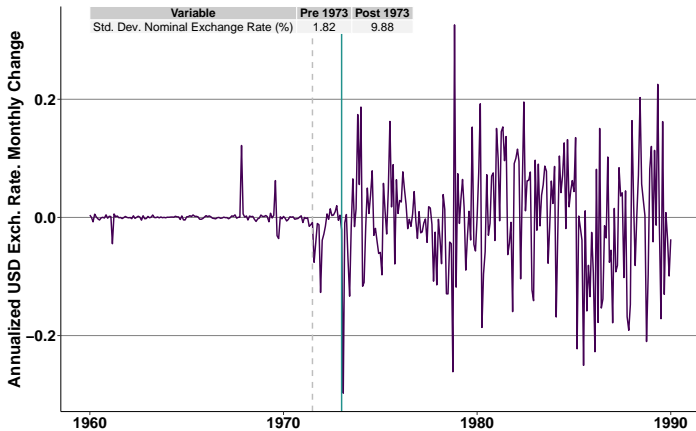


GLOBAL FINANCE AND DEVELOPMENT

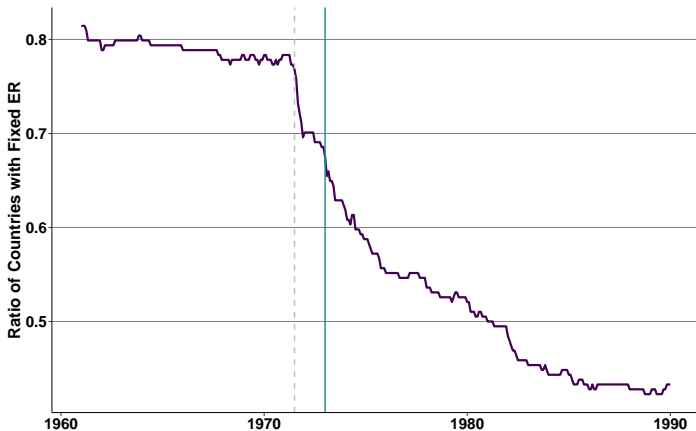
Abhijit Banerjee, Atif Mian

February 24, 2023

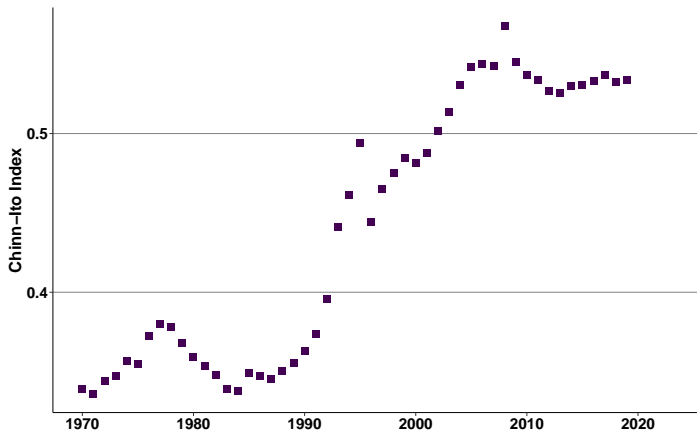
EXCHANGE RATE VOLATILITY



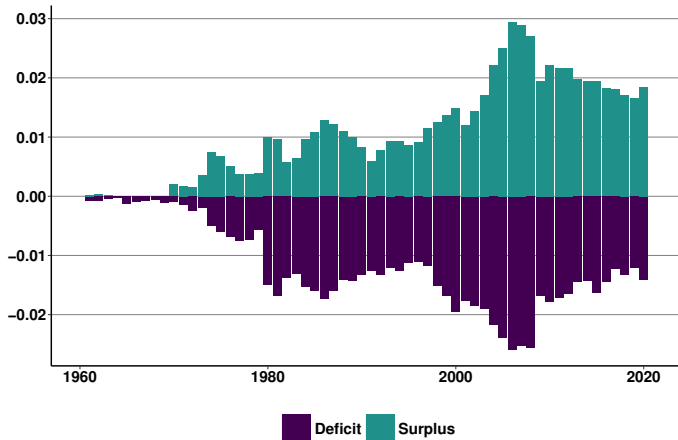
SHARE OF COUNTRIES WITH FIXED EXCHANGE RATE



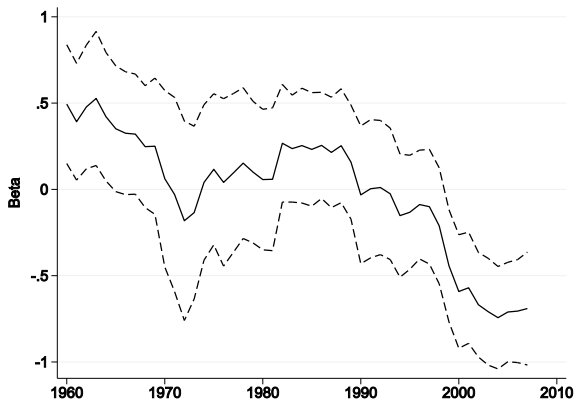
CAPITAL ACCOUNT OPENENESS INDEX



GLOBAL SAVINGS GLUT

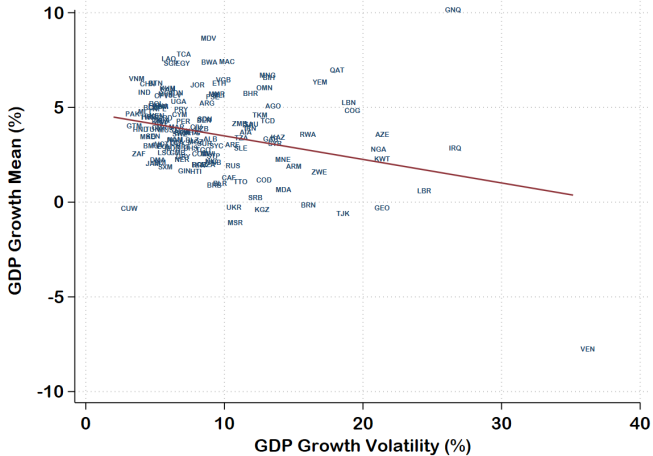


UNCONDITIONAL CONVERGENCE



$$\log(\text{GDPpc}_{i,t+10}) - \log(\text{GDPpc}_{i,t}) = \alpha + \beta \log(\text{GDPpc}_{i,t}) + \epsilon_{i,t}$$

Source: Kremer Willis You (2022)



$$Mean_i(\Delta y_{it}) = \alpha + \beta_0 \cdot SD_i(\Delta y_{it}) + \epsilon_i$$

GDP MEAN AND VOLATILITY

	$\overline{\Delta y_{it}}^{1980-2019}$		$\overline{\Delta y_{it}}^{1990-2019}$		$\overline{\Delta y_{it}}^{2000-2019}$		$\overline{\Delta y_{it}}^{2010-2019}$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$SD_i(\Delta y_{it})^{1980-2019}$	0.603 (0.302)	-0.296*** (0.0508)						
$SD_i(\Delta y_{it})^{1990-2019}$			0.243 (0.245)	-0.272*** (0.0495)				
$SD_i(\Delta y_{it})^{2000-2019}$					0.176 (0.247)	-0.432*** (0.0667)		
$SD_i(\Delta y_{it})^{2010-2019}$							0.0578 (0.271)	-0.898*** (0.0711)
OECD	OECD	Non-OECD	OECD	Non-OECD	OECD	Non-OECD	OECD	Non-OECD
Initial GDP p.c.	✓	✓	✓	✓	✓	✓	✓	✓
Sectoral Shares GDP								
Institutional controls								
R ²	0.332	0.302	0.221	0.253	0.170	0.267	0.0434	0.545
N	32	125	38	143	38	143	38	145

