The Future of the Euro

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Cumulated Current Accounts (%GDP, 1999-2008)

Portugal	- 91	Germany	+ 32
Greece	- 85	Netherlands	+ 54
Spain	- 60	Finland	+ 59
Ireland	- 19	France	+ 3
Italy	- 13	Euro area	+ 22

Source: Eurostat

Total Portfolio Investments in Spain, Portugal, Greece and Ireland (share of each country's portfolio investments)

	2001		2008
France	10.8	Finland	18.3
Germany	10.8	France	20.3

Source: IMF

Productivity and Per-capita Income (Germany = 100)

	Hourly Labor Productivity		Per-capita Income	
	1998	2008	1998	2008
Portugal	50	51	65	67
Spain	82	84	78	89
Italy	92	81	98	88
Greece	60	65	68	81
Ireland	89	95	99	116

Source: Eurostat

Contributions to Growth (1999-2005)

	Labour Utilization & Population	Hourly Labour Productivity	of which TFP
Germany	- 24	124	83
Spain	87	13	0
Portugal	38	62	- 6
Greece	14	86	58
Italy	30	70	- 8
Ireland	44	56	40

Source: Eurostat

Figure: Scatter plot with x-axis "Gap in GDP PPP Per Capita Relative to Euro Area in 1998, %" and y-axis "Gap in the Average Growth Rate 1998-2008 Relative to Euro Area, %". Quadrant labels: "Lagging behind but catching-up" and "Lagging behind, not catching-up". Data points: SVK, IRL, SVN, GRC, CYP, FIN, AUT, ESP, BEL, MLT, PRT, DEU, FRA, ITA.
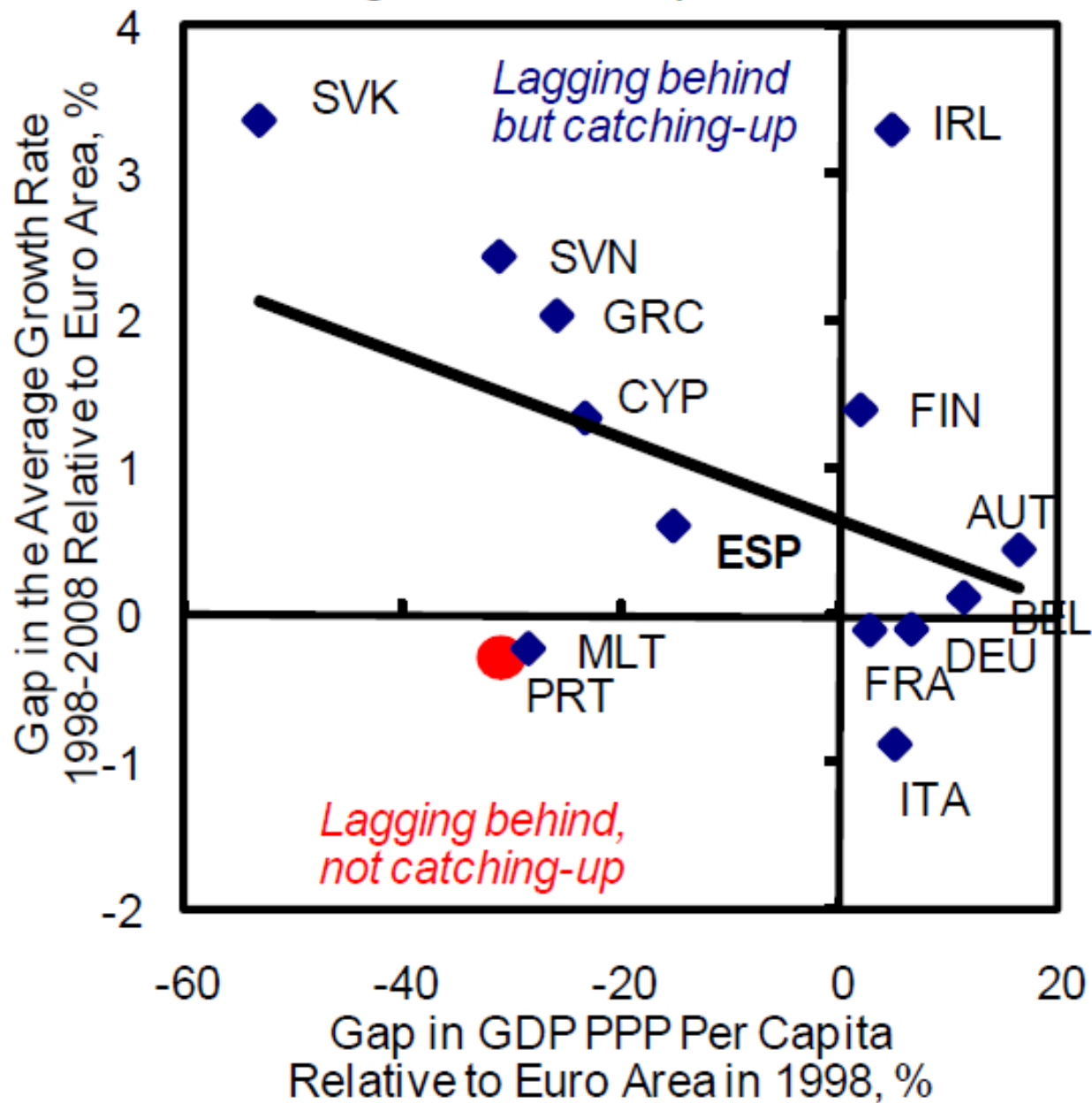
European Commission, 2008

