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Is the exchange rate regime really irrelevant for external adjustment?

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ABSTRACT

We argue that evidence on whether floating exchange rates facilitate external adjustment is contradictory because existing regime classifications do not adequately capture exchange rate flexibility relevant to external adjustment. Using a trade-weighted bilateral exchange rate volatility measure, we show that exchange rate flexibility indeed matters for current account dynamics.

1. Introduction

It has long been asserted that floating exchange rates facilitate external adjustment (Friedman, 1953). Indeed, the emerging market (EM) crises of the 1990s (all of which occurred under de jure or de facto pegs), the huge current account deficits in Eastern Europe pre-2008, and the current competitiveness problems of some eurozone countries are all testament to the delayed (but ultimately abrupt) external adjustment under fixed exchange rates.[1] Yet systematic evidence linking external adjustment to the exchange rate regime is scant and surprisingly contradictory. For example, Chinn and Wei (2008, C&W) find that the regime does not matter for external adjustment—or, more precisely, that the rate of mean reversion of the current account is independent of the exchange rate regime. Subsequent studies question the C&W results on the grounds that they do not take proper account of asymmetric threshold effects (Ghosh et al., 2010); that their econometric model is misspecified (Tippkötter, 2010); or that they are sample-specific and driven by the aggregate and discrete nature of the regime classification (Herrmann, 2009).

Our explanation for C&W's findings is simpler but more intuitive: standard exchange rate regime classifications do not adequately capture exchange rate flexibility that is relevant to external adjustment. First, even de facto classifications (such as IMF; and Reinhart and Rogoff, 2004) are partially based on other policy information (e.g., the de jure regime; the behavior of reserves), and therefore do not always map exchange rate flexibility directly into the regime classification. Second, existing classifications do not take account of the exchange rate arrangement against *all* trading partners—typically focusing only on whether the country pegs to some anchor currency. The problem is especially acute for advanced economies (which constitute about one quarter of the C&W sample). The obvious example is the United States. Clearly, the dollar floats. Yet, the exchange rate against many of its trading partners (e.g., China), and that is relevant to the US current account dynamics, does not adjust freely. Conversely, eurozone countries are often coded as having a fixed exchange rate, but the euro floats against all other regions.[2] Among the EMs, perhaps the most striking example is that of China—the yuan is considered as largely pegged (to the US dollar), but over half of its trade is with countries against which it floats. Ignoring whether most—or even much—of a country's trade is with a partner against whom it has a peg (regardless of which country is pegging) can obviously yield misleading results.

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[1] Compelling evidence on the relationship between the exchange rate regime and external adjustment is provided by Berger and Nitsch (2010), who exploit the natural experiment afforded by the introduction of the euro to show that trade imbalances of euro area countries with each other have become larger and more persistent since they adopted the common currency.

[2] Since 2007, the IMF classifies the euro as floating, but that suffers from the opposite problem that most of the eurozone countries' trade is with each other (or with countries that track the euro closely, e.g., Switzerland).

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Table 1
Current account persistence: existing exchange rate regime classifications, 1980–2010.