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Robustness 1

Robustness 2

Average pairwise correlation between GDP growth and GFC Factor

	1980-1999	2000-2019
Non-OECD	.02	.46
OECD	.18	.34

Average pairwise correlation between GDP growth and Δ GFC Factor

	1980-1999	2000-2019
Non-OECD	.13	.42
OECD	.26	.63

LONG-RUN GROWTH AND VOLATILITY DUE TO GFC

Run short-run regressions:

$$\Delta y_{it}^{GFC,P} = \alpha_i + \beta_i \cdot GFC_t^P + \epsilon_{it} \quad (1)$$

$$\Delta y_{it}^{GFC,Q} = \alpha_i + \beta_i \cdot GFC_t^Q + \epsilon_{it} \quad (2)$$

Regress mean growth on the volatility of the fitted values:

$$Mean_i(\Delta y_{it}) = \alpha + \beta_4 \cdot \widehat{SD}_i(\Delta y_{it}^{GFC,P}) + \beta_5 \cdot SD_i(\widehat{\epsilon}_{it}) + u_i \quad (3)$$

$$Mean_i(\Delta y_{it}) = \alpha + \beta_4 \cdot \widehat{SD}_i(\Delta y_{it}^{GFC,Q}) + \beta_5 \cdot SD_i(\widehat{\epsilon}_{it}) + u_i \quad (4)$$

LONG-RUN GROWTH AND VOLATILITY DUE TO GFC

	$\overline{\Delta y_{it}}^{1980-2019}$			
	(1)	(2)	(3)	(4)
$SD_i(\widehat{y_{it}^{GFC,P}})$	-0.940 (0.752)	-0.710** (0.234)		
$SD_i(\widehat{\epsilon}_{it})$	0.907* (0.360)	-0.165* (0.0659)		
$SD_i(\widehat{y_{it}^{GFC,Q}})$			-0.170 (0.361)	-0.692** (0.227)
$SD_i(\widehat{\epsilon}_{it})$			0.458 (0.265)	-0.115 (0.0916)
OECD	OECD	Non-OECD	OECD	Non-OECD
Initial GDP p.c.	✓	✓	✓	✓
R ²	0.381	0.343	0.319	0.242
N	32	125	32	125

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

DEFINE GLOBAL GROWTH MEASURES

Δy_t^G : GDP-weighted global growth

Δy_t^T : Trade-weighted global growth

LONG-RUN GROWTH AND VOLATILITY DUE TO GFC

Run the two-way fixed effects regression:

$$\Delta y_{it} = \alpha_i + \alpha_t + \epsilon_{it} \quad (5)$$

Use the year-FE values as controls in:

$$\Delta y_{it} = \alpha_i + \beta_i^{GFC} \cdot GFC_t + \beta_i^\alpha \cdot \hat{\alpha}_t + \epsilon_{it} \quad (6)$$

Alternatively, use the global growth measures as controls in:

$$\Delta y_{it} = \alpha_i + \beta_i^{GFC} \cdot GFC_t + \beta_i^G \cdot \Delta y_t^G + \epsilon_{it} \quad (7)$$

$$\Delta y_{it} = \alpha_i + \beta_i^{GFC} \cdot GFC_t + \beta_i^T \cdot \Delta y_t^T + \epsilon_{it} \quad (8)$$

LONG-RUN GROWTH AND VOLATILITY DUE TO GFC

Based on equations 6-8 above, construct the fitted values:

$$\widehat{\Delta y_{it}^{GFC}} \equiv \widehat{\alpha}_i + \widehat{\beta}_i^{GFC} \cdot GFC_t$$

$$\widehat{\Delta y_{it}^{\alpha}} \equiv \widehat{\alpha}_i + \widehat{\beta}_i^{\alpha} \cdot \hat{\alpha}_t$$

$$\widehat{\Delta y_{it}^G} \equiv \widehat{\alpha}_i + \widehat{\beta}_i^G \cdot \Delta y_t^G$$

$$\widehat{\Delta y_{it}^T} \equiv \widehat{\alpha}_i + \widehat{\beta}_i^T \cdot \Delta y_t^T$$

