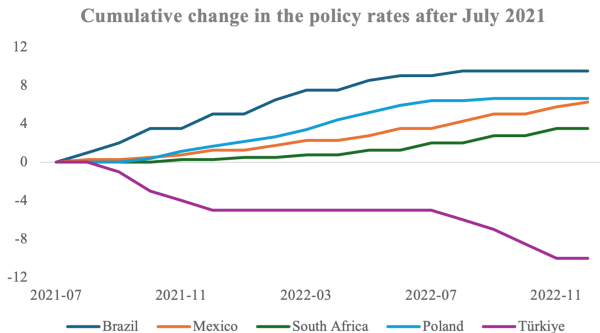


# Türkiye's Homemade Crises

Hakan Kara (Bilkent University)    Alp Simsek (Yale SOM)  
9th Annual Macprudential Conference  
DNB-Riksbank-Bundesbank-CBI

June 2025

# Türkiye's Great Policy Experiment 2021-2023



- Türkiye cut rates and used reserves, fin engineering and repression
- Centerpiece: FX-protected deposits (KKM)—depreciation insurance
- Outcome: Forced return to orthodoxy with amplified adjustment costs

# The questions

How did we get here?

Mechanisms:

- How did low policy rates create macroeconomic instabilities?
- What trade-offs did unorthodox policies such as KKM generate?

Broader lessons for countries facing similar pressures for low rates?

# We establish a destabilizing policy sequence

- **Low interest rates:** Inflation, CA deficits, depreciation
- **FX interventions:** Reserve depletion and vulnerability to sudden stop
- **KKM**
  - **Partial solution:** Raises rates on savers but not on borrowers
  - **Dangerous:** Vulnerability to twin currency & sovereign debt crisis
- **Financial repression and return to orthodoxy**

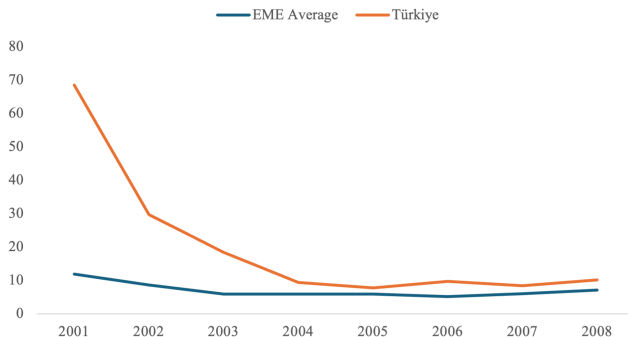
## Key Insight

*Each policy created new vulnerabilities, ultimately forcing more painful adjustment than orthodox policy would have initially required*

- 1 How we got here: Road to Türkiye's Great Policy Experiment
- 2 Mechanisms: A model of low interest rates, KKM, and crises
- 3 Broader lessons

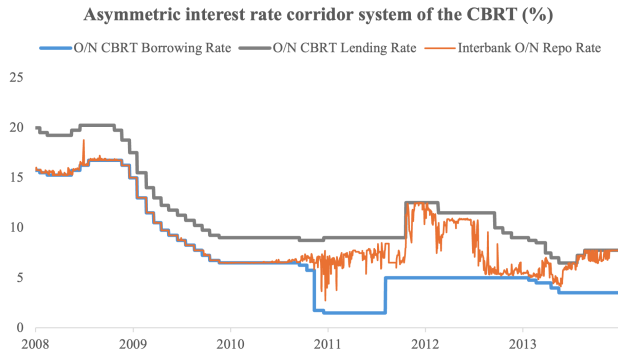
# 2001-2008: An orthodox success story

Inflation in Türkiye and Emerging Markets (% , end-year)



- Post-2001 crisis reforms: CB independence, banking regulation...
- Political change: AK Party came to power in November 2002
- Inflation fell from 70% to single digits along with high growth

