Discussion of

Openness, Integration, and the International Monetary Order

by Tarek A. Hassan, Thomas M. Mertens, Jingye Wang and Tony Zhang

Dmitry Mukhin
LSE

2nd PEGI Conference: Globalisation and Fiscal Populism
June 20, 2026

Hassan et al. Tetralogy

1. **Hassan (JoF'2013)**

   — large size of the US explains its low currency risk premium

2. **Hassan, Mertens, Zhang (RES'2023)**

   — small countries optimally peg to USD

3. **Hassan, Mertens, Wang, Zhang (BREA'2025)**

   — US tariffs undermine its exorbitant privilege and its anchor status

Hassan et al. Tetralogy

1. **Hassan (JoF'2013)**

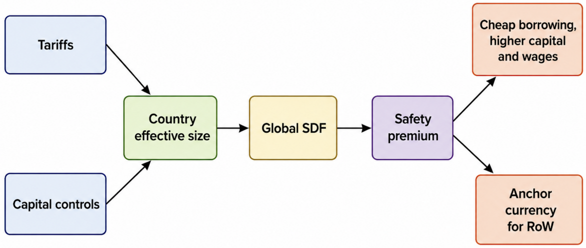
   — large size of the US explains its low currency risk premium

2. **Hassan, Mertens, Zhang (RES'2023)**

   — small countries optimally peg to USD

3. **Hassan, Mertens, Wang, Zhang (BREA'2025)**

   — US tariffs undermine its exorbitant privilege and its anchor status



Hassan et al. Tetralogy

1. **Hassan (JoF'2013)**
   — large size of the US explains its low currency risk premium
2. **Hassan, Mertens, Zhang (RES'2023)**
   — small countries optimally peg to USD
3. **Hassan, Mertens, Wang, Zhang (BREA'2025)**
   — US tariffs undermine its exorbitant privilege and its anchor status
4. **This paper**: **How to promote the status of the euro?**
   — remain open to third countries
   — integration within EU rather than just euro-adoption
   — tariffs and capital controls undermine USD and RMB

Hassan et al. Tetralogy

1. **Hassan (JoF'2013)**

   — large size of the US explains its low currency risk premium

2. **Hassan, Mertens, Zhang (RES'2023)**

   — small countries optimally peg to USD

3. **Hassan, Mertens, Wang, Zhang (BREA'2025)**

   — US tariffs undermine its exorbitant privilege and its anchor status

4. **This paper**: **How to promote the status of the euro?**

   — remain open to third countries

   — integration within EU rather than just euro-adoption

   — tariffs and capital controls undermine USD and RMB

$\Rightarrow$ lowers rate by 0.1%, economizes €100bn, increases capital and wages

1. TARIFFS, CAPITAL CONTROLS AND GLOBAL SDF

Simplified Model with T and N

- Two endowment economies, T and N, complete markets, preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \quad \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

Simplified Model with T and N

- Two endowment economies, T and N, complete markets, preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \quad \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

- Global planner's problem:

$$\max_{C_T, C_T^*} \quad \theta u(Y_N, C_T) + (1-\theta) u(Y_N^*, C_T^*)$$
$$\text{s.t.} \quad \theta C_T + (1-\theta) C_T^* = \bar{Y}_T$$

Simplified Model with T and N

- Two endowment economies, T and N, complete markets, preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \quad \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

- Global planner's problem:

$$\max_{C_T, C_T^*} \quad \theta u(Y_N, C_T) + (1-\theta) u(Y_N^*, C_T^*)$$

$$\text{s.t.} \quad \theta C_T + (1-\theta) C_T^* = \bar{Y}_T \qquad \Rightarrow \quad u_T = u_T^*$$

Simplified Model with T and N

- Two endowment economies, T and N, complete markets, preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \quad \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

