



The Impact of the ECB's Quantitative Easing Policy on Capital Flows in the CESEE Region

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Outline

- Motivation
- Model specification
- Data and methodology
- Main results
- Conclusion



Motivation of the Study

- Prolonged ECB accommodative stance through quantitative easing policies
- Tight trade and financial linkages of the CESEE region with the Euro Zone
- Exploring the possible effect of quantitative easing on capital flows in the region
- Assessing the potential impact that the withdrawal of the stimulus might have on the region
- Literature on the ECB policy on the capital flows in the region – rather scarce when drafting the paper



Literature Review

- **Fratzsher et al. (2014)** – find positive impact of ECB policy through lower risk aversion, increased equity prices and lowered credit risk for sovereigns and global banks. No evidence on portfolio rebalancing channel;
- **Georgiadis and Grab (2015)** – focus on the ECB announcement on extended APP in January 2015. Find evidence on the signaling channel;
- **Falagiarda, McQuade & Tirpák (2015)** – exploiting the impact on announcements of ECB measures on four CEE countries and finding evidence for strong spillovers, on sovereign bond yields, in particular. Find more pronounced evidence on portfolio rebalancing and signaling channel;
- **Ciarlone and Colabella (2016)** – investigate the impact on eleven CESEE, using event study and find evidence on short and long term impact of ECB policy on different economic variables, including capital inflows;
- **Ciarlone and Colabella (2017)** – evidence on ECB policies on taming volatilities on stock markets, government bond yields and foreign exchange market in six CEE countries. Find evidence on risk-taking and liquidity channel of transmission.



Model specification

- The generic specification - modified traditional function of capital flows with “push” and “pull” factors included

$$TF_{it} = \alpha + \sum_{j=1}^n \beta GDP_{PCit} + \sum_{j=1}^n \gamma IR_{it} + \delta ECBAS_{it} + \omega_{it} \quad (1)$$

Where:

TF - total capital inflows to GDP, or its specific components

GDP_{PC} - GDP per capita based on purchasing power parity in current international dollars

IR - interest rate on long term government securities issued on the domestic market

ECBAS - balance sheet of the European Central Bank, i.e. its assets to GDP



Data and methodology

- Annual data on fourteen CESEE countries for the 2003 – 2015 period
- Estimation choice constrained by the limited sample
- Simple VAR performed on stacked panel data as a first step
- Panel estimation by using Mean Group Estimator to deal with the small sample

	Description
TL_GDP	Total Liabilities to GDP
DIL_GDP	Direct investment liabilities to GDP
PIL_GDP	Portfolio Liabilities to GDP
DEBTPORT	Debt Portfolio Liabilities to GDP
DEBPORTGOV	Government Debt Portfolio Liabilities to GDP
ODL_GDP	Other liabilities, debt component, to GDP
ODLGG_GDP	Other liabilities, government, debt component, to GDP
ODLLB_GDP	Other liabilities, banks, debt component, to GDP
GDP_PC_USD	GDP per capita based on PPP, in current international dollars
IR	Interest Rate
ECB_GDP	ECB balance sheet, assets to GDP

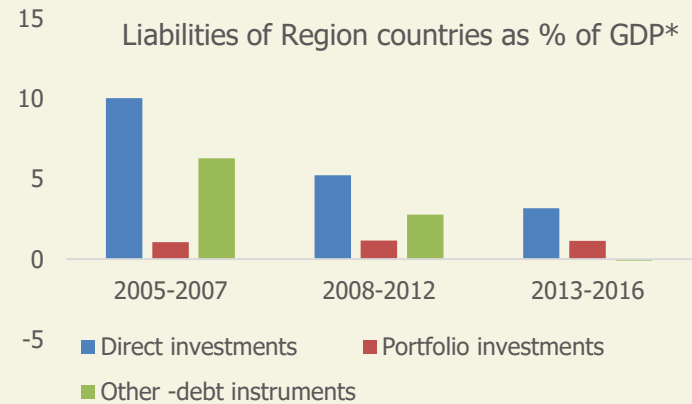


What does data reveal?