And regress mean growth on the volatility of the fitted values :

$$Mean_i(\Delta y_{it}) = \alpha + \beta_1 \cdot SD_i(\widehat{\Delta y_{it}^{GFC}}) + \beta_2 \cdot SD_i(\widehat{\Delta y_{it}^*}) + \beta_3 \cdot SD_i(\widehat{\epsilon}_{it}) + u_i \quad (9)$$

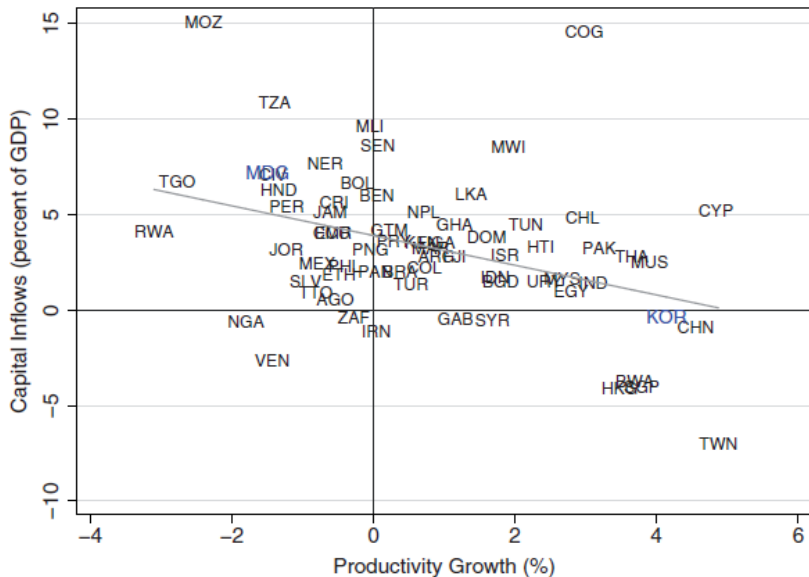
LONG-RUN GROWTH AND VOLATILITY DUE TO GFC

	$\overline{\Delta y_{it}}^{1980-2019}$					
	(1)	(2)	(3)	(4)	(5)	(6)
$SD_i(\widehat{\epsilon}_{it})$	0.764* (0.313)	0.0173 (0.0769)	0.567 (0.319)	-0.221** (0.0729)	0.644* (0.289)	-0.272** (0.0836)
$SD_i(\widehat{\Delta y_{it}^{GFC}})$	-0.0367 (0.428)	-1.129*** (0.184)	0.160 (0.432)	-0.666** (0.198)	-0.227 (0.410)	-0.504* (0.201)
$SD_i(\widehat{\Delta y_{it}^{\alpha}})$	-0.253 (0.345)	-0.285* (0.142)				
$SD_i(\widehat{\Delta y_{it}^G})$			0.422 (0.407)	0.115 (0.286)		
$SD_i(\widehat{\Delta y_{it}^T})$					-0.167 (0.301)	0.159 (0.173)
OECD	OECD	Non-OECD	OECD	Non-OECD	OECD	Non-OECD
Initial GDP p.c.	✓	✓	✓	✓	✓	✓
R ²	0.392	0.464	0.369	0.364	0.422	0.334
N	32	125	32	125	32	124

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

GOURINCHAS & JEANNE (2013)



