

# The Resilience of Central, Eastern and Southeastern Europe (CESEE) Countries During ECB's Monetary Cycles

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# Outline

1. Research question

2. Methodology

3. Results

## Research question

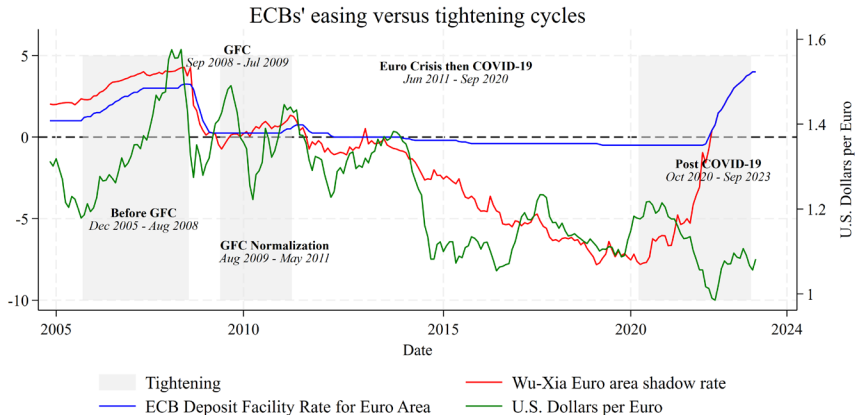
- ▶ We investigate the resilience of CESEE countries during ECB monetary cycles after the entrance of ten countries to the EU in 2004
- ▶ Undeniably, these countries have experienced a 'miracle' growth during the 2000s decade
- ▶ However, several obstacles appeared following the global financial crisis and the euro crisis: in many CESEE countries, the quality of institutions has stalled, or even worse, has known a deterioration
- ▶ How fundamental and institutional variables influence cross-country resilience regarding exchange rates, interest rates, stock prices, inflation, and growth during the subsequent monetary cycles: we focus on five ECB tightening and easing cycles observed during 2005-2023

## Research question

- ▶ Cross-sectional regressions reveal that limiting inflation, active management of precautionary buffers of international reserves, current account surpluses, better financial development, and institution quality are important predictors of resilience in the next cycle
- ▶ The panel regressions show that the US shadow rate strongly influences resilience during the ECB monetary cycles
- ▶ Besides, various asymmetries are discovered for current account balances, international reserves, and fuel import shares during tightening cycles
- ▶ Panel quantile regressions detect asymmetries along the distribution of the dependent variables for financial development, central bank independence, and the inflation rate preceding the cycles

# Research question

Figure 1. ECB tightening and easing cycles 2005-2023



## Research question

- ▶ CESEE defined by the IMF (accessed July 2024) includes Turkey and the following subregions:
- ▶ Central and Eastern Europe (CEE), consisting of the Czech Republic, Hungary, Poland, the Slovak Republic and Slovenia
- ▶ Southeastern European EU member states, Bulgaria, Croatia, and Romania
- ▶ Southeastern European non-EU member states, consisting of Albania, Bosnia & Herzegovina, Kosovo, FYR Macedonia, Montenegro, and Serbia
- ▶ The Baltic region, consisting of Estonia, Latvia and Lithuania
- ▶ The CIS group, consisting of Belarus, Moldova, Russian Federation and Ukraine

- ▶ In 2016, the IMF asks: “How Can CESEE Countries Get Back on the Fast Convergence Path?”
- ▶ The economic trajectory of CESEE countries during the past twenty years was dominated by the challenges associated with the Global Financial Crisis (GFC) and the subsequent Euro crisis
- ▶ From the perspective of the CESEE countries, ECB policy cycles and the Euro/Dollar evolving exchange rates are exogenous shocks, testing their resilience
- ▶ Our paper uses the exogeneity of ECB's cycles to explain the performance of CESEE countries during the past five ECB cycles
- ▶ Specifically, we investigate how macroeconomic conditions at the outset of each cycle influence the performance of CESEE countries during each cycle

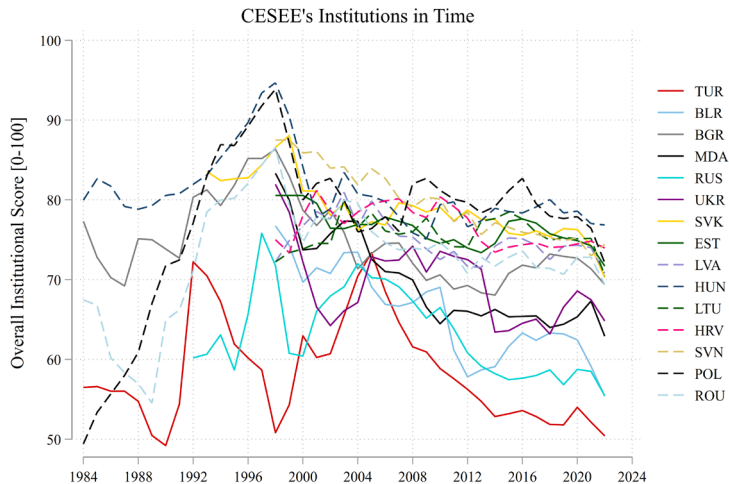
## Research question

- ▶ CESEE countries' history reveals the large heterogeneity of their institutional pattern
- ▶ A portion of the countries experienced an overall stable trajectory (exemplified by Slovakia, Slovenia & Estonia), while other countries experienced large volatility (exemplified by Poland, Turkey & Hungary)
- ▶ We will investigate how greater volatility is associated with the performance of the affected countries
- ▶ **Do ex-ante macroeconomic fundamentals explain why some CESEE countries are more resilient than others during monetary cycles? How CESEEs' institutions account for their resilience?**