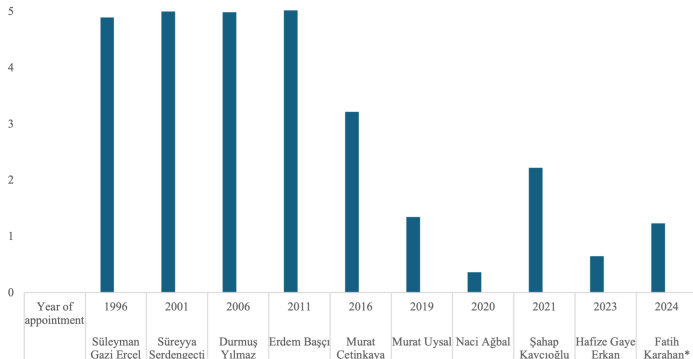
# 2008-2013: Tensions grew & policy innovations began



- Interest rate corridor and macroprudential tools were introduced to mitigate pressure for low rates and to address fickle capital flows
- Initially successful, but set a precedent for “technical” solutions

# 2014-2020: Eroding Central Bank independence

Term of office length of Türkiye Central Bank Governors (years)



- Political pressure intensified. Multiple CB governor were dismissed

# Pandemic: Low rates and increasingly unorthodox policies

- Pandemic: Low rates and heavy FX interventions depleted reserves
- Sudden stop concerns lead to a return to orthodoxy, but short lived

**Bloomberg**

**What you need to know:** [Turkey's War Against the Markets](#)

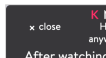
Economics

## Erdogan Ousts Central-Bank Head, Installs Interest-Rate Ally

By [Srinivasan Sivabalan](#) +Follow

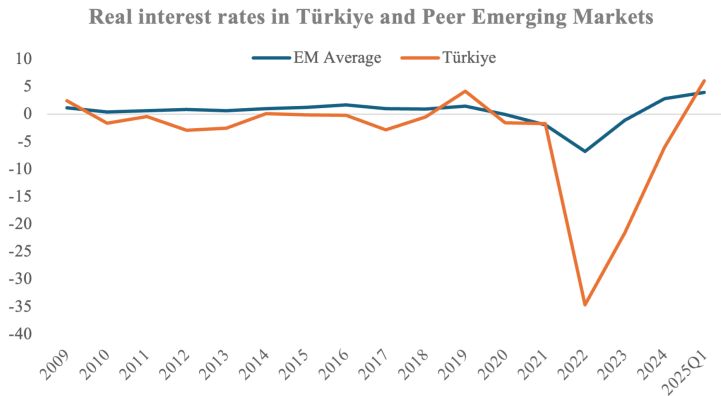
March 19, 2021, 7:17 PM EDT *Updated on March 20, 2021, 8:54 AM EDT*

- ▶ Naci Agbal replaced in late-night decree after raising rates
- ▶ New governor is banking professor, pro-government columnist



# Late 2021: Great Policy Experiment started

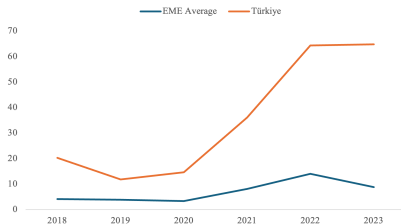
- **September 2021:** Despite 19% inflation, CB began cutting rates



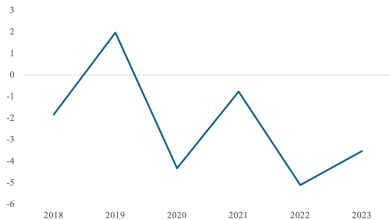
# Inflation and current account deficits increased

- The **Dream** was “Türkiye Ekonomi Modeli”: Low rates → export competitiveness → CA balance → currency stability → lower inflation
- The **Reality** was predictably the opposite:

