Political Economy of Real Exchange Rate Levels

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Overview

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- We explore structural, institutional, and policy correlates of RER undervaluation.
- Cross-country panel dataset (107 countries; 1989-2013)
- Fixed effects OLS and GMM estimators.
- No claims of causality. Only identifying regularities in RER undervaluation patterns.

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Key Results

- Lower share of non-tradable sector output, imported input intensity of exports and capital account openness associated with RER undervaluation.
- Central bank independence and democracy associated with RER overvaluation.

Background and Motivation

- A large body of theoretical and empirical literature on the benefits of RER undervaluation
  - Sectoral allocation of resources and growth (Eichengreen, 2007; Rodrik, 2008)
  - Investment and Growth (Levy-Yeyati & Sturzenegger, 2007; Razmi *et al.*, 2012)
  - Employment generation (Frenkel & Ros, 2006)
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- Why has RER undervaluation not been more prevalent in L. America?

- What obstacles stand in the way of targeting an ER level compatible with structural transformation?

Key concepts

- RER misalignment = deviation of the RER from its 'equilibrium' level
- We estimate RER undervaluation series using Rodrik's (2008) methodology
- According to PPP, at equilibrium, the cost of a basket of domestic goods is the same as that of an identical basket of foreign goods.
- Controlling for Balassa-Samuelson effect:

$$lnRER_{it} = \beta_0 + \beta_1 lnGDPPC_{it} + f_t + u_{it}$$

$$lnunderval_{it} = lnRER_{it} - \widehat{lnRER}_{it}$$

- Positive (negative) values imply that the RER is undervalued (overvalued).
- The index is comparable across countries and over time & consistent with historical trends.
- Our results are robust to alternative undervaluation measures.

Theory (1/2)

- Inter-class distributional conflict
  - Adverse effects of RER depreciations on functional income distribution.
  - Unpopularity among the public
  - Hypothesis: RER undervaluation correlates negatively with the strength of the working class.

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  - Inconclusive empirical & historical evidence (Ugurlu, 2021)
  - Preferences could be conditional
    1. Reliance on imported inputs
    2. Balance sheet vulnerabilities
    3. Reliance on price vs quality based competition
  - Hypothesis: Reliance on imported inputs, foreign borrowing, and quality-based competition correlate negatively with RER undervaluation.

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- Political Institutions
  - Electoral democracies might be more inclined to keep the RER at overvalued levels (Eichengreen, 2007; Steinberg & Malhotra, 2014).
  - Democratic accountability; tenure security
  - Tenure security
  - Hypothesis: RER undervaluation is negatively correlated with democracy.

Regression Specifications

Fixed Effects Panel:

$$lnunderval_{it} = \alpha_1 X_{it} + \alpha_2 Y_{it} + \alpha_3 Z_{it} + f_t + \theta_i + u_{it}$$

GMM:

$$lnunderval_{it} = \rho lnunderval_{it-1} + \alpha_1 X_{it} + \alpha_2 Y_{it} + \alpha_3 Z_{it} + f_t + \theta_i + u_{it}$$

- X_{it}: vector of economic/structural variables
  services_GDP, *import_intensity*, *foreign_liabilities*, *bank_assets*, *labsh* (or *worker_rights*), *ECI*
- Y_{it}: vector of institutional variables
  CBI, *democracy*
- Z_{it}: vector of policy variables
  excregime, *govcons_GDP*, *govinv_GDP*, *kaopen*
- f_t and θ_i: time-fixed effects and country-fixed effects
- Using both annual data & 3-year averages.
- All regressors are lagged by one period.

Results (1/2)

- RER undervaluation correlates negatively (with statistical significance) with:
  - the services share of GDP
  - the import intensity of exports
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  - e.g., one sd (12.43 pp) increase in *services_GDP* increases RER overvaluation by 0.15% ($\sim$0.34 sd).
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- Implications
  - Support for interest group theories
  - Reliance on imported inputs might lower the support for undervaluation unless the industry is supported through other tools.
  - Governments are less able or willing to pursue undervaluation when they lack control over central banking operations and in the absence of capital controls.
  - Undervaluation might be incompatible with democracy.
- Regression Table

Results (2/2)

- RER undervaluation correlates positively with:
  - Foreign liabilities
    - Runs counter to the balance sheet hypothesis
    - Consistent with other findings in the literature
    - More indebted countries may undervalue RER to generate foreign exchange revenues to make debt payments (Ffrench-Davis *et al.*, 1995).

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- Numerous robustness checks
- Regression results by country groups (advanced/developing, resource-rich/resource-poor, based on revealed comparative advantages)

Future Extensions

- Attitudinal survey on societal preferences over exchange rate policy
  - How do people perceive ER policies and the potential trade-offs involved in them?
  - What factors shape ER policy preferences? Economic characteristics, demographic factors, pride people derive from a strong currency?
  - Growing literature within economics investigating the formation of preferences over policy choices using survey data (Alesina *et al.*, 2023; Stantcheva, 2022).
  - Experimental element
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- Elasticity pessimism and inertia in RER policies

Thank you!