# Research question

Figure 2. ICRG overall institutional Score, normalized 0-100



## Research question: Previous literature

- ▶ Previous literature has examined the impact of U.S. Federal Reserve's monetary policy on emerging market (EM) macroeconomic dynamics:
  - ▶ **Caldara et al. (2023)** show that episodes of global tightening are associated with larger economic downturns, worse financial conditions, and a relatively muted decline in inflation
  - ▶ **Ahmed et al. (2023)** study the role of FX reserves in buffering the exchange rate against the US dollar during the 2021-22 Federal Reserve monetary policy tightening
  - ▶ **Georgiadis et al. (2024)** investigate the role in the transmission of global risk to the world economy: that global risk shocks appreciate the dollar, induce tighter global financial conditions, and a synchronized contraction of global economic activity
  - ▶ **Walerych and Wesołowski (2021)** find that the EM spillovers from the monetary policies of the Fed and European Central Bank are global
  - ▶ **Ahmed et al. (2017)** suggest that financial institutions, financial depth, and local currency bond markets may play an important role

## Research question: Novelty

- ▶ **Aizenman et al. (2024)** investigate the determinants of emerging markets performance throughout five U.S. Federal Reserve monetary tightening and easing cycles during 2004 - 2023
- ▶ The baseline cross-sectional regressions examine how those conditions affect three measures of resilience - bilateral exchange rate against the USD, exchange rate market pressure, and country-specific Morgan Stanley Capital International index (MSCI)
- ▶ Using five cross-sections to build a panel database to investigate potential asymmetry between tightening versus easing cycles.
- ▶ The evidence indicates that macroeconomic and institutional variables are associated with EM performance
- ▶ Determinants of resilience differ during tightening versus easing cycles, and institutions matter more during difficult times

# Outline

1. Research question

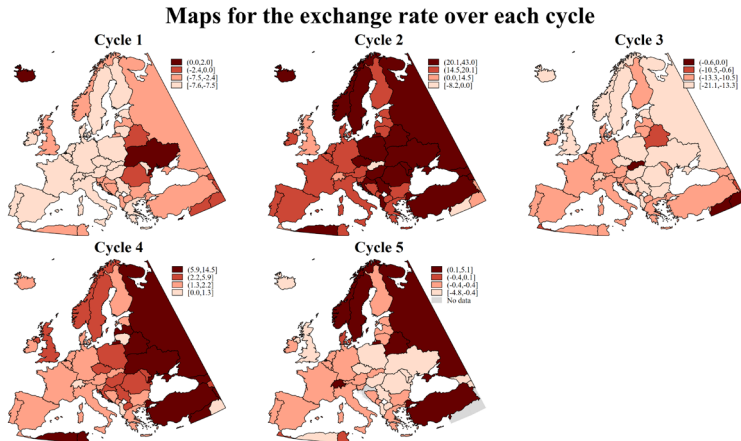
2. Methodology

3. Results

## Methodology: Variables

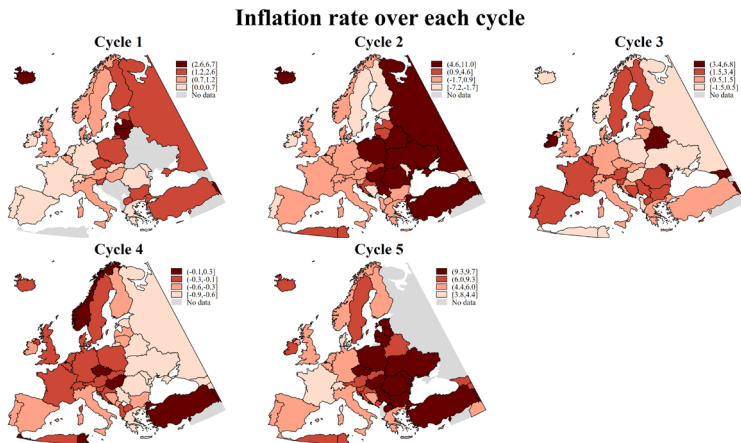
- ▶ Our dataset consists of two sets of variables: the **first** is composed of independent variables observed at a monthly or quarterly frequency
- ▶ The set of independent variables includes six variables: the bilateral exchange rate against the US dollar, the long-term term interest rate on government bonds, stock prices, CPI inflation, Real GDP growth, and the coefficient of variation of growth
- ▶ The **second** group of dependent variables are fundamental and institutional variables that are observed at the yearly frequency. Following **Mishra et al. (2014)**, **Ahmed et al. (2017)**, and **Aizenman et al. (2024)**, we will use the observed value of these variables one year before the monetary cycles
- ▶ The objective is to understand whether these ex-ante fundamental and institutional variables explain the resilience of CESEE countries during ECB monetary cycles

