

EMU and Macro-Financial Stability

Banco de Portugal Workshop

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May 2015

Introduction

- National macro-financial stability in a monetary union
- Volatility and long-run economic performance
 - Hysteresis mechanisms
 - Sectoral misallocations (T/NT; Construction/Manufacturing; Private/Public)
 - Intertemporal misallocations and crisis risk

Monetary Union and Volatility

- Monetary union - lack of national currencies; risk of excessive cross-border financial flows; amplification dynamics
- Elimination of asymmetric currency shocks
- Buffer role of eurosystem liquidity
- Mitigating role of national policy frameworks (macro-prudential; fiscal)
- System resilience (labour market; legal system; financial system)

Empirical Evidence

- (Shadow Taylor Rules - not here)
- 1 Compare euro and non-euro economies over 1984-2013 (34 OECD countries)
- 2 Intra-area deviations over 1999-2013
- 3 External adjustment over 2009-2013

Macro-Financial Cyclical Elasticities

- Over 1984-2013 for 34 OECD economies

$$\Delta X_{it} = \alpha_i + \phi_t + \beta GROW_{it} + \sigma GROW_{it} * euro_{it} + \gamma GROW_{it} * noneuro_{it} + \delta euro_{it} + \theta noneuro_{it} + \rho \Delta X_{it-1} + \varepsilon_{it}$$

- inflation; real exchange rate; current account balance; fiscal balance; net debt flows; net portfolio flows; net bank debt flows; net FDI flows

Macro-Financial Cyclical Elasticities I, 1984-2013

	π	ΔRER	ΔCAB	ΔFB
GROW	-1.7*** (0.4)	0.5** (0.2)	-0.3*** (0.04)	0.3*** (0.1)
GROW*euro	1.3* (0.7)	-0.4 (0.4)	-0.0 (0.1)	-0.2** (0.1)
GROW*neuro	0.8 (0.6)	0.5 (0.4)	-0.2*** (0.1)	-0.1** (0.1)
LDV	0.5*** (0.03)	0.1** (0.03)	-0.1*** (0.03)	-0.1** (0.03)
R^2 (within)	0.37	0.05	0.17	0.32
R^2 (between)	0.83	0.03	0.0004	0.0002
R^2 (overall)	0.42	0.05	0.15	0.31
N	975	878	962	850

Macro-Financial Cyclical Elasticities II, 1984-2013

	FDI	PORT	DEBT ^B	DEBT ^T
GROW	0.1 (0.2)	-0.1 (0.3)	-0.1 (0.6)	0.5 (0.7)
GROW*euro	-0.2 (0.4)	-1.8*** (0.6)	1.6 (1.1)	0.9 (1.3)
GROW*neuro	-0.1 (0.3)	0.005 (0.5)	-0.4 (0.9)	-0.9 (1.1)
LDV	-0.2*** (0.03)	-0.3*** (0.03)	-0.4*** (0.03)	-0.2*** (0.03)
R^2 (within)	0.20	0.14	0.16	0.09
R^2 (between)	0.02	0.33	0.82	0.004
R^2 (overall)	0.20	0.13	0.15	0.09
N	946	921	961	953

Macro-Financial Cyclical Elasticities: Summary

- Inflation more pro-cyclical for member countries: destabilising pattern
- Net portfolio inflows more pro-cyclical for member countries: destabilising pattern

Macro-Financial Deviations Under EMU

- 1999-2013 for members of the euro area

$$\Delta Z_{it} = \alpha_i + \theta_t + \beta * GROW_{it} + \varepsilon_{it}$$

- Z: private consumption; private investment; government absorption; current account balance; real exchange rate; inflation (CPI, GDP deflator); fiscal balance; domestic credit; net portfolio flows; net FDI flows

Macro-Financial Deviations I , 1999-2013

	C	I	G	CAB	I
GROW	-2.1*** (0.4)	0.4*** (0.1)	-0.3*** (0.1)	0.7*** (0.2)	0.5*** (0.1)
R2 (within)					0.30
R2 (between)					0.01
R2 (overall)	0.04	0.30	0.05	0.07	0.11
N	180	180	180	180	180
Country FE	No	No	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes