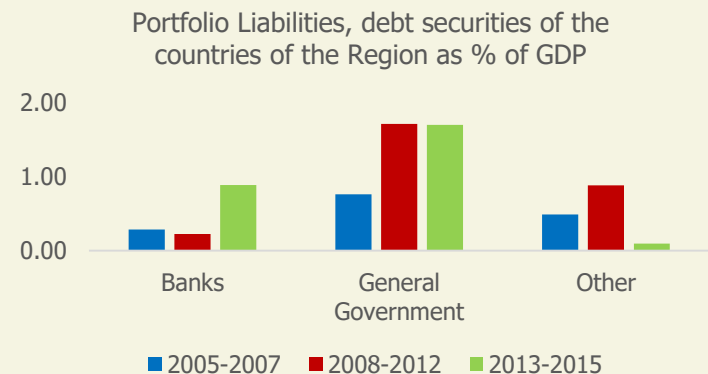
Broad-based deceleration of capital inflows after the burst of the crisis



Slower growth of FDI, stable portfolio and muted debt flows



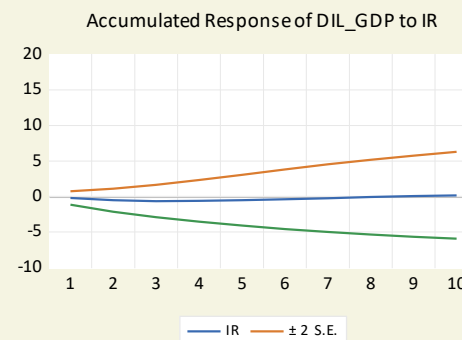
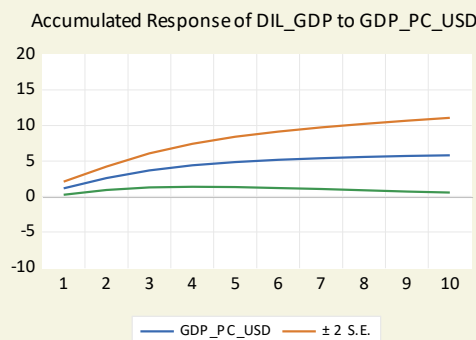
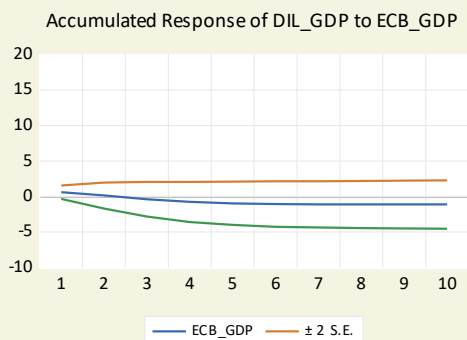
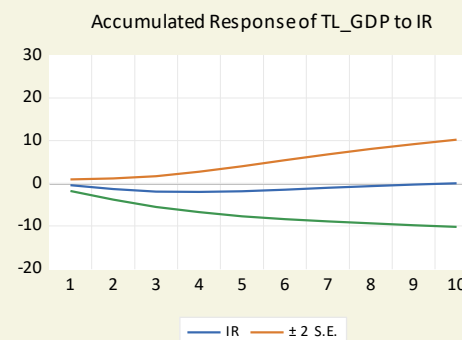
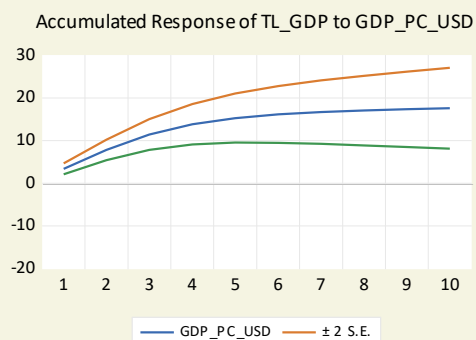
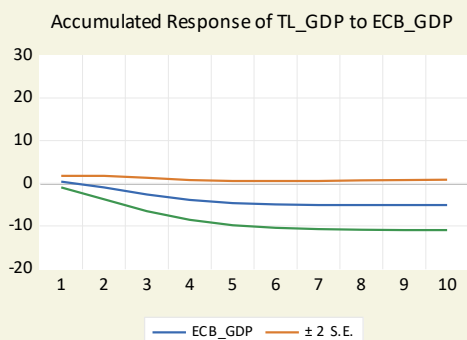
The sectoral view provides evidence of rising foreign flows into the government sector, given the countercyclical stance and less difficult access to financing





Results (VAR estimation)

No evidence on impact of the change in ECB balance sheet on capital inflows – an inference pertaining to total liabilities and FDI