Figure 3. Maps for the exchange rates



The variation over each cycle of the year-on-year growth rate of the bilateral exchange rate (1 USD = E Domestic currency unit) is represented in the maps, expressed as percentage per year. The 21 CESEE countries are observed during the 5 monetary cycles, thus each country appears 5 times for a total of 105 possible observations. Tightening I: Dec 2005-Aug 2008; Easing I: Sep 2008-Jul 2009; Tightening II: Aug 2009-May 2011; Easing II: Jun 2011-Sep 2020; Tightening III: Oct 2020-Sep 2023.

Figure 4. Maps for the inflation rates

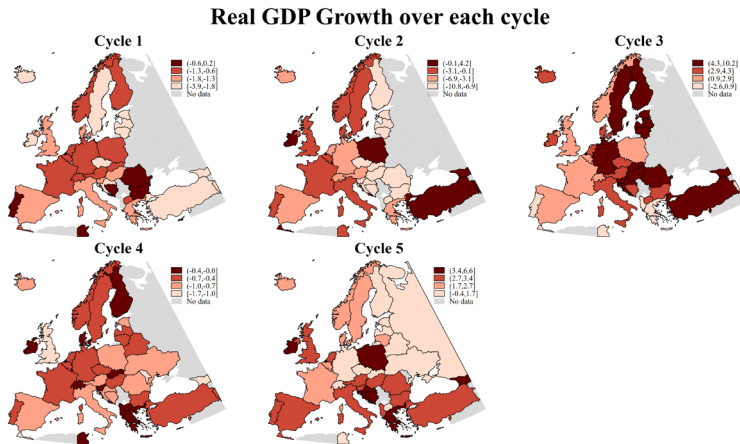


More intense colors indicate a stronger inflation, as percentage per year. Variables are windorized.

The variation over each cycle of consumer price inflation is represented in the maps, expressed as a percentage per year. The 21 CESEE countries are observed during the 5 monetary cycles, thus each country appears 5 times for a total of 105 possible observations.

Tightening I: Dec 2005-Aug 2008; Easing I: Sep 2008-Jul 2009; Tightening II: Aug 2009-May 2011; Easing II: Jun 2011-Sep 2020; Tightening III: Oct 2020-Sep 2023.

Figure 5. Maps for the growth rates



The variation over each cycle of real GDP growth is represented in the maps, expressed as a percentage per year. The 21 CESEE countries are observed during the 5 monetary cycles, thus each country appears 5 times for a total of 105 possible observations. Data is available until July 2022. Tightening I: Dec 2005-Aug 2008; Easing I: Sep 2008-Jul 2009; Tightening II: Aug 2009-May 2011; Easing II: Jun 2011-Sep 2020; Tightening III: Oct 2020-Sep 2023.



## Methodology: Regression

- ▶ Our methodology is based on the contributions of Mishra et al. (2014), Ahmed et al. (2017), and Aizenman et al. (2024)
- ▶ We will regress our set of six independent variables on ex-ante values of several dependent variables
- ▶ These dependent variables are observed the year before ECB monetary cycles
- ▶ The rationale behind this choice is to capture the fundamentals and institutional features that could explain cross-country differences in resilience in the wake of an external shock
- ▶ For the CESEE countries, ECB's decision to start a monetary cycle is an external shock that may have important spillover effects on the rest of Europe.

- ▶ **Cross-sectional regressions**

$$\Delta Y_i^P = c + \sum_j \alpha_j X_{i,j} + \sum_l \beta_l Z_{i,l} + \varepsilon_i$$

- ▶ where  $i$ , denotes each countries;  $Y$ , stands for change in one of the six (P) dependent variables over each ECB's monetary cycles;  $X$ , stands for macroeconomic fundamentals observed the year before the cycle;  $Z$ , stand for institutional variables observed the year before the cycle
- ▶ **Pseudo panel regressions**

$$\Delta Y_{it}^P = c + \sum_j \alpha_j X_{it-1,j} + \sum_l \beta_l Z_{it-1,l} + ECB\_tight_t + US\_shadow_t + \varepsilon_{it}$$