	IMF classification[a]			RR classification[b]			LYS classification[c]		
	OLS	FE	FE/TE	OLS	FE	FE/TE	OLS	FE	FE/TE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All countries									
CA_{t-1}	0.809***	0.595***	0.592***	0.774***	0.511***	0.507***	0.776***	0.487***	0.486***
	(0.035)	(0.040)	(0.039)	(0.043)	(0.060)	(0.059)	(0.044)	(0.047)	(0.046)
$CA_{t-1} \times Regime_t$	−0.021	−0.015	−0.008	0.017	0.013	−0.007	−0.032	0.042	0.021
	(0.052)	(0.058)	(0.057)	(0.071)	(0.096)	(0.097)	(0.069)	(0.066)	(0.068)
$Regime_t$	0.003	0.002	−0.000	0.008**	0.005	0.005	0.002	0.003	0.002
	(0.003)	(0.003)	(0.004)	(0.004)	(0.006)	(0.006)	(0.004)	(0.004)	(0.004)
Observations	3740	3740	3740	2157	2157	2157	2423	2423	2423
Adj. R_2	0.642	0.357	0.371	0.618	0.282	0.294	0.595	0.256	0.277
No. of countries	159	159	159	126	126	126	148	148	148
Advanced countries									
CA_{t-1}	0.907***	0.743***	0.744***	0.889***	0.712***	0.716***	0.901***	0.711***	0.695***
	(0.024)	(0.052)	(0.052)	(0.035)	(0.072)	(0.071)	(0.029)	(0.040)	(0.041)
$CA_{t-1} \times Regime_t$	0.017	0.028	0.023	0.018	0.037	0.000	0.078	0.047	0.044
	(0.033)	(0.057)	(0.055)	(0.046)	(0.081)	(0.079)	(0.116)	(0.105)	(0.113)
$Regime_t$	0.003	0.011*	0.011	−0.001	−0.002	0.000	−0.001	0.003	0.006
	(0.003)	(0.005)	(0.007)	(0.003)	(0.005)	(0.005)	(0.002)	(0.006)	(0.007)
Observations	716	716	716	543	543	543	490	490	490
Adj. R_2	0.820	0.627	0.638	0.773	0.563	0.564	0.789	0.545	0.549
No. of countries	28	28	28	28	28	28	27	27	27
Emerging markets									
CA_{t-1}	0.726***	0.599***	0.577***	0.759***	0.602***	0.563***	0.684***	0.530***	0.494***
	(0.037)	(0.036)	(0.032)	(0.059)	(0.064)	(0.051)	(0.056)	(0.075)	(0.065)
$CA_{t-1} \times Regime_t$	−0.011	−0.063	−0.055	−0.040	−0.100	−0.113	0.056	0.021	−0.005
	(0.072)	(0.083)	(0.081)	(0.093)	(0.115)	(0.096)	(0.085)	(0.090)	(0.081)
$Regime_t$	0.004	0.005	0.002	0.006	0.006	0.001	0.005	0.007	0.006
	(0.004)	(0.004)	(0.004)	(0.005)	(0.010)	(0.010)	(0.004)	(0.006)	(0.006)
Observations	1146	1146	1146	713	713	713	754	754	754
Adj. R_2	0.549	0.347	0.380	0.545	0.341	0.379	0.498	0.300	0.346
No. of countries	48	48	48	44	44	44	43	43	43
Developing countries									
CA_{t-1}	0.807***	0.587***	0.589***	0.712***	0.470***	0.474***	0.755***	0.461***	0.475***
	(0.045)	(0.048)	(0.047)	(0.059)	(0.077)	(0.080)	(0.061)	(0.057)	(0.057)
$CA_{t-1} \times Regime_t$	−0.074	−0.044	−0.031	0.057	−0.074	−0.061	−0.167*	−0.015	−0.033
	(0.065)	(0.071)	(0.067)	(0.129)	(0.137)	(0.153)	(0.099)	(0.107)	(0.114)
$Regime_t$	−0.005	−0.007	−0.008	0.015*	0.009	0.010	−0.009	−0.003	−0.005
	(0.004)	(0.006)	(0.007)	(0.008)	(0.013)	(0.014)	(0.008)	(0.008)	(0.008)
Observations	1878	1878	1878	901	901	901	1179	1179	1179
Adj. R_2	0.615	0.332	0.351	0.556	0.219	0.230	0.552	0.219	0.248
No. of countries	83	83	83	54	54	54	78	78	78
Country fixed effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Year effects	No	No	Yes	No	No	Yes	No	No	Yes

Notes: dependent variable is current account to GDP. CA_{t-1} is lagged current account to GDP. Standard errors are clustered at country level in all specifications.
*** Significance at the 1% level.
** Significance at the 5% level.
* Significance at the 10% level.
[a] Regime is IMF's de facto exchange rate regime classification (0 = fixed; 0.5 = intermediate; 1 = float).
[b] Regime is Reinhart and Rogoff's (2004) de facto exchange rate regime classification (0 = fixed; 0.5 = intermediate; 1 = float).
[c] Regime is Levy-Yeyati and Sturzenegger's (2003) de facto exchange rate regime classification (0 = fixed; 0.5 = intermediate; 1 = float).

To take account of both the above considerations, we construct bilateral trade-weighted real exchange rate volatility measures for 159 countries over 1980–2010, and use these in analyzing how current account dynamics depend on exchange rate flexibility. Modeling the regime thus, we find that flexible exchange rates are associated with faster current account adjustment in advanced, EM, and developing countries alike.

2. Current account dynamics: existing regime classifications

We begin by reproducing the C&W findings, estimating a first-order auto-regression of the current account:

$$CA_{it} = \rho_0 + \rho_1 CA_{it-1} + \rho_2 \text{Regime}_{it} + \rho_3 (CA_{it-1} \times \text{Regime}_{it}) + \varepsilon_{it} \quad (1)$$

where CA_{it} is the current account to GDP; ρ_1 is the autoregressive parameter (with values closer to 1 indicating a more persistent current account); *Regime* indicates the exchange rate regime, coded as a categorical variable (taking the values 0, 0.5, and 1 for fixed, intermediate, and floating regimes, respectively) based on the IMF, Reinhart and Rogoff (2004, RR), and Levy-Yeyati and Sturzenegger's (LYS, 2003) de facto classifications; $CA \times Regime$ is an interaction term between the exchange rate regime and lagged current account; and ϵ is the error term (clustered at the country level). We estimate (1) using the pooled Ordinary Least Squares (OLS), but also report results including time and country-specific effects.

If exchange rate flexibility is associated with faster current account adjustment, then the coefficient on the interaction term, ρ_3, should be negative and statistically significant. Table 1 reports the results. Contrary to Friedman's hypothesis, and consistent with C&W's findings, the estimated coefficient of the interaction term is not statistically significant for any of the regime classifications,