Structural current account benchmarks for the EU countries: cross section exploration

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Introduction

- This paper aims at identifying medium- to long- term factors that determine CA to GDP ratio (henceforth, CA) and at estimating fundamentally determined CA outcomes.
- Cross-section regressions are run on the data for a large group of countries (94 economies) averaged over the period 2008-2016. The results are consistent with estimates obtained with the standard panel data approach.
- The traditional set of factors underlying CA (income, general government balance, initial international investment position, dependency ratio and fuel balance) is extended with a measure of price-cost competitiveness, proxied with national price level. The relationship between the national price level and the CA proves to be of a non-linear nature.
- Structural CA levels are calculated as a function of long-run paths of explanatory variables and compared with actual CA levels for the EU countries.
- Sources of changes in structural CA are analysed.

CA Determinants

- CA positively depends on income, general government balance, initial international investment position, dependency ratio and fuel balance.

CA cross-section regressions in linear form

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
income	2.555***	2.591***	2.451***	3.142***	5.316***	5.042***	3.083***	5.244***	4.418***
	(0.391)	(0.390)	(0.354)	(0.588)	(0.911)	(0.984)	(0.636)	(0.998)	(1.007)
general government balance		0.507***	0.501***	0.526***	0.599***	0.576***	0.526***	0.599***	0.536***
		(0.169)	(0.147)	(0.135)	(0.124)	(0.137)	(0.134)	(0.123)	(0.133)
initial IIP			0.039***	0.039***	0.035***	0.034***	0.040***	0.036***	0.030***
			(0.010)	(0.010)	(0.010)	(0.011)	(0.009)	(0.010)	(0.010)
national price level				-2.049	-4.831***	-3.393**	-2.143	-4.953***	-3.410*
				(1.479)	(1.575)	(1.462)	(1.586)	(1.586)	(1.761)
dependency ratio					0.125***				0.102**
					(0.042)				(0.041)
dependency ratio, young						0.088**		0.126***	
						(0.037)		(0.042)	
dependency ratio, old							0.014	0.143**	
							(0.061)	(0.061)	
fuel balance									0.147**
									(0.062)
Constant	-0.893*	-1.395***	-0.244	-0.426	-0.629	-0.639	-0.415	-0.615	-0.377
	(0.498)	(0.483)	(0.587)	(0.564)	(0.548)	(0.586)	(0.558)	(0.546)	(0.514)
Observations	94	94	94	94	94	94	94	94	94
R-squared	0.278	0.344	0.432	0.444	0.506	0.486	0.444	0.507	0.536
adjusted R2	0.270	0.329	0.413	0.419	0.478	0.457	0.413	0.473	0.504

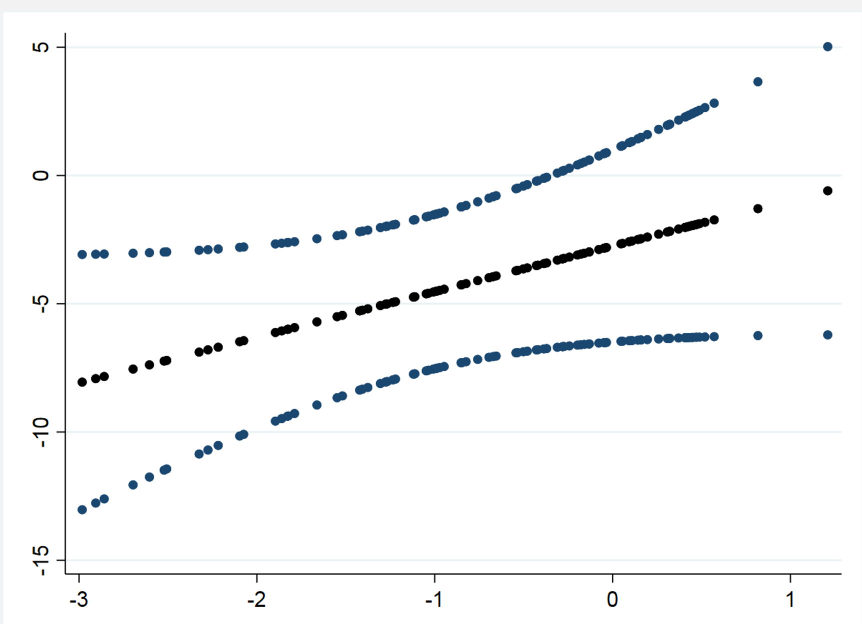
*Robust standard errors in parentheses. Asterisks ***, **, * denote the 1%, 5%, 10% significance levels, respectively.*

- The effect of national price level on CA is substantial at low levels of economic development and it dies out at high levels of economic development.