"The performance of [Spain, Ireland and Greece] has...shown a satisfactory development overall...The strong performers have been thriving on investment booms spurred by capital inflows attracted by comparatively high rates of return, with the single currency and the integration of financial markets acting as a catalyst. [...] Overall the divergences in growth and inflation have been long-lasting, involving major shifts in intra-euro-area real effective exchange rates...This has been reflected in divergent current account positions across countries. Some, but not all, elements of these differences in inflation, growth and external positions can be attributed to structural convergence in living standards. Even so, not all inflation differentials are harmful; some are merely a sign that competitiveness realignment is doing its job."

Optimal External Borrowing when all Goods are Tradable

- Households live for two periods and maximize expected utility

$$E_t U(C_t, C_{t+1}) = log C_t + log E_t C_{t+1}$$

- Consumption in each period is
$C_t = [1/n \sum_{i=1,n} (C_{i,t})^{(\sigma-1)/\sigma}]^{\sigma/(\sigma-1)}$, σ is the elasticity of substitution among the n goods.

- The intertemporal budget constraint faced by each household is

$$C_t + \frac{E_t C_{t+1}}{(1+x)R} = Y_t P_t + \frac{E_t(Y_{t+1} P_{t+1})}{(1+x)R}$$

P is the price of the single good produced by the country (relative to the composite consumption good), R is the interest rate, also in terms of consumption goods

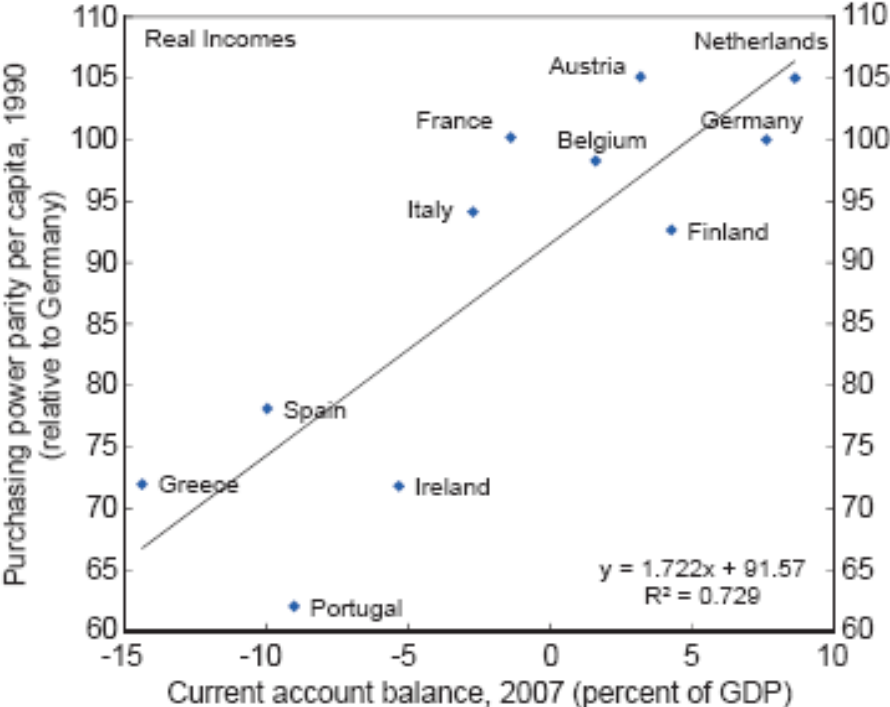[Blanchard, O. and F. Giavazzi, BPEA, 2002]