**Table 1.** Descriptive statistics for the full sample after the birth of the euro

	Non-CESEE 3,938 (89.9%)	CESEE 440 (10.1%)	Total 4,378 (100.0%)	Test
Current Account Balance	-1.78 (15.37) -8.64	-4.30 (6.71) -1.56	-2.06 (14.68) -7.11	<0.001
Reserve-to-GDP ratio	19.29 (20.74) 1.07	18.83 (9.84) 0.52	19.24 (19.78) 1.03	0.647
Net International Investment Position	-13.72 (128.26) -9.35	-46.47 (30.15) -0.65	-17.94 (120.70) -6.73	<0.001
Gov. Net Lending/Borrowing	-1.92 (6.97) -3.62	-2.71 (3.03) -1.12	-2.01 (6.66) -3.32	0.019
General Gov. Gross Debt	57.18 (47.00) 0.82	41.64 (20.57) 0.49	55.51 (45.16) 0.81	<0.001
Consumer Price Inflation	6.03 (16.95) 2.81	6.58 (9.69) 1.47	6.09 (16.32) 2.68	0.515
Fuel Export on Total Exports in %	17.11 (27.63) 1.61	10.69 (13.40) 1.25	16.34 (26.41) 1.62	<0.001
Fuel Import on Total Exports in %	14.77 (8.64) 0.59	14.11 (7.83) 0.55	14.69 (8.55) 0.58	0.138
Chinn-Ito index, normalized [0-100]	52.52 (37.96) 0.72	58.65 (33.06) 0.56	53.14 (37.53) 0.71	0.003
Inflation Targeters dummy	0.14 (0.35) 2.47	0.29 (0.45) 1.56	0.16 (0.36) 2.33	<0.001
Financial Development Index [0-100]	30.92 (23.84) 0.77	30.53 (12.27) 0.40	30.88 (22.91) 0.74	0.753
Exchange Rate Stability Index [0-100]	63.78 (30.33) 0.48	51.19 (28.40) 0.55	62.63 (30.37) 0.48	<0.001
Central Bank Independence [0-100]	64.31 (16.41) 0.26	78.46 (11.72) 0.15	66.05 (16.57) 0.25	<0.001
Households, loans and debt securities	42.70 (34.32) 0.80	22.02 (11.66) 0.53	39.01 (32.47) 0.83	<0.001
Overall Institutional Score [0-100]	68.42 (11.82) 0.17	72.34 (6.94) 0.10	68.88 (11.43) 0.17	<0.001
Growth GDP per capita (2017 PPP)	1.66 (6.30) 3.81	3.38 (4.29) 1.27	1.84 (6.14) 3.34	<0.001

In the top row of this table, we have the number of observations and the frequency in percent in parentheses. For the variable in the rows behind the top row, we have the mean, followed by the standard deviation in parentheses, and the coefficient of variation. Finally, we have the p-value from a pooled t-test for equality of means in the last column. We use the *de jure* Chinn-Ito index for financial openness for comparability with previous works.

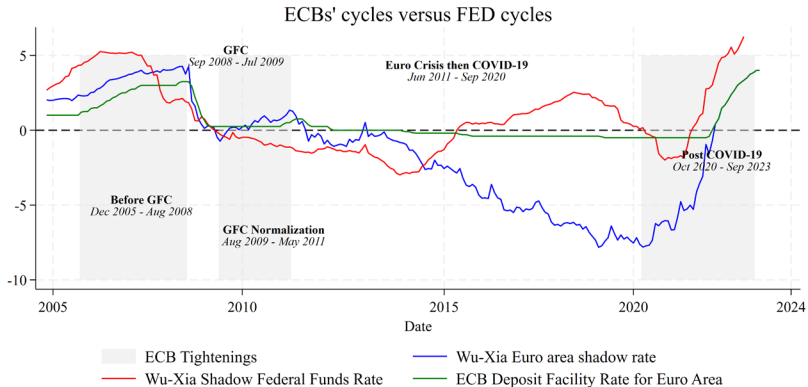
**Table 2.** Descriptive statistics CESEE sample after the birth of the euro

	CESEE low 269 (76.4%)	CESEE high 83 (23.6%)	Total 352 (100.0%)	Test
Current Account Balance	-3.17 (6.20) -1.96	-3.38 (3.78) -1.12	-3.22 (5.72) -1.78	0.765
Reserve-to-GDP ratio	17.70 (10.38) 0.59	16.82 (8.06) 0.48	17.50 (9.88) 0.56	0.480
Net International Investment Position	-41.23 (26.56) -0.64	-52.34 (24.41) -0.47	-43.90 (26.46) -0.60	<0.001
Gov. Net Lending/Borrowing	-2.50 (3.11) -1.24	-3.72 (2.59) -0.70	-2.79 (3.04) -1.09	0.001
General Gov. Gross Debt	39.54 (21.89) 0.55	43.74 (18.34) 0.42	40.54 (21.15) 0.52	0.114
Consumer Price Inflation	7.64 (10.04) 1.31	3.97 (4.88) 1.23	6.77 (9.21) 1.36	0.001
Fuel Export on Total Exports in %	12.68 (15.81) 1.25	6.15 (5.28) 0.86	11.12 (14.30) 1.29	<0.001
Fuel Import on Total Exports in %	14.72 (9.10) 0.62	11.74 (4.67) 0.40	14.01 (8.36) 0.60	0.004
Chinn-Ito index, normalized [0-100]	55.92 (35.72) 0.64	72.86 (23.84) 0.33	60.11 (33.95) 0.56	<0.001
Inflation Targeters dummy	0.29 (0.45) 1.57	0.40 (0.49) 1.24	0.32 (0.47) 1.48	0.065
Financial Development Index [0-100]	30.17 (12.15) 0.40	37.94 (12.30) 0.32	32.09 (12.62) 0.39	<0.001
Exchange Rate Stability Index [0-100]	51.55 (29.76) 0.58	50.17 (24.24) 0.48	51.19 (28.40) 0.55	0.704
Central Bank Independence [0-100]	76.97 (12.89) 0.17	80.06 (8.98) 0.11	77.70 (12.15) 0.16	0.042
Households, loans and debt securities	21.50 (12.17) 0.57	23.55 (11.19) 0.48	22.09 (11.91) 0.54	0.185
Overall Institutional Score [0-100]	70.09 (6.37) 0.09	79.63 (1.83) 0.02	72.34 (6.94) 0.10	<0.001
Growth GDP per capita (2017 PPP)	3.51 (4.52) 1.29	3.41 (4.17) 1.22	3.48 (4.43) 1.27	0.866