- Global planner's problem:

$$\max_{C_T, C_T^*} \quad \theta u(Y_N, C_T) + (1-\theta) u(Y_N^*, C_T^*)$$
$$\text{s.t.} \quad \theta C_T + (1-\theta) C_T^* = \bar{Y}_T \qquad \Rightarrow \quad u_T = u_T^*$$

- SDF and RER given $\alpha \equiv \frac{(\gamma-1)(1-\tau)}{1+(\gamma-1)\tau} > 0$:

$$\boxed{u_T = \tau \left[\frac{\bar{Y}_T}{\theta Y_N^{-\alpha} + (1-\theta) Y_N^{*-\alpha}} \right]^{-\frac{\gamma}{1+\alpha}}, \qquad \mathcal{Q} \equiv \frac{P_N^*}{P_N} = \left(\frac{Y_N}{Y_N^*} \right)^{1+\alpha}}$$

Simplified Model with T and N

- Two endowment economies, T and N, complete markets, preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \quad \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

- Global planner's problem:

$$\max_{C_T, C_T^*} \quad \theta u(Y_N, C_T) + (1-\theta) u(Y_N^*, C_T^*)$$
$$\text{s.t.} \quad \theta C_T + (1-\theta) C_T^* = \bar{Y}_T \qquad \Rightarrow \quad u_T = u_T^*$$

- SDF and RER given $\alpha \equiv \frac{(\gamma-1)(1-\tau)}{1+(\gamma-1)\tau} > 0$:

$$\boxed{u_T = \tau \left[\frac{\bar{Y}_T}{\theta Y_N^{-\alpha} + (1-\theta) Y_N^{*-\alpha}} \right]^{-\frac{\gamma}{1+\alpha}}, \qquad \mathcal{Q} \equiv \frac{P_N^*}{P_N} = \left(\frac{Y_N}{Y_N^*} \right)^{1+\alpha}}$$

i) $Y_N \downarrow \;\Rightarrow\; u_T \uparrow, \mathcal{Q} \downarrow \;\Rightarrow\;$ home asset is **safe**

ii) $Y_N^* \downarrow \;\Rightarrow\; u_T \uparrow, \mathcal{Q} \uparrow \;\Rightarrow\;$ home asset is **risky**

iii) $\bar{Y}_T \downarrow \;\Rightarrow\; u_T \uparrow, \mathcal{Q} \equiv \;\Rightarrow\;$ home asset is **neutral**

Simplified Model with T and N

- Two endowment economies, T and N, complete markets, preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \quad \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

- Global planner's problem:

$$\max_{C_T, C_T^*} \quad \theta u(Y_N, C_T) + (1-\theta) u(Y_N^*, C_T^*)$$
$$\text{s.t.} \quad \theta C_T + (1-\theta) C_T^* = \bar{Y}_T \qquad \Rightarrow \quad u_T = u_T^*$$

- SDF and RER given $\alpha \equiv \frac{(\gamma-1)(1-\tau)}{1+(\gamma-1)\tau} > 0$:

$$\boxed{u_T = \tau \left[\frac{\bar{Y}_T}{\theta Y_N^{-\alpha} + (1-\theta) Y_N^{*-\alpha}} \right]^{-\frac{\gamma}{1+\alpha}}, \qquad \mathcal{Q} \equiv \frac{P_N^*}{P_N} = \left(\frac{Y_N}{Y_N^*} \right)^{1+\alpha}}$$

i) $Y_N \downarrow \;\Rightarrow\; u_T \uparrow, \mathcal{Q} \downarrow \;\Rightarrow$ home asset is **safe**

ii) $Y_N^* \downarrow \;\Rightarrow\; u_T \uparrow, \mathcal{Q} \uparrow \;\Rightarrow$ home asset is **risky**

iii) $\bar{Y}_T \downarrow \;\Rightarrow\; u_T \uparrow, \mathcal{Q} \equiv \;\Rightarrow$ home asset is **neutral**