Optimal External Borrowing when all Goods are Tradable

- Production, Y, is exogenous in each country, so that the current account only reflects saving decisions

- Then the current account is

$$ca_t = (1/2)(1 - \frac{E_t Y_{t+1}}{Y_t} \frac{1}{(1+x)R} \frac{E_t P_{t+1}}{P_t})$$

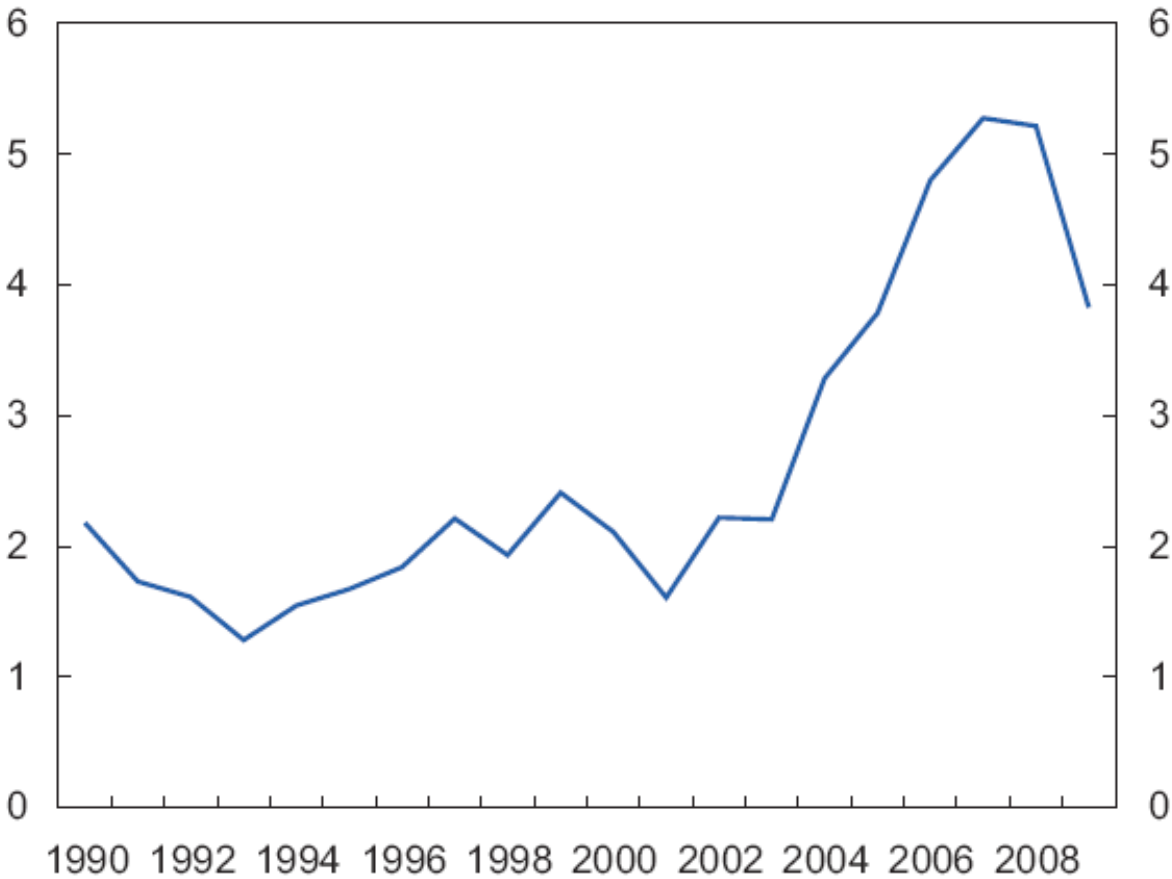$$ca_t = \frac{1}{2}[1 - \frac{1}{1+x}(\frac{1+E_t g}{1+g^*})^{1-1/\sigma}]$$

Current Account Balance in 2007 and Income Divergence in 1990

Euro Area 11: Current Account Imbalance Indicator, 1990–2009[1]
(Percent of GDP)

Source, IMF. Sum of the absolute values of current account balances in euro area divided by aggregate GDP.