See footnote of Table 1.

# Research question

Figure 6. ECB tightening and easing cycles 2005-2023



# Outline

1. Research question

2. Methodology

3. Results

# Results: Cross-sectional regression

Table 3. Cross-sectional regressions for the exchange rates

	Before GFC Tightening I Dec 2005 - Aug 2008	GFC Easing I Sep 2008 - Jul 2009	After GFC Tightening II Aug 2009 - May 2011	Euro crisis Easing II Jun 2011 - Sep 2020	Post-COVID Tightening III Oct 2020 - Sep 2023
Current Account Balance			0.51		
Reserves-to-GDP ratio	0.14	-0.16		-0.60	
Net International Investment Position				0.11	
Gov. Net Lending					
General Gov. Gross Debt			0.08		
Consumer Price Inflation	0.40			5.04	1.12
Fuel Export on Total Exports			-0.12		
Fuel Import on Total Imports	0.35				
Chinn-Ito index, normalized	-0.07	0.12		-0.28	
Inflation Targeters	12.07				
Financial development index			-0.16	-0.51	0.10
Exchange Rate Stability Index	0.07	-0.09	0.09		0.13
Central Bank Independence					
Institutional score	-0.07		-0.40		
Chinn-Ito index # CESEE		-0.25			
Inflation Targeters # CESEE	-11.28	11.30	-10.24		
Financial Development index # CESEE				1.28	
Central Bank Independence # CESEE		-0.38			
Institutional score # CESEE	-0.07	0.72			
Number of countries	71	80	80	77	74
Mean of the dependent variable	-11.08	14.69	-21.35	46.84	-0.99

The explained variable is the variation over the cycle of the year-on-year growth rate of the bilateral exchange rate (1 USD = E Domestic currency unit).

# Results: Cross-sectional regression

Table 4. Cross-sectional regressions for the interest rates

	Before GFC Tightening I Dec 2005 - Aug 2008	GFC Easing I Sep 2008 - Jul 2009	After GFC Tightening II Aug 2009 - May 2011	Euro crisis Easing II Jun 2011 - Sep 2020	Post-COVID Tightening III Oct 2020 - Sep 2023
Current Account Balance	-0.03			0.15	
Reserves-to-GDP ratio			-0.06		-0.02
General Gov. Gross Debt	-0.003	0.01			
Consumer Price Inflation	-0.21	0.25			0.26
Fuel Export on Total Exports		0.01			
Fuel Import on Total Imports					-0.04
Chinn-Ito index, normalized				-0.02	0.02
Inflation Targeters					
Financial development index		0.01			
Exchange Rate Stability Index					
Central Bank Independence	0.02			-0.03	
Institutional score	-0.04	0.03			
Chinn-Ito index, normalized # CESEE			-0.02	0.06	-0.02
Inflation Targeters # CESEE	-0.65			2.73	
Financial development index # CESEE	-0.04	-0.05			
Central Bank Independence # CESEE	-0.08	0.04		0.23	
Institutional score # CESEE	0.10		0.17		
Number of countries	37	38	38	38	40
Mean of the dependent variable	0.89	0.22	-0.56	-3.7	3.2

The explained variable is the variation of the long-term interest rate over the cycle.