- Tariffs, capital controls $\Rightarrow \theta \downarrow \Rightarrow$ tilts u_T towards Y_N^* shocks

Gali-Monacelli Version

- **Trade autarky $\neq$ Financial autarky**

- **Trade autarky $\neq$ Financial autarky**
- Model with H and F goods, flex prices, symmetric countries:

$$\gamma(c - c^*) = q$$

$$y - y^* = (1 - 2\tau)(c - c^*) + \frac{2\tau(1-\tau)}{1-2\tau} q$$

$$nx = q - (c - c^*)$$

Gali-Monacelli Version

- **Trade autarky $\neq$ Financial autarky**
- Model with H and F goods, flex prices, symmetric countries:

$$\gamma(c - c^*) = q$$
$$y - y^* = (1 - 2\tau)(c - c^*) + \frac{2\tau(1-\tau)}{1-2\tau} q$$
$$nx = q - (c - c^*)$$

- Solution with $\omega \equiv \frac{1}{2}\left[1 + \frac{1-2\tau}{(1-2\tau)^2 + 2\gamma\tau(1-\tau)}\right] > 1/2$:

$$q = \gamma(2\omega - 1)(y - y^*), \qquad c = \omega y + (1-\omega)y^*, \qquad c^* = (1-\omega)y + \omega y^*$$

- **Trade autarky $\neq$ Financial autarky**
- Model with H and F goods, flex prices, symmetric countries:

$$\gamma(c - c^*) = q$$
$$y - y^* = (1 - 2\tau)(c - c^*) + \frac{2\tau(1-\tau)}{1-2\tau} q$$
$$nx = q - (c - c^*)$$

- Solution with $\omega \equiv \frac{1}{2}\left[1 + \frac{1-2\tau}{(1-2\tau)^2 + 2\gamma\tau(1-\tau)}\right] > 1/2$:

$$q = \gamma(2\omega - 1)(y - y^*), \qquad c = \omega y + (1-\omega)y^*, \qquad c^* = (1-\omega)y + \omega y^*$$

  — $y \downarrow \quad \Rightarrow \quad u_c^* \uparrow,\ q \downarrow \quad \Rightarrow$ home asset is **safe**
  — $y^* \downarrow \quad \Rightarrow \quad u_c^* \uparrow,\ q \uparrow \quad \Rightarrow$ home asset is **risky**
  $\Rightarrow$ safe asset if $\sigma_y^2 \gg \sigma_{y^*}^2$

Gali-Monacelli Version

- **Trade autarky $\neq$ Financial autarky**
- Model with H and F goods, flex prices, symmetric countries:

$$\gamma(c - c^*) = q$$

$$y - y^* = (1 - 2\tau)(c - c^*) + \frac{2\tau(1-\tau)}{1-2\tau} q$$

$$nx = q - (c - c^*)$$

- Solution with $\omega \equiv \frac{1}{2}\left[1 + \frac{1-2\tau}{(1-2\tau)^2 + 2\gamma\tau(1-\tau)}\right] > 1/2$:

$$q = \gamma(2\omega - 1)(y - y^*), \qquad c = \omega y + (1-\omega) y^*, \qquad c^* = (1-\omega) y + \omega y^*$$

  - $y \downarrow \quad \Rightarrow \quad u_c^* \uparrow,\ q \downarrow \quad \Rightarrow$ home asset is **safe**
  - $y^* \downarrow \quad \Rightarrow \quad u_c^* \uparrow,\ q \uparrow \quad \Rightarrow$ home asset is **risky**

  $\Rightarrow$ safe asset if $\sigma_y^2 \gg \sigma_{y^*}^2$

- Policy effects:

  i) trade autarky $\tau \to 0 \quad \Rightarrow \quad \mathrm{cov}(c^*, q) < 0$

  ii) financial autarky $nx = 0 \quad \Rightarrow \quad \mathrm{cov}(c^*, q) \downarrow$