Macro-Financial Deviations II, 1999-2013

	ΔRER	π	π^Y	ΔRER	π	π^Y
GROW	0.1	0.1***	0.3***	0.1	0.1***	0.3***
	(0.1)	(0.04)	(0.1)	(0.1)	(0.04)	(-0.1)
R2 (within)				0.82	0.15	0.18
R2 (between)				0.03	0.001	0.06
R2 (overall)	0.82	0.15	0.18	0.80	0.11	0.17
N	168	180	168	168	180	168
Country FE	No	No	No	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Macro-Financial Deviations III, 1999-2013

	FB	DC	FB	DC
GROW	0.7*** (0.1)	1.7*** (0.3)	0.5*** (0.1)	1.6*** (0.3)
R2 (within)			0.19	0.23
R2 (between)			0.22	0.23
R2 (overall)	0.18	0.23	0.17	0.23
N	180	176	180	176
Country FE	No	No	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Macro-Financial Deviations III, 1999-2013

	PORT ^N	FDI ^N	PORT ^N	FDI ^N
GROW	-1.8*** (0.3)	0.1 (0.2)	-2.0*** (0.4)	0.01 (0.2)
R2 (within)			0.27	0.11
R2 (between)			0.00	0.02
R2 (overall)	0.24	0.09	0.24	0.09
N	150	148	150	148.00
Country FE	No	No	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Macro-Financial Deviations Under EMU: Summary

- Procyclicality of investment, domestic inflation, domestic credit, net portfolio inflows

External Adjustment under EMU I

- Macro-Financial Patterns and External Adjustment over 2008-2013
- LMF(2012,2014): $CAGAP_{0508}$ estimates of 'excessive' imbalances (64 countries)

$$\Delta Z_{it} = \alpha + \beta * CAGAP_{i0508} + \delta * euro_i + \sigma * euro_i * CAGAP_{i0508} + \varepsilon_{it}$$

- Z: (i) the current account balance; (ii) the real exchange rate; (iii) domestic demand; (iv) output; (v) inflation; (vi) the fiscal balance; (vii) the stock-flow adjustment term in the net international investment position (a proxy for international valuation effects; (viii) export volumes; (ix) import volumes; and (x) domestic credit growth.

- Also add BELL comparison group (Bulgaria, Estonia, Latvia, Lithuania) - Gross and Alcidi (2013)

$$\Delta Z_i = \alpha + \beta * CAGAP_{i0508} + \delta * euro_i + \sigma * euro_i * CAGAP_{i0508} \\ \theta * BELL_i + \gamma * BELL_i * CAGAP_{i0508} + \varepsilon_i$$

External Adjustment I

	CAB	DD	Y	ΔDC	FB
<i>CAGAP</i>	-0.74*** [-6.96]	1.51*** [6.34]	0.90*** [4.57]	1.30 [1.02]	-0.002 [-0.05]
<i>CAGAP</i> * <i>euro</i>	-0.28 [-1.29]	0.41 [1.21]	-0.14 [-0.53]	-1.54 [-0.89]	-0.16 [-0.73]
<i>euro</i>	0.03*** [2.98]	-0.17*** [-7.21]	-0.13*** [-6.76]	0.06 [1.10]	0.01 [1.50]
α	-0.0008 [-0.14]	0.10*** [5.69]	0.10*** [7.43]	0.12*** [3.20]	-0.02*** [-4.22]
<i>N</i>	64	64	64	59	62
R^2	0.66	0.58	0.45	0.11	0.07