# Results: Cross-sectional regression

**Table 5.** Cross-sectional regressions for the stock prices

	Before GFC Tightening I Dec 2005 - Aug 2008	GFC Easing I Sep 2008 - Jul 2009	After GFC Tightening II Aug 2009 - May 2011	Euro crisis Easing II Jun 2011 - Sep 2020	Post-COVID Tightening III Oct 2020 - Sep 2023
Current Account Balance		1.30	0.60	4.45	
Reserves-to-GDP ratio	0.87				
General Gov. Gross Debt	-0.23	-0.23			
Consumer Price Inflation			2.44		6.07
Fuel Export on Total Exports					
Fuel Import on Total Imports					
Chinn-Ito index, normalized					
Inflation Targeters			15.08		
Financial development index					
Exchange Rate Stability Index					
Central Bank Independence		-0.24		-1.05	
Institutional score		-1.33			
Chinn-Ito index, normalized # CESEE	-0.36				1.26
Inflation Targeters # CESEE		26.62			
Financial development index # CESEE	1.29	-0.51		-1.58	2.12
Central Bank Independence # CESEE				1.10	
Institutional score # CESEE	-0.47				-2.25
Number of countries	43	45	45	45	45
Mean of the dependent variable	-53.65	-21.8	19.72	31.88	38.77

The explained variable is the variation of the stock price index over the cycle, expressed as percentage.

# Results: Cross-sectional regression

**Table 6.** Cross-sectional regressions for the inflation rates

	Before GFC Tightening I Dec 2005 - Aug 2008	GFC Easing I Sep 2008 - Jul 2009	After GFC Tightening II Aug 2009 - May 2011	Euro crisis Easing II Jun 2011 - Sep 2020	Post-COVID Tightening III Oct 2020 - Sep 2023
Current Account Balance					-0.26
Reserves-to-GDP ratio					
General Gov. Gross Debt			-0.03	0.02	
Consumer Price Inflation			0.20		1.18
Fuel Export on Total Exports		0.04	-0.04	0.03	
Fuel Import on Total Imports					
Chinn-Ito index, normalized		-0.04			
Inflation Targeters		1.89	-2.50	2.28	
Financial development index	-0.09				
Exchange Rate Stability Index					
Central Bank Independence	-0.11	-0.15			
Institutional score				0.08	
Chinn-Ito index, normalized # CESEE	0.04				0.06
Inflation Targeters # CESEE					
Financial development index # CESEE	0.20		-0.06	0.16	-0.13
Central Bank Independence # CESEE	0.25			0.13	
Institutional score # CESEE	-0.40	0.19		-0.22	0.20
Number of countries	53	78	77	96	87
Mean of the dependent variable	4.64	1.56	2.94	-2.83	19.34

The explained variable is the variation over the cycle of consumer price inflation, expressed as a percentage.

# Results: Cross-sectional regression

**Table 7.** Cross-sectional regressions for the real GDP growth rates

	Before GFC Tightening I Dec 2005 - Aug 2008	GFC Easing I Sep 2008 - Jul 2009	After GFC Tightening II Aug 2009 - May 2011	Euro crisis Easing II Jun 2011 - Sep 2020	Post-COVID Tightening III Oct 2020 - Sep 2023
Current Account Balance					
Reserves-to-GDP ratio				-0.04	
General Gov. Gross Debt					
Consumer Price Inflation					-0.47
Fuel Export on Total Exports					
Fuel Import on Total Imports			-0.11		
Chinn-Ito index, normalized		-0.04			
Inflation Targeters					
Financial development index	-0.05				-0.08
Exchange Rate Stability Index					
Central Bank Independence					
Institutional score					0.14
Chinn-Ito index, normalized # CESEE		-0.05	0.18	0.02	
Inflation Targeters # CESEE		3.64			
Financial development index # CESEE					0.29
Central Bank Independence # CESEE	-0.28	0.09	0.34		
Institutional score # CESEE	0.33		-0.47		
Number of countries	61	68	71	80	76
Mean of the dependent variable	-3.57	-2.97	5.08	-6.95	7.36

The explained variable is the variation over the cycle of real GDP growth, expressed as a percentage

# Results: Cross-sectional regression

**Table 8.** Cross-sectional regressions for the real GDP growth's CV

	Tightening I Dec 2005 - Aug 2008	Easing I Sep 2008 - Jul 2009	Tightening II Aug 2009 - May 2011	Easing II Jun 2011 - Sep 2020	Tightening III Oct 2020 - Sep 2023
Current Account Balance					
Reserves-to-GDP ratio	0.04		0.01		-0.01
General Gov. Gross Debt		0.01	0.03		
Consumer Price Inflation	0.13	0.11			
Fuel Export on Total Exports				-0.04	
Fuel Import on Total Imports	0.09				
Chinn-Ito index, normalized	-0.02	-0.01			
Inflation Targeters					
Financial development index	-0.02		-0.02	-0.07	-0.01
Exchange Rate Stability Index					
Central Bank Independence	0.02		0.05		
Institutional score		0.04			
Chinn-Ito index, normalized # CESEE					-0.02
Inflation Targeters # CESEE		-1.46		1.95	
Financial development index # CESEE		-0.04		0.09	0.05
Central Bank Independence # CESEE				0.08	
Institutional score # CESEE			-0.06	-0.16	
Number of countries	61	67	70	79	75
Mean of the dependent variable	3.78	1.69	2.43	7.69	2.82

The explained variable is the variation over the cycle of the real GDP growth's coefficient of variation (computed as the ratio between the standard error and the mean).