Gali-Monacelli Version

- **Trade autarky $\neq$ Financial autarky**
- Model with H and F goods, flex prices, symmetric countries:

$$\gamma(c - c^*) = q$$

$$y - y^* = (1 - 2\tau)(c - c^*) + \frac{2\tau(1-\tau)}{1-2\tau} q$$

$$nx = q - (c - c^*)$$

- Solution with $\omega \equiv \frac{1}{2}\left[1 + \frac{1-2\tau}{(1-2\tau)^2 + 2\gamma\tau(1-\tau)}\right] > 1/2$:

$$q = \gamma(2\omega - 1)(y - y^*), \qquad c = \omega y + (1-\omega) y^*, \qquad c^* = (1-\omega) y + \omega y^*$$

— $y \downarrow \quad \Rightarrow \quad u_c^* \uparrow,\ q \downarrow \quad \Rightarrow$ home asset is **safe**

— $y^* \downarrow \quad \Rightarrow \quad u_c^* \uparrow,\ q \uparrow \quad \Rightarrow$ home asset is **risky**

$\Rightarrow$ safe asset if $\sigma_y^2 \gg \sigma_{y^*}^2$

- Policy effects:

  i) trade autarky $\tau \to 0 \quad \Rightarrow \quad \text{cov}(c^*, q) < 0$

  ii) financial autarky $nx = 0 \quad \Rightarrow \quad \text{cov}(c^*, q) \downarrow$

  iii) can also consider **industrial policies**!

Financial Shocks

- **Balassa-Samuelson / output shocks driving exchange rates?**

- **Balassa-Samuelson / output shocks driving exchange rates?**

- Consider financial shocks and Foreign=SOE (for asymmetry)

$$\begin{aligned}\gamma(c - c^*) &= q + \psi \\ 0 = y &= c \\ 0 = y^* &= (1-\tau)c^* + \tau c - \frac{\tau(1-\tau)}{1-2\tau} q \\ nx &= q - (c - c^*)\end{aligned}$$

Financial Shocks

- **Balassa-Samuelson / output shocks driving exchange rates?**

- Consider financial shocks and Foreign=SOE (for asymmetry)

$$\gamma(c - c^*) = q + \psi$$
$$0 = y = c$$
$$0 = y^* = (1-\tau)c^* + \tau c - \frac{\tau(1-\tau)}{1-2\tau}q$$
$$nx = q - (c - c^*)$$

- Solution:

$$c = 0, \qquad c^* = -\frac{\tau}{1-2\tau+\gamma\tau}\psi, \qquad q = -\frac{1-2\tau}{1-2\tau+\gamma\tau}\psi$$

Financial Shocks

- **Balassa-Samuelson / output shocks driving exchange rates?**
- Consider financial shocks and Foreign=SOE (for asymmetry)

$$\begin{aligned}\gamma(c - c^*) &= q + \psi \\ 0 = y &= c \\ 0 = y^* &= (1-\tau)c^* + \tau c - \frac{\tau(1-\tau)}{1-2\tau} q \\ nx &= q - (c - c^*)\end{aligned}$$

- Solution:

$$c = 0, \qquad c^* = -\frac{\tau}{1-2\tau+\gamma\tau}\psi, \qquad q = -\frac{1-2\tau}{1-2\tau+\gamma\tau}\psi$$

  - $\psi \uparrow \quad \Rightarrow \quad u_c^* \uparrow,\ q \downarrow \quad \Rightarrow$ home asset is **safe**
  - consistent with Backus-Smith puzzle
  - similar comparative statics for tariffs and capital controls