	Dependent variable: lnunderval					
	OLS Annual	OLS 3-year avg	OLS Annual	OLS 3-year avg	GMM Annual	GMM 3-year avg
	(1)	(2)	(3)	(4)	(5)	(6)
lnunderval.L					0.7956***	0.4385***
					(0.0062)	(0.0522)
services_GDP	−0.014***	−0.021***	−0.012***	−0.010***	−0.004***	−0.0196***
	(0.003)	(0.003)	(0.001)	(0.003)	(0.0003)	(0.002)
import_intensity	−0.001***	−0.001***	−0.001***	−0.001***	−0.0003***	−0.001**
	(0.0004)	(0.0004)	(0.0002)	(0.0004)	(0.000)	(0.0004)
foreign_liabilities	0.013***	0.027**	0.013***	0.014	0.007***	0.029***
	(0.009)	(0.011)	(0.005)	(0.011)	(0.002)	(0.009)
bank_assets	−0.001***	−0.001	−0.001***	−0.0004	0.000	−0.0001
	(0.0003)	(0.0004)	(0.0002)	(0.0004)	(0.0001)	(0.0003)
labsh	−0.570***	−0.528**	−0.393***	−0.147	−0.118***	−0.561**
	(0.239)	(0.236)	(0.115)	(0.248)	(0.026)	(0.220)
CBI	−0.278***	−0.419***	−0.276***	−0.214**	−0.067***	−0.400***
	(0.068)	(0.084)	(0.040)	(0.088)	(0.014)	(0.065)
democracy	−0.005*	−0.009**	−0.008***	−0.013***	−0.002**	−0.006*
	(0.004)	(0.004)	(0.002)	(0.004)	(0.001)	(0.004)
excregime	−0.016	−0.018	−0.023*	−0.039	−0.014***	−0.016
	(0.020)	(0.024)	(0.013)	(0.025)	(0.003)	(0.020)
govcons_GDP	0.004	−0.001	0.005**	0.008	0.005	0.002
	(0.005)	(0.005)	(0.002)	(0.006)	(0.001)	(0.005)
govinv_GDP	−0.0003	−0.018**	0.002	−0.005	−0.001	−0.019**
	(0.009)	(0.008)	(0.003)	(0.008)	(0.001)	(0.009)
kaopen	−0.024***	−0.049***	−0.024***	−0.024**	−0.002	−0.023***
	(0.010)	(0.011)	(0.006)	(0.012)	(0.001)	(0.007)
Country FE	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES
Regressors lagged	NO	NO	YES	YES	NO	NO
AR1	-	-	-	-	0	0.003
AR2	-	-	-	-	0	0.436
Hansen	-	-	-	-	0.146	0.472
# of countries	107	94	107	94	102	90
# of instruments	-	-	-	-	106	35
R2	0.871	0.933	0.873	0.918	-	-
Adjusted R2	0.858	0.905	0.861	0.884	-	-
Observations	1,557	380	1,557	380	1,450	380

Note: *p<0.1; **p<0.05; ***p<0.01
Robust standard errors are used

Average (log) RER Undervaluation by Region and Decades

Region	1960s	1970s	1980s	1990s	2000s	2010s	1960-2019
East Asia and Pacific	-0.07	0.18	0.22	0.12	0.18	0.11	0.14
Europe and Central Asia	-0.03	-0.16	-0.10	0.10	-0.02	0.04	-0.01
Latin America and Caribbean	0.09	-0.01	-0.01	-0.10	-0.14	-0.20	-0.07
Middle East and North Africa	-0.08	0.15	-0.05	-0.06	0.13	0.22	0.06
North America	-0.17	-0.21	-0.20	-0.32	-0.38	-0.40	-0.28
South Asia	0.19	0.11	0.29	0.40	0.38	0.38	0.30
Sub-Saharan Africa	0.01	-0.07	-0.06	-0.07	-0.01	-0.04	-0.04

Source: Authors' calculations based on PWT10 data

References

Alesina, A., Miano, A., & Stantcheva, S. (2023). Immigration and Redistribution. *The Review of Economic Studies*, *90*(1), 1–39.

Demir, F., & Razmi, A. (2022). THE REAL EXCHANGE RATE AND DEVELOPMENT THEORY, EVIDENCE, ISSUES AND CHALLENGES. *Journal of Economic Surveys*, *36*(2), 386–428.

Eichengreen, B. (2007). *The Real Exchange Rate and Economic Growth* (Working Paper No. 4). The International Bank for Reconstruction and Development/The World Bank.

Erten, B., & Metzger, M. (2019). The real exchange rate, structural change, and female labor force participation. *World Development*, *117*, 296–312. https://doi.org/10.1016/j.worlddev.2019.01.015

Ffrench-Davis, R., Muñoz, O., & Palma, J. G. (1995). The Latin American economies, 1950–1990. In L. Bethell (Ed.), *The Cambridge History of Latin America* (pp. 159–250). Cambridge University Press. https://doi.org/10.1017/CHOL9780521232265.005

Frenkel, R., & Ros, J. (2006). Unemployment and the real exchange rate in Latin America. *World development*, *34*(4), 631–646.

Frieden, J. A. (1991). Invested Interests: The politics of national economic policies in a world of global finance. *International Organization*, 425–451.

Levy-Yeyati, E., & Sturzenegger, F. (2007). *Fear of appreciation*. The World Bank.

Razmi, A., Rapetti, M., & Skott, P. (2012). The real exchange rate and economic development. *Structural Change and Economic Dynamics*, *23*(2), 151–169.

Rodrik, D. (2008). The real exchange rate and economic growth. *Brookings papers on economic activity*, *2008*(2), 365–412.

Stantcheva, S. (2022). *Understanding of trade*. National Bureau of Economic Research.

Steinberg, D. A., & Malhotra, K. (2014). The effect of authoritarian regime type on exchange rate policy. *World Pol.*, *66*, 491.

Ugurlu, E. N. (2021). Döviz Kuru Politikalarının Ekonomi Politiği.. *Calisma ve Toplum*, *71*(4).