- ▶ **Panel regressions**
- ▶ **Panel regression with FE**
- ▶ **Panel quantile regressions**  
Better scores in central bank independence produce better resilience during the next tightening, especially for large depreciations
- ▶ The buffer effect of international reserves on the interest rate is significant for the lower percentiles of interest rate variation
- ▶ We do not detect significant asymmetries in the stock prices

## Results: Panel regressions

- ▶ Higher inflation becomes a bigger drag on resilience for countries that experience a higher increase in inflation during the cycle
- ▶ This asymmetry is potentially important for policy makers, as it reminds the benefit of controlling inflation in the wake of ECB monetary spillovers
- ▶ Financial development may help to stabilize growth during the monetary cycles, especially for the lower percentiles of growth
- ▶ Financial development may help to stabilize growth, especially when growth is highly dispersed during the next monetary cycles

## Results: Panel regressions

- ▶ **Quantile regressions with FE**

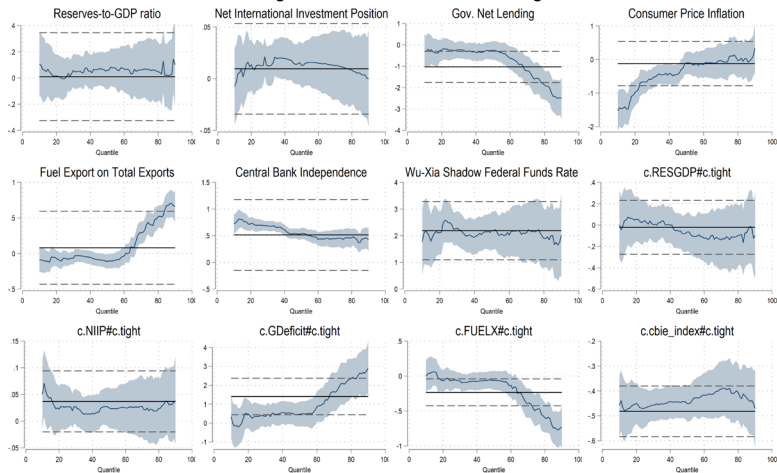
Following Rios-Avila et al. (2024), we compute standard errors through bootstrapping in the Canay's estimator

- ▶ The results are similar
- ▶ We can note that better financial development improves growth and reduces its covariance during the next monetary cycles
- ▶ In the next figures, the black plain and dotted lines relates to OLS estimates and confidence intervals, respectively

# Results: Panel Quantile regressions with FE

Table 9. Panel regressions for the exchange rate

## Quantile regressions with FE - Exchange Rate

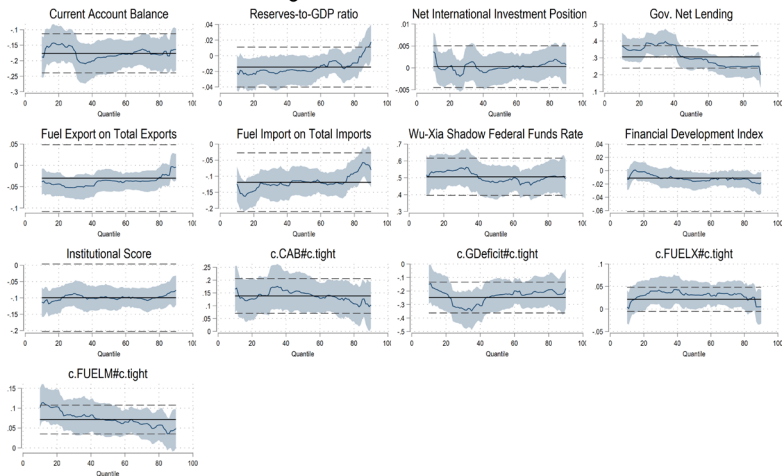




# Results: Panel Quantile regressions with FE

Table 10. Panel regressions for the interest rate

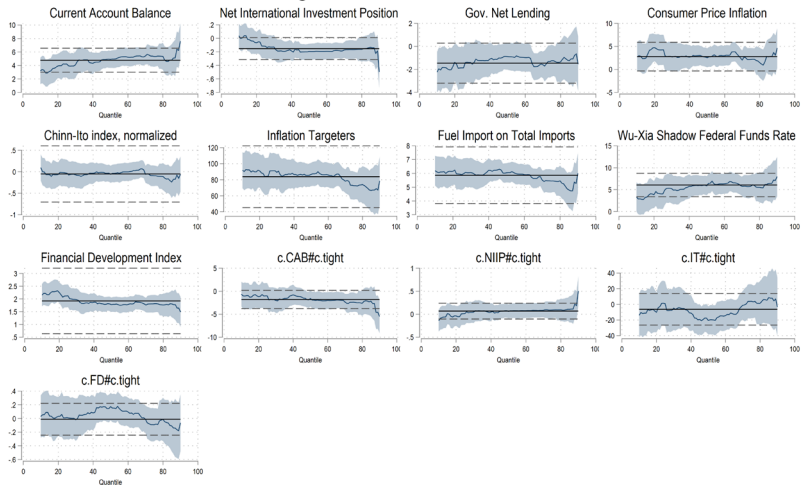
## Quantile regressions with FE - Interest Rate