External Adjustment II

	(1)	(2)	(3)	(4)	(5)
	π	RER	EXP	IMP	SFA
<i>CAGAP</i>	0.07 [1.46]	0.67 [1.58]	-0.08 [-1.05]	0.52*** [3.68]	2.82 [0.86]
<i>CAGAP</i> * <i>euro</i>	0.26** [2.06]	-1.45*** [-3.24]	-0.36 [-1.27]	0.06 [0.22]	-1.78 [-0.49]
<i>euro</i>	0.004 [0.82]	-0.04* [-1.86]	-0.02 [-1.39]	-0.06*** [-3.51]	0.17 [1.54]
α	-0.01*** [-4.39]	0.02 [1.22]	0.05*** [7.09]	0.05*** [5.70]	-0.12 [-1.39]
<i>N</i>	64	64	64	64	64
<i>R</i> ²	0.14	0.13	0.06	0.33	0.12

External Adjustment III

	CAB	DD	Y	ΔDC	FB
<i>CAGAP</i>	-0.65*** [-6.78]	1.55*** [5.48]	0.94*** [4.13]	1.52 [1.03]	0.02 [0.46]
<i>CAGAP</i> * <i>euro</i>	-0.20 [-0.87]	0.54 [1.19]	0.07 [0.18]	-3.03* [-1.79]	-0.02 [-0.09]
<i>CAGAP</i> * <i>BELL</i>	-0.52** [-2.58]	-0.03 [-0.05]	0.09 [0.21]	-5.02* [-1.80]	0.08 [0.32]
<i>euro</i>	0.03*** [2.94]	-0.17*** [-6.45]	-0.14*** [-6.16]	0.10* [1.95]	0.01 [1.02]
<i>BELL</i>	-0.01 [-0.42]	0.03 [0.40]	0.05 [1.01]	-0.62*** [-3.19]	0.04 [0.96]
α	-0.003 [-0.52]	0.10*** [5.44]	0.10*** [7.21]	0.11*** [2.69]	-0.02*** [-4.10]
<i>N</i>	64	64	64	59	62
<i>R</i> ²	0.69	0.58	0.46	0.19	0.11

External Adjustment IV

	π	RER	EXP	IMP	SFA
<i>CAGAP</i>	0.03 [0.70]	0.89** [2.13]	-0.08 [-0.82]	0.54*** [3.15]	3.63 [0.96]
<i>CAGAP * euro</i>	0.19** [2.17]	-1.21*** [-2.76]	0.07 [0.24]	0.58* [1.83]	-1.72 [-0.46]
<i>CAGAP * BELL</i>	0.27** [2.35]	-1.33* [-1.91]	0.90*** [3.79]	0.99*** [3.00]	-6.69 [-1.14]
<i>euro</i>	0.004 [1.03]	-0.04* [-1.83]	-0.03** [-2.22]	-0.07*** [-4.01]	0.19 [1.50]
<i>BELL</i>	-0.0002 [-0.02]	-0.02 [-0.29]	0.15*** [4.14]	0.18*** [3.73]	-0.35 [-0.91]
α	-0.01*** [-3.99]	0.02 [0.91]	0.05*** [6.79]	0.05*** [5.46]	-0.14 [-1.43]
<i>N</i>	64	64	64	64	64
<i>R</i> ²	0.21	0.18	0.17	0.40	0.17

External Adjustment under EMU: Summary

- External adjustment costly for high deficit countries - but euro membership makes little difference
- External adjustment gentler relative to BELL group

Macro-Financial Stability Policies I

- Macro-prudential financial regulation (banks, non-banks, cross-border)
- Fiscal policy: combine long-term anchor with short-term counter-cyclical role
 - “smart” implementation of fiscal framework
- System resilience (labour markets; legal system; financial system)
 - Banking Union; BRRD; Deposit insurance (?); Fiscal Backstop (?); Sovereign Bond Exposures
 - CEPR MEZ (2015): pooling and tranching of sovereign bonds

Macro-Financial Stability Policies II

- ECB
 - eurosystem liquidity; ELA
 - OMT; QE; inflation target
- European fiscal council?
- Area-wide macro-financial risk surveillance: ESRB; MIP (?)
- “Reset” - dealing with legacy debt: CEPR MEZ (2015)

Conclusions

- Global financial boom-bust cycle in 2003-2010
 - amplified for members of the euro area (financial flows, inflation)
- Some progress on policy reforms - but incomplete
- Ultimate test: next financial boom-bust cycle