Appendix

CAPITAL ACCOUNT LIBERALIZATION SHOCK

Define the shock as:

$$X_{it} \equiv \Delta_5 \text{Chinn-Ito Index}_{it} \text{ for } \Delta_5 \text{Chinn-Ito Index}_{it} > 0$$

$$\text{Shock}_{it} = \text{Mean}(X_{it}) + 1 \cdot \text{SD}(X_{it})$$

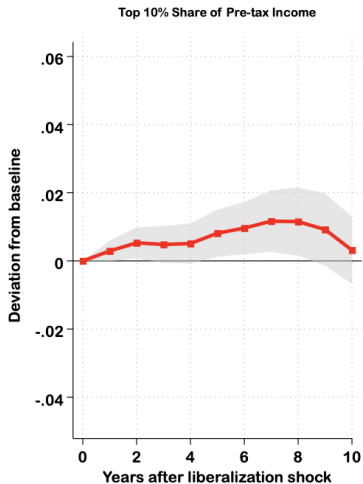
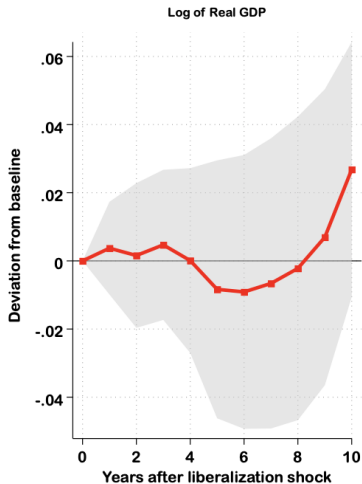
Linear projections of growth and inequality:

$$\Delta_h y_{i,t+h} = \alpha_i + \beta_h \text{Shock}_{it} + \sum_{p=1}^2 \Delta y_{i,t-p} + \epsilon_{i,t+h} \quad (10)$$

$$\Delta_h \theta_{i,t+h} = \alpha_i + \beta_h \text{Shock}_{it} + \sum_{p=1}^2 \theta_{i,t-p} + \epsilon_{i,t+h} \quad (11)$$

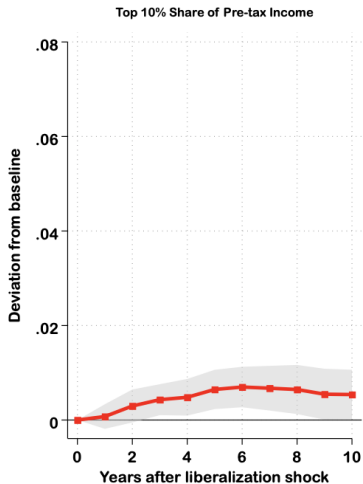
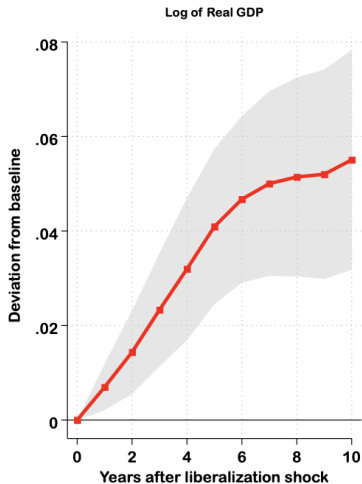
LIBERALIZATION SHOCK, GROWTH AND INEQUALITY

nonoecd



LIBERALIZATION SHOCK, GROWTH AND INEQUALITY

oecd



EU ACCESS AND INEQUALITY

- Event study
- **Treatment group:** countries which liberalized their capital account very fast = 5-year change in Chinn-Ito index > 0.4 for any year $t-1$ to $t+1$ relative to EU accession.
 - Bulgaria, Cyprus, Czech Republic, Hungary, Slovenia.
- **Control group:** the rest of countries which accessed EU post-2004
 - Croatia, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia