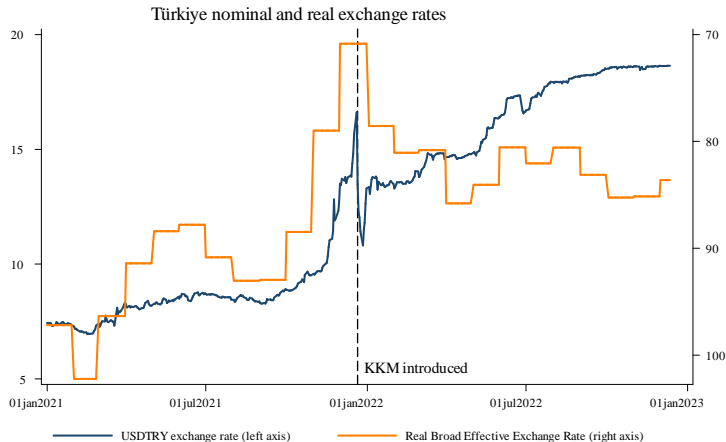
Inflation in Türkiye and Emerging Markets (% end-year)



Current account balance in Türkiye (% of GDP)



# Currency depreciated & KKM entered at the end 2021

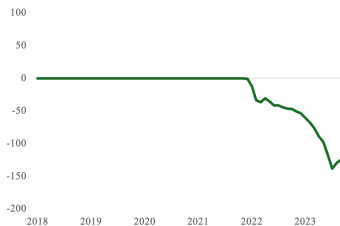


KKM partly stabilized the exchange rate but created other vulnerabilities

# KKM raised FX liquidity needs and sovereign risks

- KKM take-up gradually increased and raised FX liquidity needs

FX Protected Deposits (KKM, billion USD)

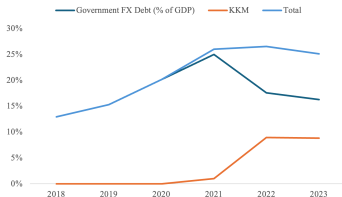


CBRT FX position including KKM (billion USD)



- KKM also raised government's FX debt and CDS increased

Central Government FX Debt + KKM (% of GDP)



Türkiye and Emerging Markets 5 year CDS



# Mid 2023: The reckoning and the return to orthodoxy

Fast growth, but with 85% inflation and weak exchange rates

- Growth was unequal: inflation eroded real wages & reduced ▶ labor share
- Financial repression & uncertainty arguably reduced potential output

Two critical vulnerabilities made the system unsustainable

- CA deficits and rising FX liquidity needs—sudden stop risk
- Rising government FX exposures—sovereign crisis risk

Return to orthodoxy in mid 2023 after the presidential elections

# Aftermath: The experiment proved very costly

New economic team launched disinflation program by early 2024

Disinflation has been slow due to the experiment's legacies

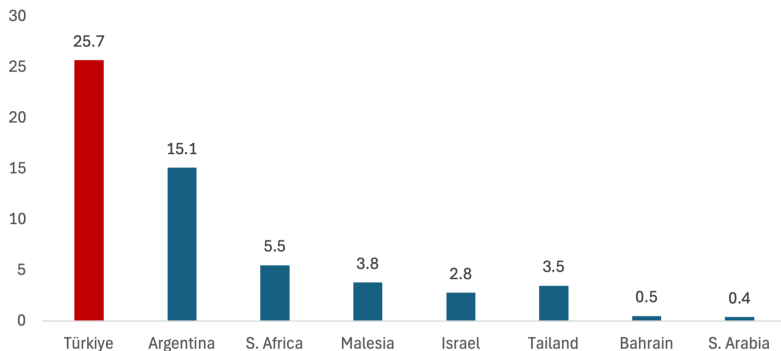
- Entrenched inflation and extensive dollarization
- Eroded credibility of the central bank and policy more generally

Mid 2025 outlook:

- Policy rate is above 45%
- Inflation is around 35%, expectations are unanchored
- Economy is slowing significantly
- Despite paying historically high interest to carry traders...