2. CHOICE OF ANCHOR CURRENCY

Simplified Model

- One period, SOE with endowments Y_N, Y_T and traded claims on N
- Household problem:

$$\max_{C_N, C_T, A, A^*} \quad \mathbb{E}u(C_N, C_T)$$

$$\text{s.t.} \quad C_T + PC_N = A \cdot PY_N + A^* \cdot P^* Y_N^* + Y_T$$

$$AQ + A^* Q^* = 0$$

Simplified Model

- One period, SOE with endowments Y_N, Y_T and traded claims on N
- Household problem:

$$\max_{C_N, C_T, A, A^*} \quad \mathbb{E}u(C_N, C_T)$$

$$\text{s.t.} \quad C_T + PC_N = A \cdot PY_N + A^* \cdot P^* Y_N^* + Y_T$$

$$AQ + A^* Q^* = 0$$

- Foreign investors:

$$Q = \mathbb{E}u_T^* PY_N \qquad \text{and} \qquad Q^* = \mathbb{E}u_T^* P^* Y_N^*$$

- Market clearing:

$$C_N = Y_N \qquad \text{and} \qquad C_T = (A-1) \cdot PY_N + A^* \cdot P^* Y_N^* + Y_T$$

Simplified Model

- One period, SOE with endowments Y_N, Y_T and traded claims on N

- Household problem:

$$\max_{C_N, C_T, A, A^*} \quad \mathbb{E}u(C_N, C_T)$$

$$\text{s.t.} \quad C_T + PC_N = A \cdot PY_N + A^* \cdot P^* Y_N^* + Y_T$$

$$AQ + A^* Q^* = 0$$

- Foreign investors:

$$Q = \mathbb{E}u_T^* PY_N \qquad \text{and} \qquad Q^* = \mathbb{E}u_T^* P^* Y_N^*$$

- Market clearing:

$$C_N = Y_N \qquad \text{and} \qquad C_T = (A-1) \cdot PY_N + A^* \cdot P^* Y_N^* + Y_T$$

- **Ramsey planner** taxes C_T, can manipulate P (s.t. $\mathbb{E}P$=const)

Why Does SOE Peg?

- Gov't interventions under commitment are **suboptimal**
  - — no externalities, efficient allocation!

Why Does SOE Peg?

- Gov't interventions under commitment are **suboptimal**
  - no externalities, efficient allocation!

- **Unexpected** change in policy results in valuation effects
  - portfolio choice $\rightarrow$ policy announcement $\rightarrow$ VA $\rightarrow$ implementation

Why Does SOE Peg?

- Gov't interventions under commitment are **suboptimal**
  - — no externalities, efficient allocation!
- **Unexpected** change in policy results in valuation effects
  - — portfolio choice $\rightarrow$ policy announcement $\rightarrow$ VA $\rightarrow$ implementation
- But peg lowers risk premium and **increases home asset prices**
  - — usually generates VA<0 (Gourinchas-Rey'07, Itskhoki-Mukhin'25)

Why Does SOE Peg?

- Gov't interventions under commitment are **suboptimal**
  - no externalities, efficient allocation!
- **Unexpected** change in policy results in valuation effects
  - portfolio choice $\rightarrow$ policy announcement $\rightarrow$ VA $\rightarrow$ implementation
- But peg lowers risk premium and **increases home asset prices**
  - usually generates VA<0 (Gourinchas-Rey'07, Itskhoki-Mukhin'25)
- Increases welfare only if SOE is **long in LC and short in FC assets!**
  - having home bias in home assets is not enough

Asset Positions

- Preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \quad \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

Asset Positions

- Preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \ \ \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

- Marginal utilities:

$$u_T = \tau Y_N^{-(\gamma-1)(1-\tau)} C_T^{-1-(\gamma-1)\tau}$$

- Optimal risk sharing:

$$\frac{\partial u_T}{\partial Y_N} < 0 \qquad \Rightarrow \qquad \text{if } Y_N \downarrow \ \Rightarrow \ C_T \uparrow$$

Asset Positions

- Preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \quad \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