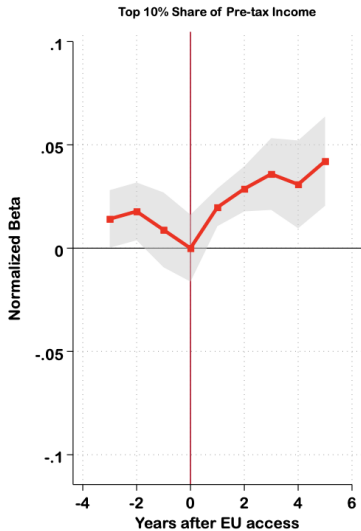
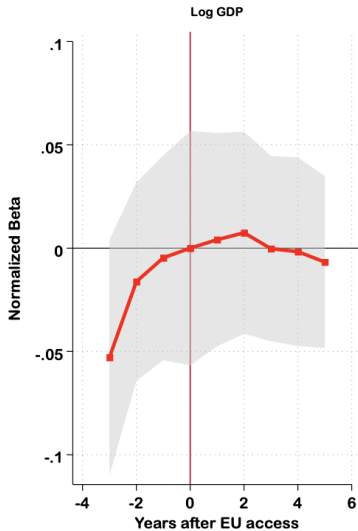
Note: Malta was dropped out of sample for lack of data on Inequality pre 2006.

EU ACCESS AND INEQUALITY

$$y_{i,t+h} = \alpha_i^h + \alpha_t^h + \sum_{h=-3}^5 \beta_h \text{Treated}_i \times \mathbb{1}\{t = \text{EU access year}_i + h\} \quad (12)$$

where $\mathbb{1}\{t = \text{EU access year}_i + h\}$ is an indicator equal to 1 in the year when a country accessed the EU, given h lags.

EU ACCESS AND INEQUALITY



GDP MEAN AND VOLATILITY

	$\overline{\Delta y_{it}}^{1980-2019}$		$\overline{\Delta y_{it}}^{1990-2019}$		$\overline{\Delta y_{it}}^{2000-2019}$		$\overline{\Delta y_{it}}^{2010-2019}$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$SD_i(\Delta y_{it})^{1980-2019}$	0.499 (0.321)	-0.0692 (0.0572)						
$SD_i(\Delta y_{it})^{1990-2019}$			0.303 (0.265)	-0.134* (0.0550)				
$SD_i(\Delta y_{it})^{2000-2019}$					-0.107 (0.292)	-0.221** (0.0682)		
$SD_i(\Delta y_{it})^{2010-2019}$							-0.473 (0.265)	-0.783*** (0.0669)
OECD	OECD	Non-OECD	OECD	Non-OECD	OECD	Non-OECD	OECD	Non-OECD
Initial GDP p.c.	✓	✓	✓	✓	✓	✓	✓	✓
Sectoral Shares GDP	✓	✓	✓	✓	✓	✓	✓	✓
Institutional controls								
R ²	0.415	0.628	0.329	0.576	0.355	0.582	0.446	0.730
N	32	117	38	135	38	135	38	133

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

GDP MEAN AND VOLATILITY

	$\overline{\Delta y_{it}}^{1980-2019}$		$\overline{\Delta y_{it}}^{1990-2019}$		$\overline{\Delta y_{it}}^{2000-2019}$		$\overline{\Delta y_{it}}^{2010-2019}$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$SD_i(\Delta y_{it})^{1980-2019}$	-0.0132 (0.392)	-0.132* (0.0553)						
$SD_i(\Delta y_{it})^{1990-2019}$			-0.174 (0.212)	-0.152** (0.0510)				
$SD_i(\Delta y_{it})^{2000-2019}$					-0.554* (0.228)	-0.302*** (0.0722)		
$SD_i(\Delta y_{it})^{2010-2019}$							-1.068*** (0.244)	-0.758*** (0.0587)
OECD	OECD	Non-OECD	OECD	Non-OECD	OECD	Non-OECD	OECD	Non-OECD
Initial GDP p.c.	✓	✓	✓	✓	✓	✓	✓	✓
Sectoral Shares GDP	✓	✓	✓	✓	✓	✓	✓	✓
Institutional controls	✓	✓	✓	✓	✓	✓	✓	✓
R ²	0.811	0.913	0.813	0.905	0.816	0.812	0.867	0.902
N	31	89	36	100	36	100	36	98

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