# Aftermath: Disinflation required high real rates for long

"Carry" Returns in 2024 against USD



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# Consider model to clarify mechanisms and evaluate KKM

We develop open economy NK model to clarify mechanisms and understand why this approach was inherently unstable

Build upon Bianchi and Lorenzoni (2021). Key new features:

- **Politically-constrained rates** below inflation-targeting levels
- **FX protection schemes (KKM)**
- **Borrowing sector**—to evaluate effects and costs of KKM

## Domestic equilibrium:

- Output (of nontradeables) is determined by aggregate demand

$$y_t = \text{Households } (c_t) + \text{Borrowers}$$

- Household are standard except link between  $y_t$  & tradeables demand
- Inflation  $\pi_t$  (of nontradeables) is determined by NK Phillips Curve

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## External equilibrium:

- Nominal exchange rate  $\mathcal{E}_t$  (price of dollar) and real exchange rate  $e_t$
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Monetary policy sets  $\{i_t\}$  and along with the path of reserves

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Monetary policy sets  $\{i_t\}$  and along with the path of reserves

**Inflation targeting (normal):** Stability  $i^n = i^*$  and  $(c^n, y^n, \pi^n = 0, e^n)$

► Details

Normal regime  $i^n = i^*$

Transition with  
probability  $1 - \chi$

**Unorthodox regime: Policy rate  $i^u < i^*$**

Domestic overheating:  $c^u > c^n, y^u > y^n, \pi^u > 0$

External overheating:  $B_{t+1} = \bar{B}^*, e^u > e^n$

# Unorthodox regime with low interest rates

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Transition with  
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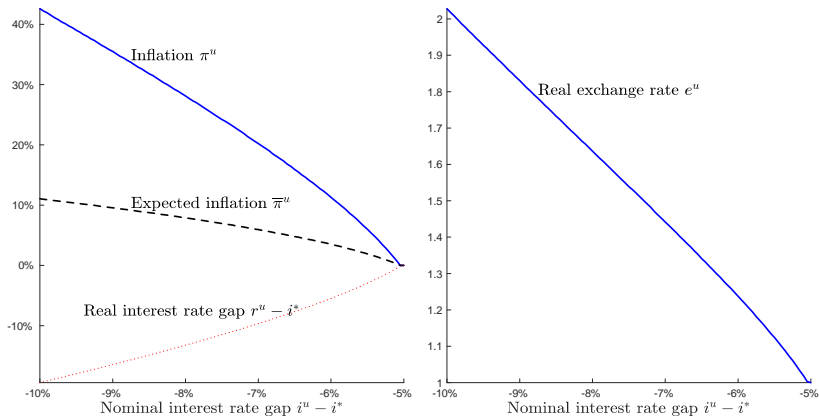
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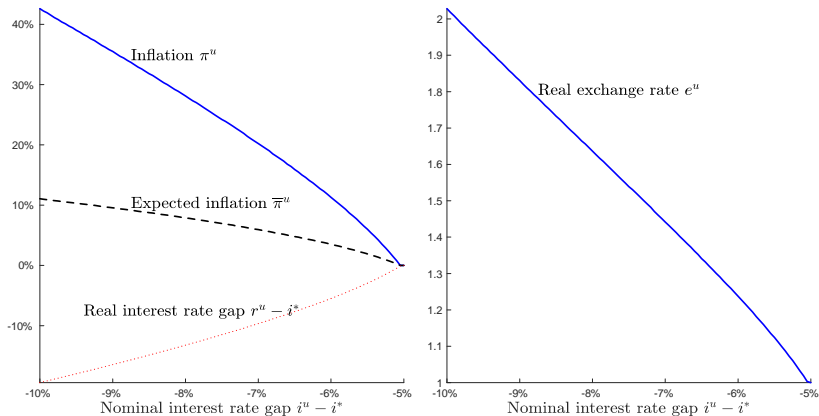
**Result:** Low rates create a **reinforcing overheating cycle**

- Households and Borrowers both increase their spending
- Tradeables demand rise: Higher CA deficits & weaker currency
- Vicious cycle: Low rates  $\implies$  inflation & weak FX  $\implies$  lower real rates

# Low rates create overheating and depreciation



# Low rates create overheating and depreciation



FX interventions appreciate currency temporarily but expose to sudden stops similar to Dec 2021. [▶ Details](#) Necessitate stronger solution: KKM

