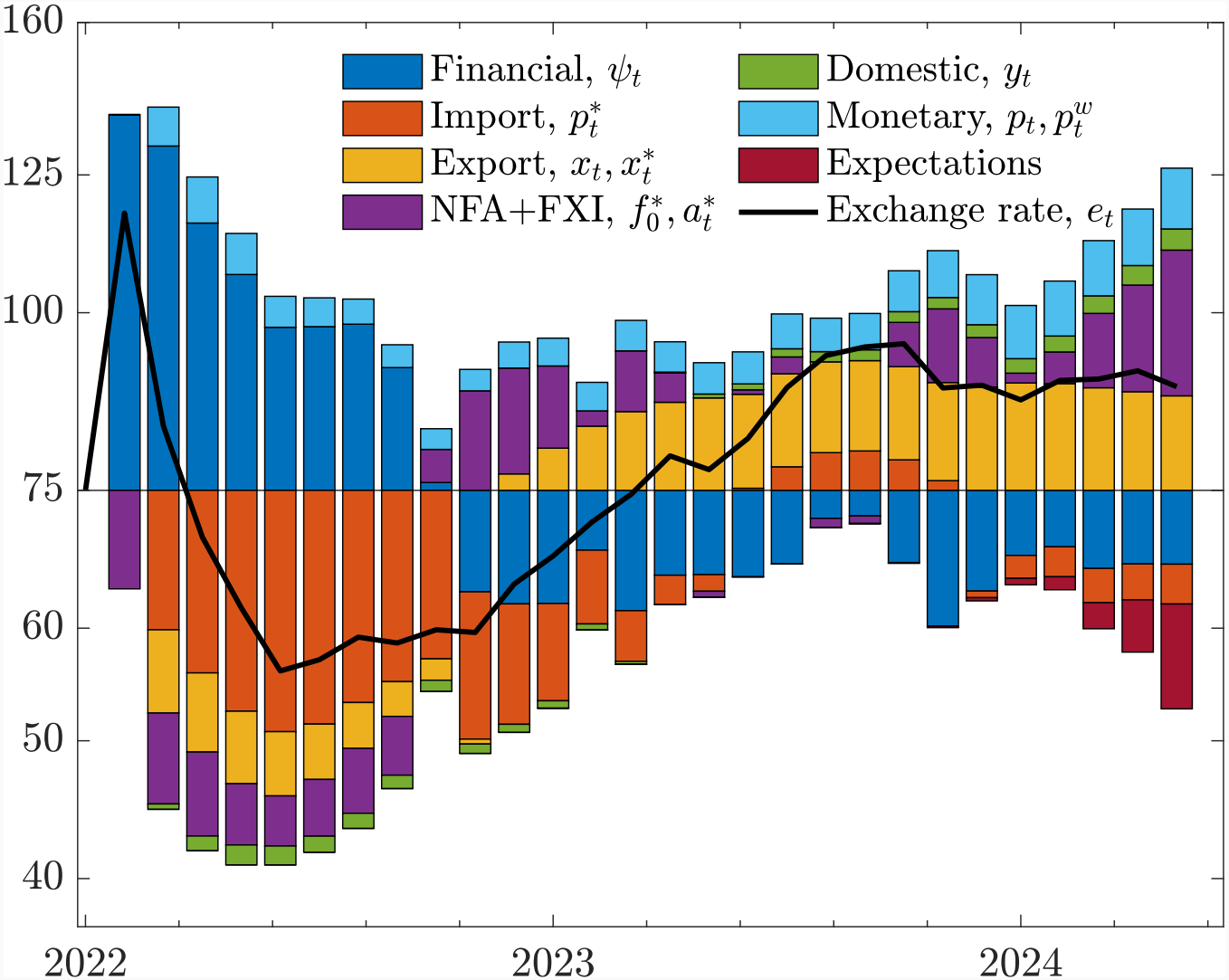


Figure Exchange rate dynamics: contribution of shocks & policies

Timeline of Financial Repression

Feb 22–April, 2022: Initial Shock & Emergency Response

- Financial sanctions, capital outflows, bank run on ruble deposits
- Feb 28: CBR hikes rate from 9.5% to 20%, strict capital controls
- Mandatory sale of export FX revenues, freeze on FX withdrawals
- March 4: 12% tax on FX purchases, controls on asset expatriation