- Marginal utilities:

$$u_T = \tau Y_N^{-(\gamma-1)(1-\tau)} C_T^{-1-(\gamma-1)\tau}$$

- Optimal risk sharing:

$$\frac{\partial u_T}{\partial Y_N} < 0 \qquad \Rightarrow \qquad \text{if } Y_N \downarrow \; \Rightarrow \; C_T \uparrow$$

- Recall:

$$C_T = (A-1) \cdot PY_N + A^* \cdot P^* Y_N^* + Y_T,$$

$$\text{where} \quad PY_N = \frac{u_N}{u_T} Y_N = \frac{1-\tau}{\tau} C_T \uparrow \quad \text{when} \quad Y_N \downarrow$$

Asset Positions

- Preferences:

$$u(C) = \frac{C^{1-\gamma}}{1-\gamma}, \quad \gamma > 1 \qquad \text{and} \qquad C = C_N^{1-\tau} C_T^{\tau}$$

- Marginal utilities:

$$u_T = \tau Y_N^{-(\gamma-1)(1-\tau)} C_T^{-1-(\gamma-1)\tau}$$

- Optimal risk sharing:

$$\frac{\partial u_T}{\partial Y_N} < 0 \qquad \Rightarrow \qquad \text{if } Y_N \downarrow \; \Rightarrow \; C_T \uparrow$$

- Recall:

$$C_T = (A-1) \cdot PY_N + A^* \cdot P^* Y_N^* + Y_T,$$

$$\text{where} \quad PY_N = \frac{u_N}{u_T} Y_N = \frac{1-\tau}{\tau} C_T \uparrow \quad \text{when} \quad Y_N \downarrow$$

$\Rightarrow$ Implementation of optimal risk sharing requires $A > 1$ and $A^* < 0$!

Peg and Valuation Effects

- Planner's problem given (A, A_i^*) and $\bar{P}$:

$$\max_{C_T, P} \quad \mathbb{E}u(Y_N, C_T)$$

$$\text{s.t.} \quad C_T = (A-1) \cdot P Y_N + \sum_i A_i^* \cdot P_i^* Y_{Ni}^* + Y_T$$

$$\mathbb{E}P = \bar{P}$$

- Optimality condition (μ is state-invariant LM):

$$(A-1) u_T P = \mu$$

Peg and Valuation Effects

- Planner's problem given (A, A_i^*) and $\bar{P}$:

$$\max_{C_T, P} \quad \mathbb{E}u(Y_N, C_T)$$

$$\text{s.t.} \quad C_T = (A-1)\cdot PY_N + \sum_i A_i^* \cdot P_i^* Y_{Ni}^* + Y_T$$

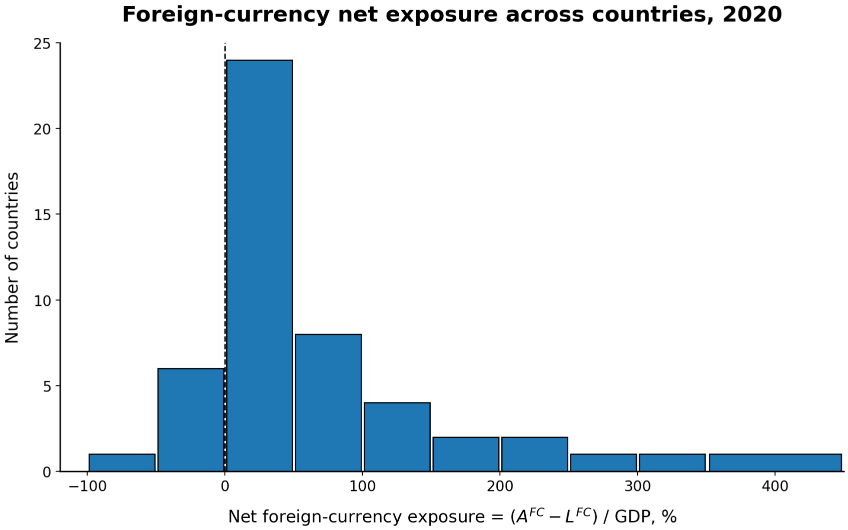
$$\mathbb{E}P = \bar{P}$$

- Optimality condition (μ is state-invariant LM):