# Results: Panel Quantile regressions with FE

Table 11. Panel regressions for the stock prices

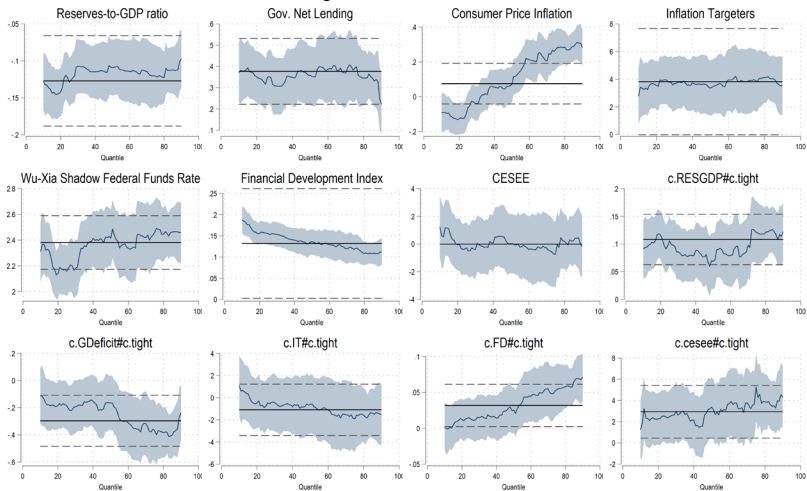
## Quantile regressions with FE - Stock Prices



# Results: Panel Quantile regressions with FE

Table 12. Panel regressions for inflation rates

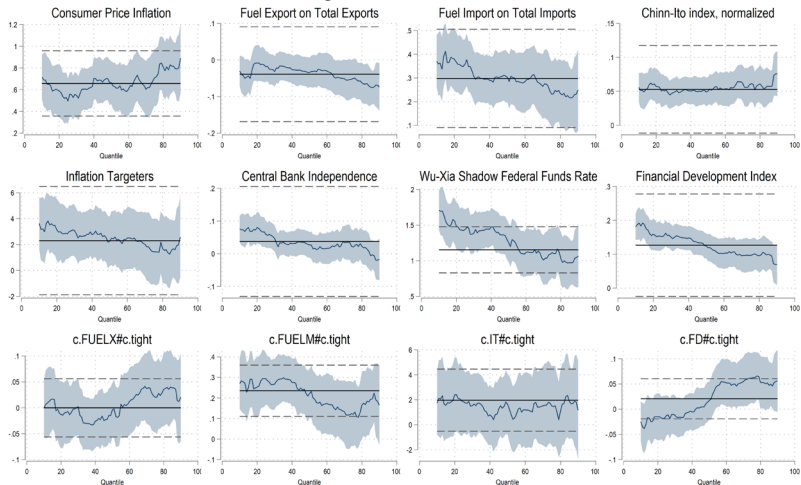
## Quantile regressions with FE - Inflation



# Results: Panel Quantile regressions with FE

Table 13. Panel regressions for real GDP growth rates

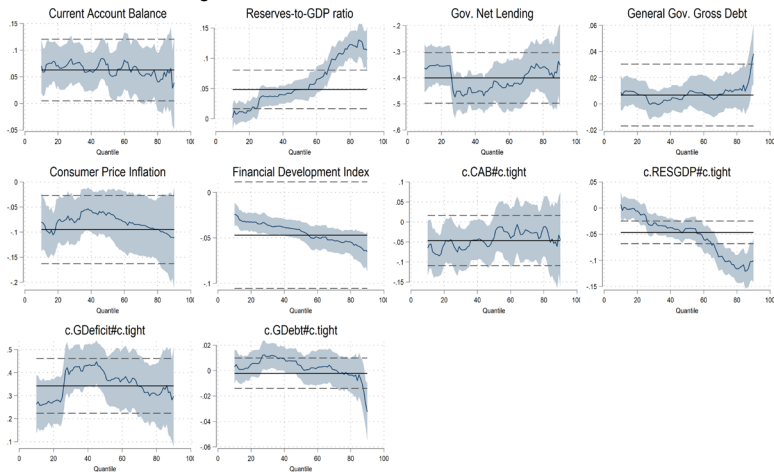
## Quantile regressions with FE - Growth



# Results: Panel Quantile regressions with FE

Table 14. Panel regressions for growth's CV

## Quantile regressions with FE - Growth's coefficient of variation



# Final thoughts

## Key takeaways

- ▶ We explore the resilience of CESEE countries during ECB monetary cycles
- ▶ We identify the main fundamental and institutional variables that enhance resilience
- ▶ Proper management of inflation, international reserves, current account, and financial institutions matter
- ▶ The US shadow rate strongly influences CESEE performance during ECB monetary cycles
- ▶ Financial development and central bank independence have asymmetrical effects