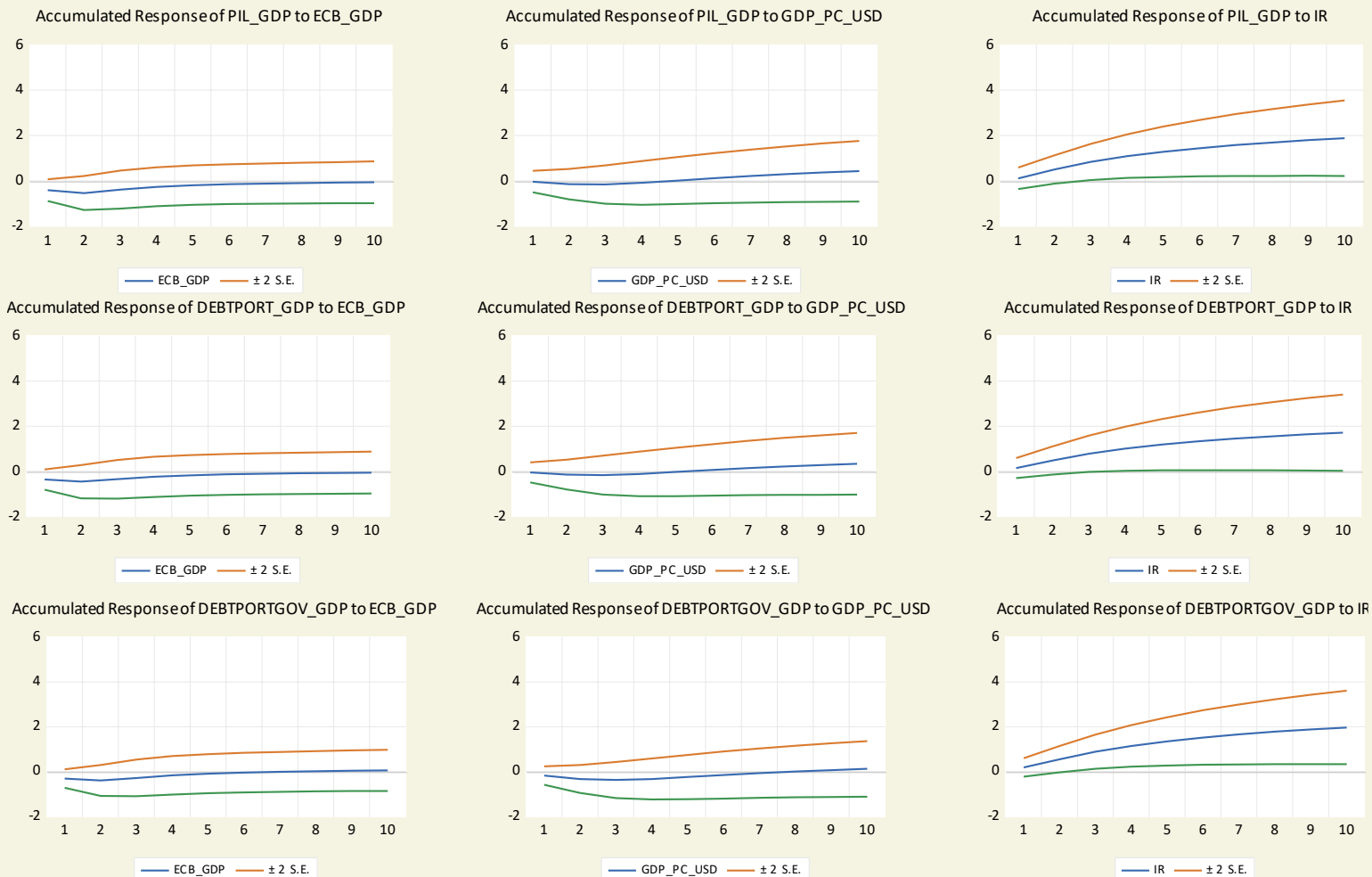


Robust standard errors in brackets
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$



Results (VAR estimation)

No evidence on impact of the change in ECB balance sheet on capital inflows – an inference pertaining to portfolio inflows