# FX protected deposits (KKM)

- KKM pays higher of lira rate and the increase in dollar exchange rate

$$1 + i_{t,t+1}^{kkm} = \max(1 + i^u, \mathcal{E}_{t+1}/\mathcal{E}_t)$$

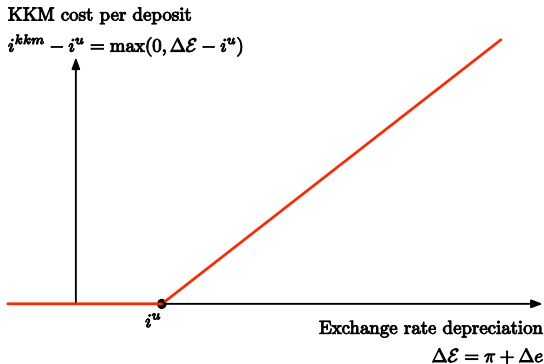
- Offered by intermediaries that borrow at  $i_{t,t+1}^{kkm}$  and lend at  $i^u$

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- Offered by intermediaries that borrow at  $i_{t,t+1}^{kkm}$  and lend at  $i^u$
- Government pays the difference: provides a free call option



# KKM provides partial relief at expense of rising fiscal costs

Normal regime  $i^n = i^*$

Unorthodox regime with KKM:

$$1 + i^{kkm} = \begin{cases} 1 + \pi^k > 1 + i^u & \text{if } s_{t+1} = u \\ 1 + i^u & \text{if } s_{t+1} = n \end{cases}$$

Less overheating:  $c^k \in (c^n, c^u)$ ,  $\pi^k \in (\pi^n, \pi^u)$ ,  $e^k \in (e^n, e^u)$

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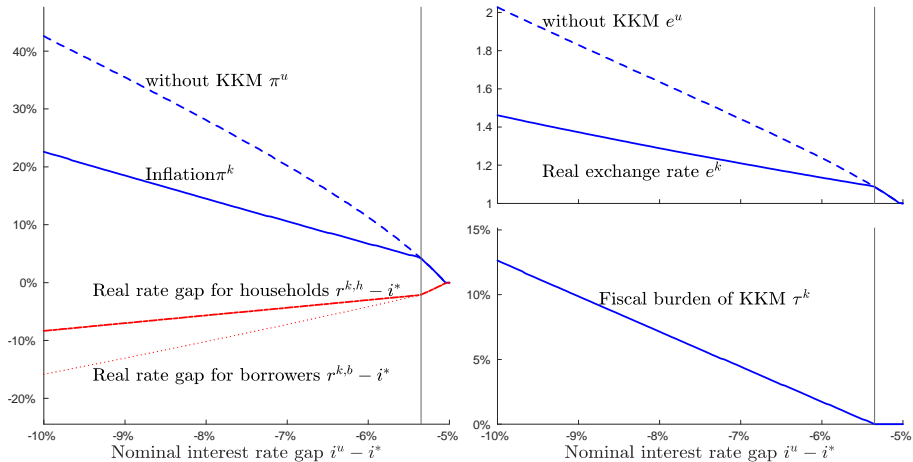
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**Result:** KKM provides **partial stabilization** at a **fiscal cost**

- Rate hike for savers **but not for borrowers**—still borrow at  $1 + i^u$
- Fiscal burden  $\tau^k$  increases with inflation and with lira debt supply

# KKM provides partial relief by raising fiscal costs



# KKM creates vulnerability to twin currency & debt crisis

- Suppose government defaults if fiscal burden exceeds limit  $\tau_t > \bar{\tau}$
- If there is default on KKM, revert to unorthodox regime without KKM
- Suppose at  $t - 1$  crisis is not anticipated. Then fiscal burden at  $t$

$$\tau(e, \pi) = \underbrace{\left( (1 + \pi) \frac{e}{e^k} - (1 + i^u) \right)}_{\text{KKM costs rise in realized } e \text{ and } \pi} \times \text{Lira debt supply}$$

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**Result:** KKM can induce twin currency and sovereign debt crisis

- 1 A “stable” equilibrium in which  $e = e^k, \pi = \pi^k$  and  $\tau = \tau^k < \bar{\tau}$
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Households withdraw from KKM  $\implies$  Currency depreciates  $\implies$