CA cross-section regressions in nonlinear form

VARIABLES	(1)	(2)	(3)	(4)	(5)
income	3.670***	3.298***	4.315***	4.464***	5.026***
	(0.856)	(0.585)	(1.001)	(0.571)	(0.808)
income squared	0.580*				
	(0.335)				
general government balance		0.585***	0.573***	0.590***	0.569***
		(0.126)	(0.124)	(0.128)	(0.126)
initial IIP		0.036***	0.027***	0.035***	0.027***
		(0.010)	(0.010)	(0.010)	(0.010)
national price level		-0.013	-1.569	-1.809	-2.748
		(1.697)	(2.258)	(1.408)	(1.909)
national price level squared		4.610**	3.513*		
		(1.825)	(2.009)		
income*national price level				2.414**	1.780*
				(0.920)	(1.061)
dependency ratio			0.090**		0.082*
			(0.044)		(0.046)
fuel balance			0.150**		0.156**
			(0.062)		(0.063)
Constant	-0.944*	-1.112*	-0.876	-0.939	-0.711
	(0.489)	(0.624)	(0.546)	(0.607)	(0.532)
Observations	94	94	94	94	94
R-squared	0.294	0.470	0.550	0.474	0.550
adjusted R2	0.279	0.440	0.514	0.444	0.514

The elasticity of CA with respect to national price level for different levels of income



*Robust standard errors in parentheses. Asterisks ***, **, * denote the 1%, 5%, 10% significance levels, respectively.*

- The estimates obtained for panel data confirm our previous findings.