A "toy" model of external borrowing with T and N goods

- small country, producing T and N

- two periods, t and $t+1$

- there is an initial endowment of T and N (Y_t^N, Y_t^T)

- $C_t^N = Y_t^N$, $C_t^T \lessgtr Y_t^T$

- $Y_{t+1}^N = A^N K_t^N$

- $Y_{t+1}^T = A^T K_t^T$

- all K is financed through foreign borrowing: $F_t = K_t^T + K_t^N$

[Giavazzi, F. and L. Spaventa, 2010]

Optimal Allocation of Capital

- Along the economy's production possibilities frontier

$$Y^N = A^N \left(F - Y^T / A^T \right)$$

The optimal allocation of capital, and thus of production,

between the two sectors depends on the expected relative prices of T and N goods, $E \left(P^T / P^N \right)_{t+1}$ at the time when they are produced $(t+1)$

$$\left(\frac{dY^N}{dY^T} \right)_t = E \left(\frac{P^T}{P^N} \right)_{t+1}$$

Intertemporal Budget Constraint

At time $t+1$ the intertemporal budget constraint requires that net exports are sufficient to balance the debt incurred the previous period

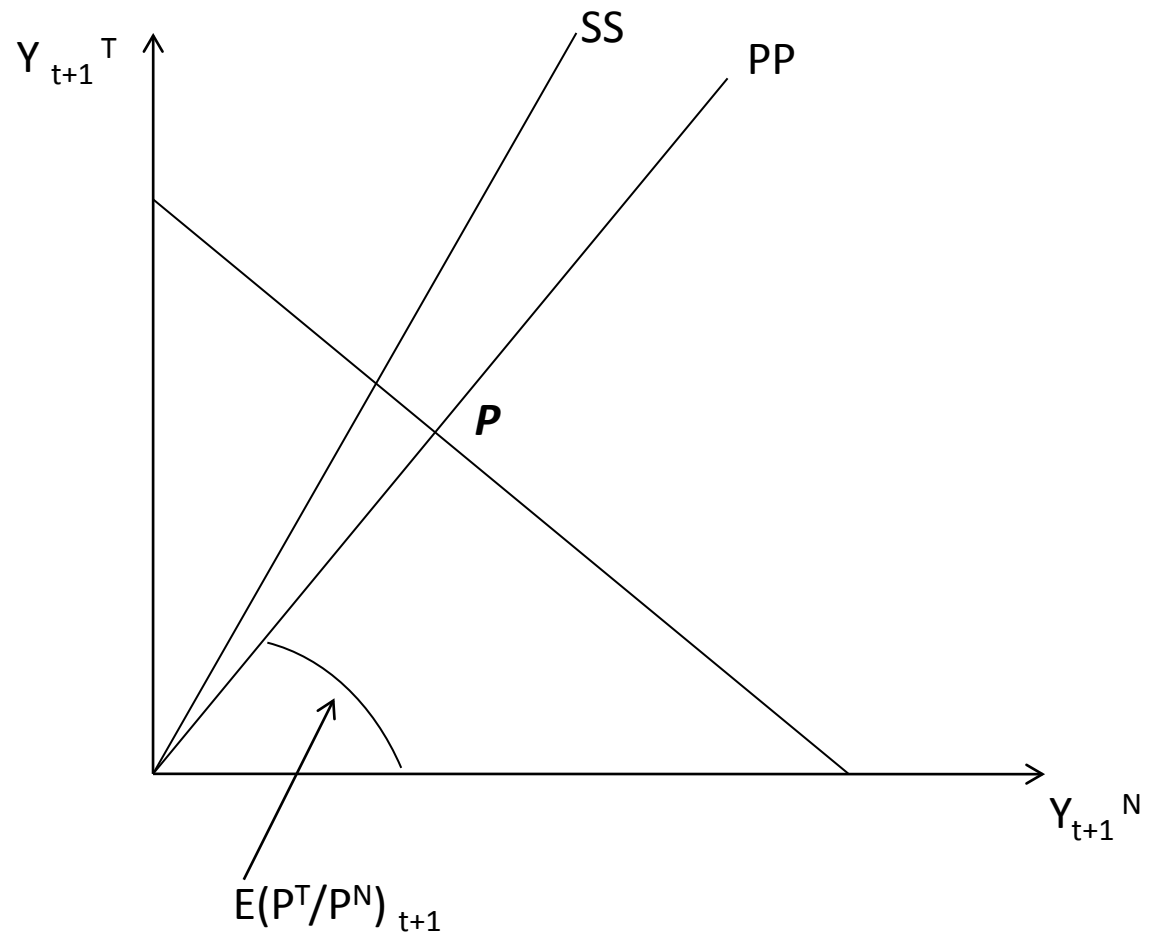$$\left(Y_{t+1}^{T} - C_{t+1}^{T}\right) \geqq F_{t}\left(1 + R\right)$$