May–end 2022: Rollback Phase

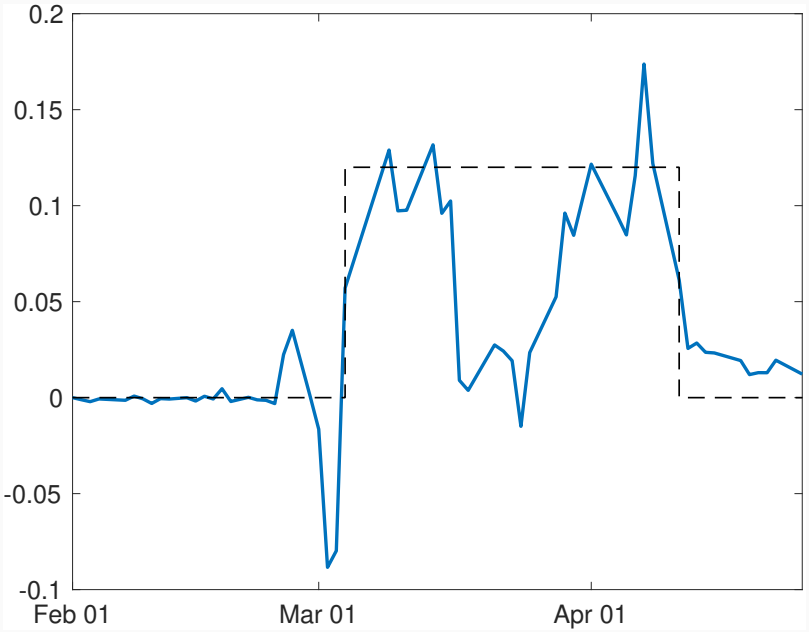
- Strong trade surplus and ruble appreciation eliminate FX scarcity
- CBR removes most repression measures by mid-May; cuts rates
- Rebuilding of FX reserves starting late 2022

2023–2024: Renewed Pressures

- Import recover + exports decline $\rightarrow$ persistent ruble depreciation
- Rising military spending $\rightarrow$ demand-driven inflation
- Return to financial repression to stabilize the exchange rate

Illustration: a 12% currency purchase tax

(a) Relative exchange rate



(b) Relative FX turnover

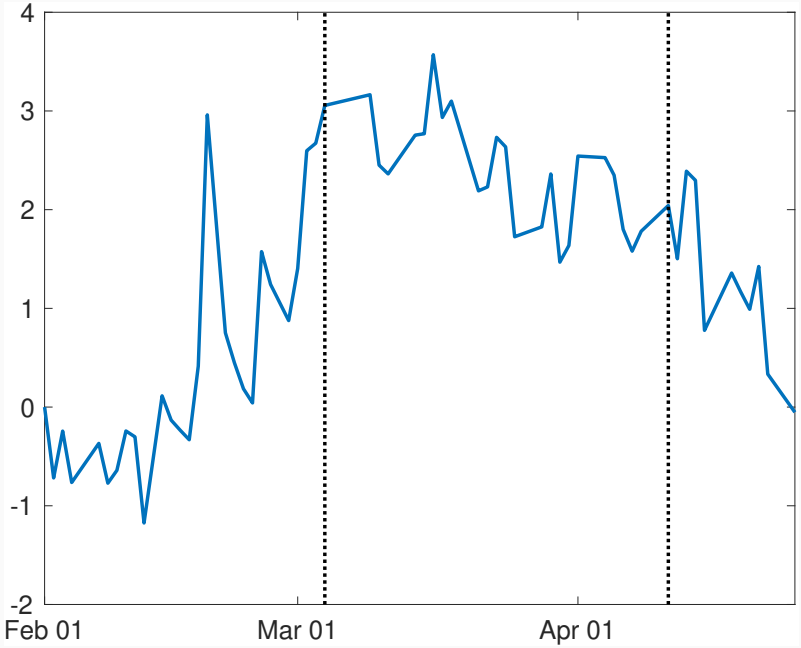


Figure Swiss franc vs US dollar in the Russian currency market

Conclusion

Optimal policy in normal times avoids financial repression

Financial repression is:

- effective at managing exchange rate pressures
- suboptimal for aggregate welfare
- useful for redistribution between savers and consumers
- a (distortionary) source of fiscal seigniorage under sanctions
- useful at temporarily alleviating inflationary or fiscal pressures

Played an important role to mitigate financial crisis under sanctions