Pooled , GLS accounting for serial correlation and heteroskedasticity

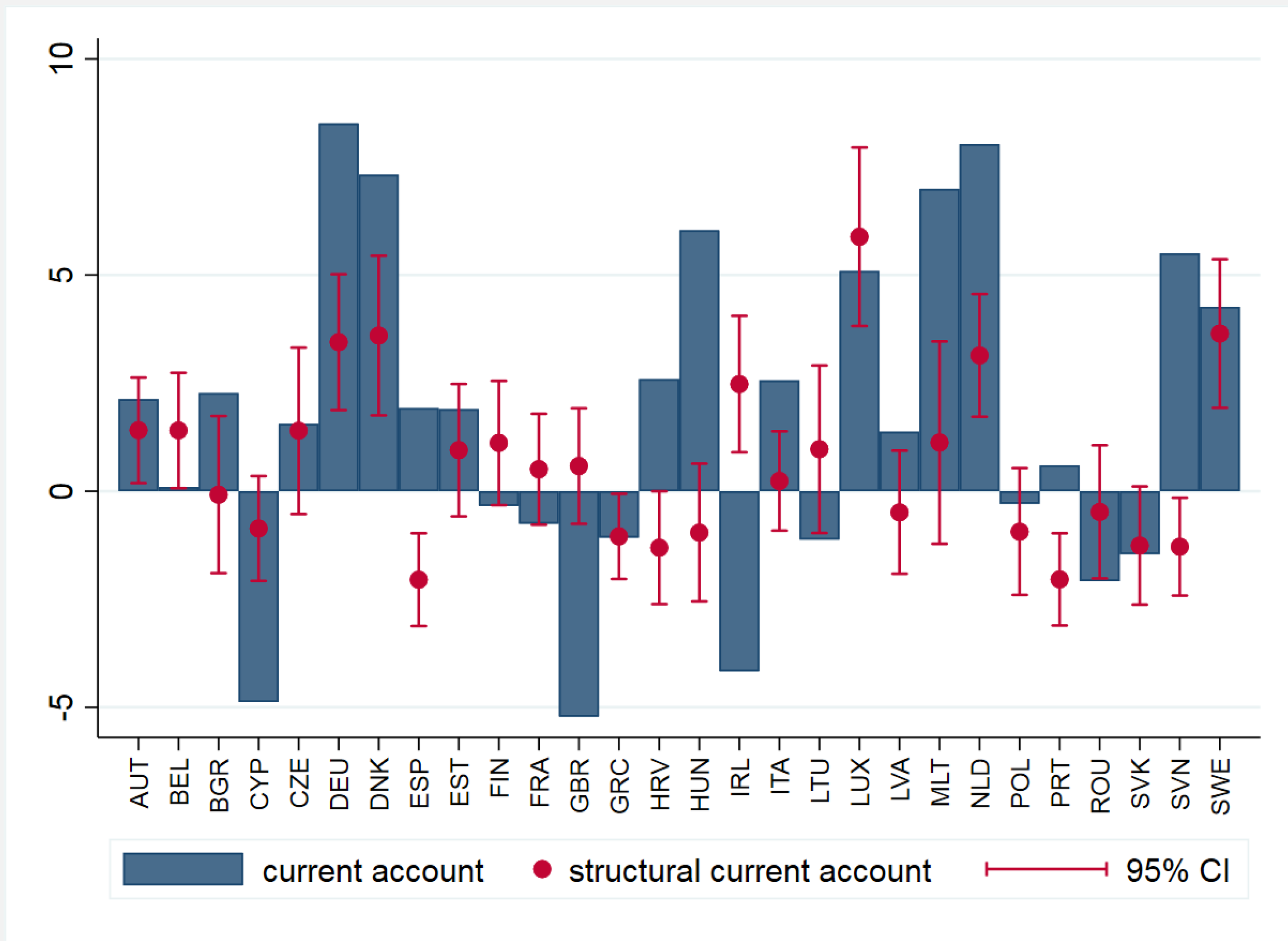
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
income	1.715***	1.752***	1.658***	2.369***	4.100***	4.013***	2.410***	4.223***	3.095***	2.709***	2.116***	2.238***	4.189***	4.077***
	(0.072)	(0.077)	(0.096)	(0.149)	(0.234)	(0.233)	(0.164)	(0.244)	(0.245)	(0.164)	(0.145)	(0.244)	(0.192)	(0.238)
general government balance		0.286***	0.286***	0.286***	0.274***	0.265***	0.287***	0.270***	0.235***		0.310***	0.261***	0.301***	0.249***
		(0.024)	(0.028)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)		(0.026)	(0.027)	(0.026)	(0.026)
initial IIP			0.021***	0.021***	0.018***	0.018***	0.021***	0.017***	0.015***		0.022***	0.015***	0.022***	0.015***
			(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)		(0.002)	(0.002)	(0.002)	(0.002)
national price level				-2.118***	-3.379***	-2.688***	-2.054***	-3.292***	-2.551***		1.815***	2.212***	-0.971***	-0.448
				(0.298)	(0.331)	(0.303)	(0.307)	(0.335)	(0.344)		(0.393)	(0.460)	(0.284)	(0.357)
dependency ratio					0.101***				0.076***			0.042***		0.031***
					(0.010)				(0.010)			(0.010)		(0.010)
dependency ratio, young							-0.011	0.080***						
							(0.015)	(0.017)						
dependency ratio, old						0.077***		0.102***						
						(0.008)		(0.010)						
fuel balance									0.249***			0.267***		0.278***
									(0.016)			(0.016)		(0.016)
income squared										0.412***				
										(0.065)				
national price level squared											4.266***	4.386***		
											(0.310)	(0.295)		
income*national price level													3.023***	2.995***
													(0.215)	(0.208)
Constant	-0.924***	-1.195***	-0.483***	-0.787***	-0.738***	-0.818***	-0.790***	-0.746***	-0.640***	-0.764***	-0.970***	-0.572***	-0.851***	-0.405***
	(0.095)	(0.100)	(0.113)	(0.116)	(0.112)	(0.113)	(0.116)	(0.112)	(0.110)	(0.094)	(0.120)	(0.115)	(0.116)	(0.114)
Observations	2,526	2,253	1,785	1,785	1,785	1,785	1,785	1,785	1,691	2,526	1,785	1,691	1,785	1,691
Countries	94	94	94	94	94	94	94	94	94	94	94	94	94	94

*Robust standard errors in parentheses. Asterisks ***, **, * denote the 1%, 5%, 10% significance levels, respectively.*