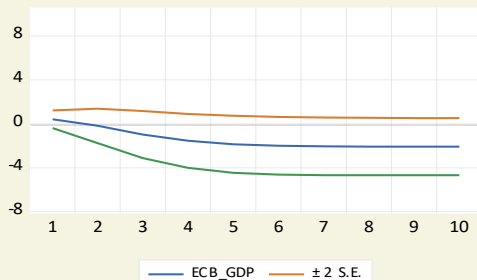
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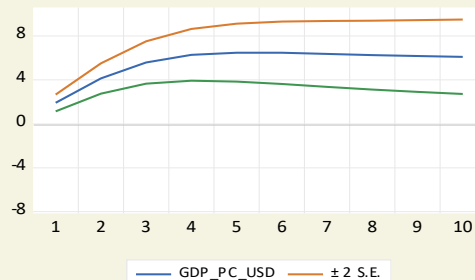
Results (VAR estimation)

No evidence on impact of the change in ECB balance sheet on other debt inflows – banks' debt flows border case, but indicating inverse relationship and providing evidence on the impact of European banks deleveraging process

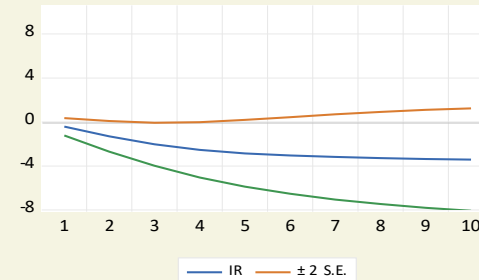
Accumulated Response of ODL_GDP to ECB_GDP



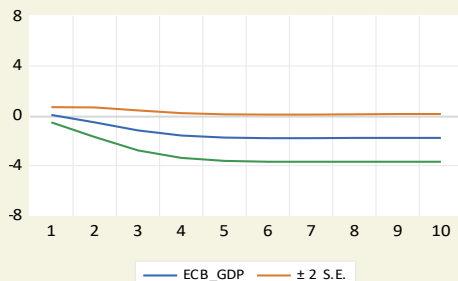
Accumulated Response of ODL_GDP to GDP_PC_USD



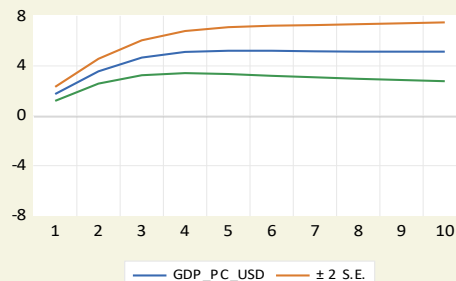
Accumulated Response of ODL_GDP to IR



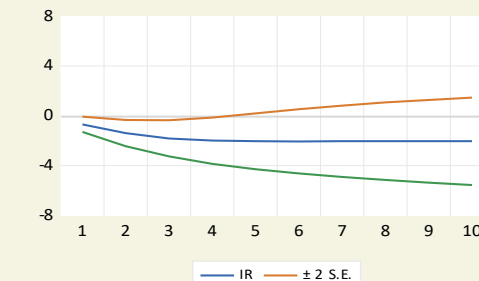
Accumulated Response of ODLLB_GDP to ECB_GDP



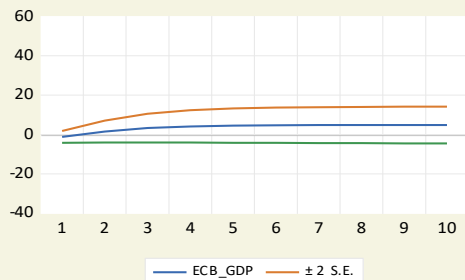
Accumulated Response of ODLLB_GDP to GDP_PC_USD



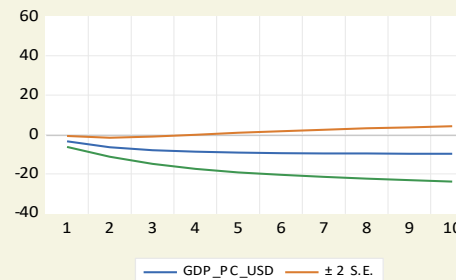
Accumulated Response of ODLLB_GDP to IR



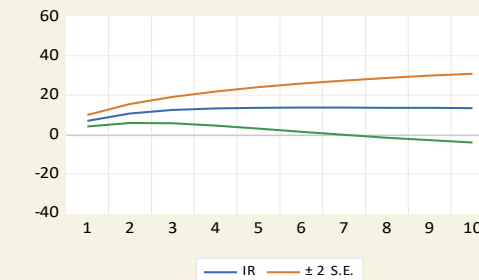
Accumulated Response of ODLGG_GDP to ECB_GDP