Fiscal burden rises  $\implies$  Default on KKM  $\implies$  Justifies withdrawals ▶ Example

# Fear of a crisis explains policies and return to orthodoxy

Crisis is extreme but **anticipation/fear** of crisis is relevant for Türkiye

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**Depositors' anticipation of crisis** weakens KKM effectiveness

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**Depositors' anticipation of crisis** weakens KKM effectiveness

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**Policymakers' fear of a crisis** explains various policy actions

- **Debt monetization** does **not** work: KKM creates **FX liabilities**
- **Financial repression** can prevent crisis at cost of large distortions
- **Return to orthodox monetary policy** is arguably the best remedy

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# Broader lessons from Türkiye's experiment

- 1 Central Bank **instrument independence** is critical  
Innovative tools to accommodate preference for low rates backfire:  
Türkiye: Entrenched inflation, dollarization, loss of CB credibility

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- 3 **Macroprudential policy** should **complement** monetary policy  
Restricting credit and capital flows cannot substitute for rate hikes

Financial ingenuity cannot substitute for proper monetary policy

# Low-rate policies hurt workers and raised inequality



# Model ingredients: Domestic equilibrium

- Output (of nontradeables) is determined by aggregate demand

$$y_t = \underbrace{c_t}_{\text{households}} + \underbrace{\frac{b(1 + \bar{\pi}_{t,t+1})}{1 + i_t} - \frac{b(1 + \bar{\pi}_{t-1,t})}{1 + \pi_t}}_{\text{borrowers respond to real rate \& inflation surprise}}$$

- Household preferences: output raises tradeables demand

$$U_t = \log c_t + \phi(y_t) \log c_{T,t} + \beta E_t [U_{t+1}]$$

- Inflation (of nontradeables) is determined by the NKPC

$$\pi_t = \kappa(y_t - y^n) + \beta E_t [\pi_{t+1}]$$

# Exchange rate and the external equilibrium

- Nominal exchange rate  $\mathcal{E}_t$  (dollar price) and the real exchange rate

$$e_t = \mathcal{E}_t / P_t = \phi(y_t) \frac{c_t}{c_{T,t}}$$

- Households can borrow in dollars at global rate up to a limit

$$1 + i_t^* = \begin{cases} 1 + i^* \equiv 1/\beta & \text{if } B_{t+1}^* \leq \bar{B}^* \\ \infty & \text{otherwise} \end{cases}$$

- CB reserves  $A_t^*$  reduce household debt. Balance of payment:

$$c_{T,t} + \underbrace{B_t^* - A_t^*}_{\text{dollar debt net of reserves}} = y_T + \frac{B_{t+1}^* - A_{t+1}^*}{1 + i^*}$$

- CB sets  $\{i_t\}$  and chooses reserves  $\{A_{t+1}^*\}$  s.t.  $F_t^* + \frac{A_{t+1}^*}{1+i^*} = A_t^*$

# Inflation targeting benchmark: Stability

Inflation targeting stabilizes the domestic outcomes

$$\pi_t = 0$$

$$y_t = y^n$$

$$i^n = i^*$$

$$c^n = y^n + (1 - \beta)b$$

With passive reserves policy  $A_t^* = A_0^*$ , also stabilizes external outcomes

$$B_t^* = B_0^*$$

$$c_T^n = y_T - (1 - \beta)(B_0^* - A_0^*)$$

$$e^n = \phi(y^n) \frac{c^n}{c_T^n}$$



# Depleting FX reserves exposes to sudden stops

- FX interventions can appreciate currency temporarily but cannot address the persistent depreciation pressures due to low rates
- Depletion of FX reserves  $A_0^*$  creates vulnerability to sudden stops

**Sudden stop:** Surprise tightening  $\bar{B}^{*,s} < \bar{B}^*$  depreciates currency

$$e_0^{u,s} = \phi(y^u) \frac{c^u}{y_T + A_0^* - \bar{B}^* + \beta \bar{B}^{*,s}} > e^u$$

Reminiscent of December 2021. Necessitated stronger solution: KKM



# KKM creates vulnerability to twin currency & debt crisis