Structural CA Calculation

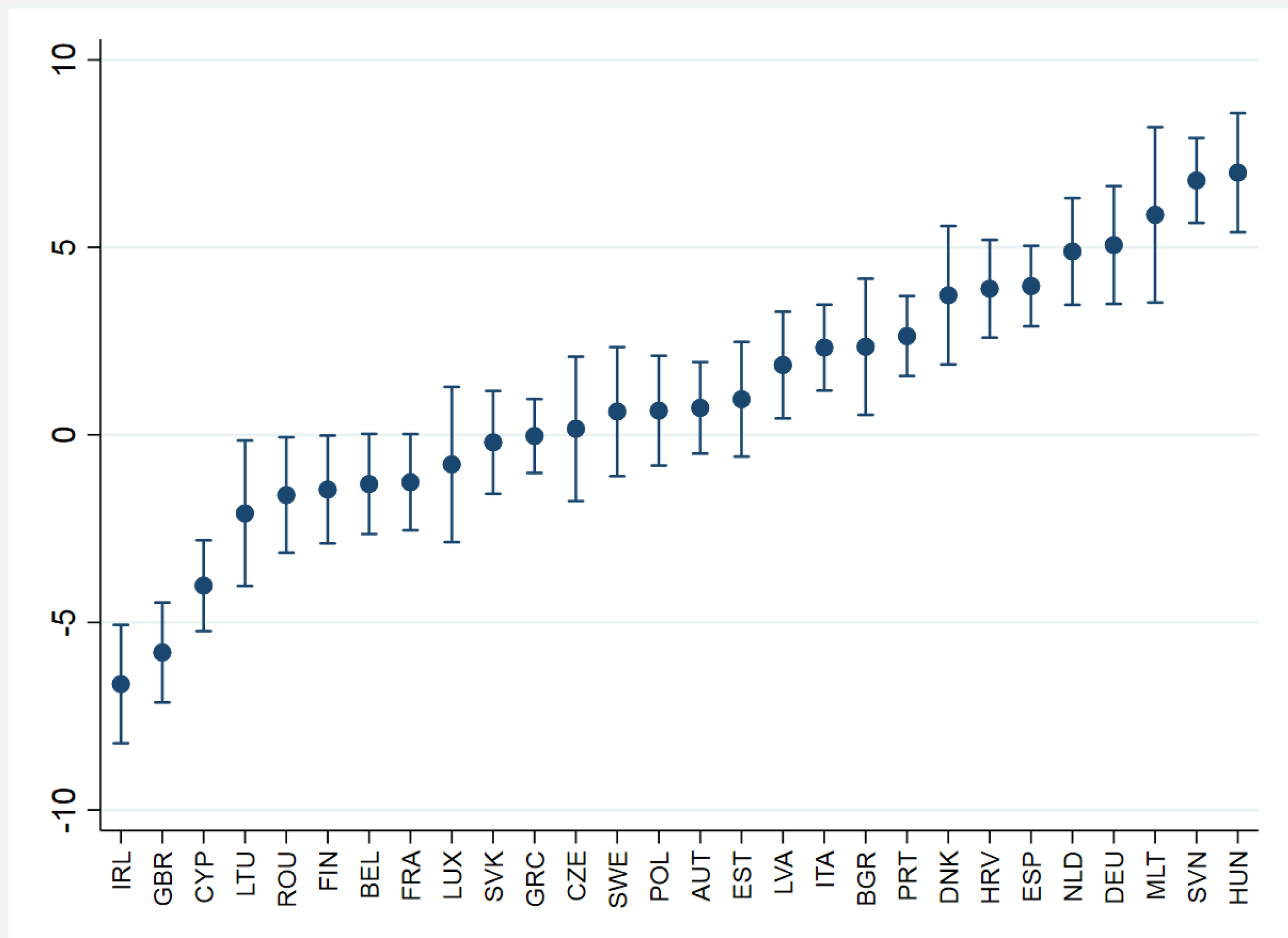
- Based on the regression results, we calculate structural CA levels for the EU countries. To this end, we use the estimated parameters and HP filtered values of explanatory variables.

CA, structural CA and 95% confidence intervals in 2016



- After the crisis, large CA deficits have been significantly corrected, with CA moving towards structural levels, while large CA surpluses persist, standing above the structural levels.
- In 2016 the number of the EU countries with positive deviations from structural CA was higher than the number of countries with negative deviations.

Deviation of CA from structural CA and its 95% confidence intervals



- The changes (since 1995, calculated for 13 EU countries) in structural CA were mainly due to the changes in income and the changes in general government balance.
- The national price level was the crucial factor that stood behind the structural CA developments in CZ, PL, SK and RO.
- Since around mid- 1990s the increasing positive contribution of changes in dependency ratio to the changes in structural CA was recorded in DK, FR, DE, IT and NL.

Decomposition of changes, cumulated between 1995 and 2016, in structural CA