Accumulated Response of ODLGG_GDP to GDP_PC_USD



Accumulated Response of ODLGG_GDP to IR



Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1



Results of Panel Estimates

- Evidence of ECB balance sheet impact on the capital flows in the region, but not in line with the prior – inverse relationship between the two
- Fundamental factors (growth and interest rates) seems to play role in the inflows dynamics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	TL_GDP	DIL_GDP	PIL_GDP	DEBTPORT	DEBTPORTGOV	ODL_GDP	ODLGG_GDP	ODLGB_GDP
logecb_gdp	-0.596*** (0.184)	-0.326*** (0.119)	-0.00326 (0.0335)	-0.0224 (0.1000)	0.115 (0.0748)	-0.660*** (0.224)	-0.0138 (0.0995)	-0.457*** (0.159)
loggdp_pc_usd	0.812* (0.458)	0.603 (0.378)	0.0654 (0.101)	0.272 (0.289)	-0.394 (0.689)	0.640 (0.457)	0.1000 (0.194)	0.386 (0.273)
ir	0.0525*** (0.0192)	0.0342** (0.0139)	0.00659 (0.00425)	0.0251** (0.0127)	-0.00023 (0.0311)	0.0320** (0.0158)	0.0261* (0.0149)	0.0102 (0.0131)
Constant	-3.060 (4.153)	-1.966 (3.512)	2.784*** (0.948)	-0.306 (2.706)	5.650 (6.494)	-1.735 (3.979)	1.175 (1.711)	0.329 (2.341)
Observations	178	178	169	169	156	178	178	178
Number of country	14	14	14	14	14	14	14	14

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



Alternative specification

-Inclusion of dummy for the crisis-

- Does not change the conclusion on inverse relationship between the ECB assets and capital flows, but significance lost in all subcomponents of the inflows
- The dummy significant with adverse impact on all capital inflows, apart from the government debt inflows, confirming the notion on the government sector as the main beneficiary of the quantitative easing policies

VARIABLES	(1) TL_GDP	(2) DIL_GDP	(3) PIL_GDP	(4) DEBTPORT	(5) DEBTPORTGOV	(6) ODL_GDP	(7) ODLGG_GDP	(8) ODLGB_GDP
logecb_gdp	-0.171* (0.0993)	0.0261 (0.0863)	-0.0199 (0.0654)	0.0701 (0.120)	0.0701 (0.120)	-0.303 (0.232)	-0.128 (0.113)	-0.161 (0.106)
loggdp_pc_usd	0.845* (0.448)	0.626* (0.374)	0.156 (0.140)	-0.356 (0.692)	-0.356 (0.692)	0.562 (0.500)	0.0400 (0.221)	0.354 (0.272)
ir	0.0586*** (0.0204)	0.0395** (0.0158)	0.00785 (0.00506)	0.00316 (0.0316)	0.00316 (0.0316)	0.0337** (0.0165)	0.0246 (0.0158)	0.0129 (0.00998)
dum	-0.354*** (0.0955)	-0.292** (0.126)	-0.0118 (0.0424)	0.0205 (0.0660)	0.0205 (0.0660)	-0.271** (0.136)	0.118*** (0.0355)	-0.235** (0.0923)
Constant	-4.423 (4.266)	-3.070 (3.797)	1.964 (1.274)	5.371 (6.503)	5.371 (6.503)	-1.844 (4.427)	1.995 (1.925)	-0.0762 (2.479)
Observations	178	178	169	156	156	178	178	178
Number of country	14	14	14	14	14	14	14	14

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$



Conclusion

- Our study reveals inverse relationship between capital inflows in the region and ECB's quantitative easing policy, proxied with the change of the size of ECB balance sheet;
- We have tested for the relationship, by including several different types of capital inflows;
- The results are contrasting our prior, pointing to the severity of the crisis, to which ECB responded to, as major constraint for positive spillovers of ECB easing on capital inflows in the region;
- The inclusion of the crisis dummy in the initial specification, confirms the previous hypothesis;
- The dummy crisis has adverse impact on most of the inflows, except for the government, that benefited from liquidity glut, low interest rates and risk averseness;
- The reversal of the stimulus, with probable impact on government sector, primarily, if timely adjustments are not in place.



Thank you for your attention!