$$(A-1)u_T P = \mu$$

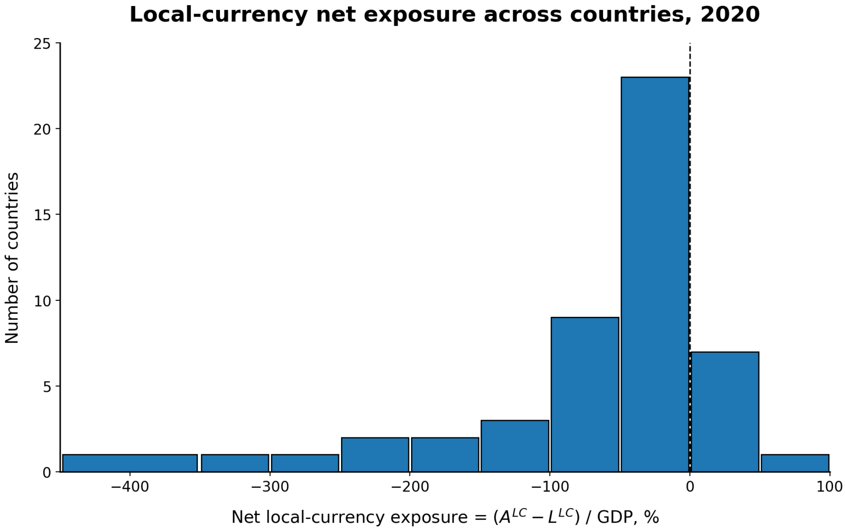
- Given $A > 1$ and $u_T = u_{Ti}$ (before intervention):
  - $Y_{Ni}^* \downarrow \Rightarrow \; P_i^* \uparrow \Rightarrow \; \mathcal{Q} \downarrow$
  - $Y_{Ni}^* \downarrow \Rightarrow \; C_{Ti} \uparrow \Rightarrow \; C_T \downarrow \Rightarrow \; u_T \uparrow \overset{FOC}{\Rightarrow} \; P \downarrow \Rightarrow \; \mathcal{Q} \downarrow$
  - stronger effect for larger foreign economies

Empirical Evidence



Source: Allen, Gautam, and Juvenal (2023). Approximate reconstruction from the 2020 sample.

Empirical Evidence



Source: Allen, Gautam, and Juvenal (2023). Approximate reconstruction from the 2020 sample.

4. IMPLICATIONS FOR EUROPE

Is This Good News for Europe?

1. **US retreat from global trade and China capital controls**

   — safety premium still lowers costs of gov't borrowing

   — ambiguous effect on EU welfare

   — cf. ToT spillovers in Samuelson (JEP'2004)

Is This Good News for Europe?

1. **US retreat from global trade and China capital controls**
   - safety premium still lowers costs of gov't borrowing
   - ambiguous effect on EU welfare
   - cf. ToT spillovers in Samuelson (JEP'2004)

2. **Euro as anchor currency for RoW**
   - recall valuation effects towards RoW
   - unambiguously lowers EU welfare
   - also dampens EU safety premium

Is This Good News for Europe?

1. **US retreat from global trade and China capital controls**
   - safety premium still lowers costs of gov't borrowing
   - ambiguous effect on EU welfare
   - cf. ToT spillovers in Samuelson (JEP'2004)

2. **Euro as anchor currency for RoW**
   - recall valuation effects towards RoW
   - unambiguously lowers EU welfare
   - also dampens EU safety premium

$\Rightarrow$ **Not obvious whether EU should aim to promote its currency**

- integration and openness are beneficial on their own