Limit to the Amount Invested in the *NT* Sector

Using the production function, the intertemporal budget constraint can be re-written as

$$\left(\frac{K^N}{K^T}\right)_t \leq \frac{A^T}{(1+R)}(1 - \frac{C^T_{t+1}}{Y^T_{t+1}}) - 1$$

or equivalently

$$\left(\frac{Y^N}{Y^T}\right)_{t+1} \leq \frac{A^N}{(1+R)}(1 - C^T_{t+1}/Y^T_{t+1}) - 1$$

Limit to the Amount Invested in the *NT* Sector

- For the condition to be fulfilled with a positive value of K^N
  - the productivity in the tradables sector must be high enough
  - and/or the share of traded goods not consumed internally must be high enough

- Notice that productivity in the non-traded goods sector is also indirectly relevant: for a given demand C_{t+1}^N, the higher A^N the lower the required K^N

- This simple model overlooks the possibility that the relative price of T to N goods adjusts, so that production is reallocated to the T sector

- A currency union does not rule out such an adjusment but makes it slower, requiring that it happens through changes in nominal wages or productivity (the model considers the short run and thus overlooks this channel)

Investment in the T and N Sectors: Actual and Model-determined Limits (1999-2006)

	Ireland	Greece	Spain	Italy
K_N/K_T				
actual	1.24	0.60	2.2	0.96
model max	0.47	0.91	0.61	0.70

Source: Authors' estimates using data on capita productivity and FDI's

Housing Construction (shares of GDP)

	2000	2008
Ireland	8.2	14
Greece	7.0	8.5
Spain	6.0	9.0
Euro-15	5.9	6.2

Source: Eurostat

Domestic Credit Growth (amount outstanding at the end of the period, ratios to GDP)

	Germany	France	Italy	Ireland	Greece	Spain	Portugal
2000	1.06	0.72	0.71	1.0	0.42	0.87	1.1
2008	0.95	0.95	0.97	2.02	0.85	1.7	1.5

Source: National Central Banks

Why is EMU different from the U.S. Monetary Union?

- What is foreign what is domestic when the currency is the same?
- What is the difference between EMU members and American states ? We don't know or don't care about Wyoming's current account
- Tentative answers
  - markets do make a distinction: country risks in corporate bonds in EMU but not in the US
  - in EMU, members' foreign positions were considered during the crisis
  - barriers to personal mobility in EMU, affecting the consumption of N by non-residents
  - lack of a federal jurisdiction inside EMU: separate jusrisdictions for taxation, company and securities laws, bankruptcy laws
  - EMU members lack a sovereign *lender-of-last-resort* or *market-maker-of-last-resort* on which to rely in emergencies

Lessons

The credit boom was the major factor of instability in some countries. Whose task was it to prevent/control?

- One view: there is nothing we could do
    - not only inflation but also stability is the remit of monetary policy. The responsibility should lie with the ECB
    - but ECB policy was suited to the situation in the three major countries. Back to Walter's critique: one size cannot fit all. Is this the case?

Lessons

Whose task was it to prevent/control?

- Neither the ECB nor European policymakers seemed to care about credit developments in individual EMU members–in keeping with the spirit of the times and with the contention that credit growth is always a symptom of financial development
- The ECB has an M2 objective (*two-pillars*), but the link with DCE is far from obvious
- A footnote: the modern neglect of DCE is in stark contrast to old IMF practice. DCE limits were essential component of conditionality in the 1970's

Lessons

Whose task should it be?

- ▶ In EMU it cannot be the task of monetary policy to control domestic credit expansion
- ▶ Exercise of specific supervisory and regulatory powers (e.g. lending practices): a task for the newly created ESRB and EBA?

Surprisingly in Greece and Portugal little has changed
Current Accounts (%GDP, 2009-2012)

	2008	2009	2010	2011	2009-11
	Current Account (% GDP)				Exports (growth rate)
Portugal	- 12.6	- 11	- 10	- 8.7	- 4
Greece	- 14.7	- 11	- 10.5	- 8.2	- 4
Ireland	- 5.7	- 3.0	- 0.7	+ 0.3	+ 3
Spain	- 9.7	- 5.5	- 4.5	- 4.5	+ 2
Italy	- 3.0	- 2.0	- 3.5	- 3.5	- 2

Source: IMF