Quo vadis Eurozone?

A reappraisal of the real exchange rate criterion

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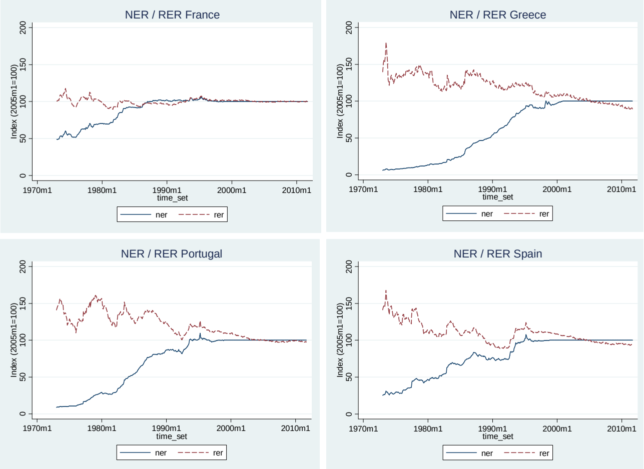
Outline

Loss of competitiveness in some Mediterranean EU-Countries



Discussion about a possible way out of the EMU

- Which countries form the most desirable monetary union?
- The real exchange rate as a criterion for the desirability of currency areas
  - The flexibility of nominal exchange rates (NER) as an effective means of carrying out real exchange rate (RER) adjustments
  - Joining a monetary union is more costly for countries in need of large real exchange rate adjustments.

  → Explore the need for RER adjustments vis-a-vis Germany prior to the introduction of the Euro.
- Problem: Applicability of the RER criterion, if observed RER adjustments are mainly due to transitory shocks?

→ Decomposition of RER variation in transitory and permanent component

→ Methodology introduced by Blanchard and Quah (1989)

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RER criterion and the European Union

- Introduced by Vaubel (1976, 1978)
  - Comparison of RER changes among Community countries with those among regions or cities of three existing currency areas
  - → Variation of RER larger among Community countries
- Von Hagen and Neumann (1994)
  - Variance and persistence of RER shocks within the EU compared to the German monetary union
  - → "Europe of two speeds" with Germany, France and the small neighbors of Germany being a viable monetary union

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The Blanchard/Quah approach

Bivariate VAR process with $\Delta y_t = \begin{bmatrix} \Delta z_t \\ \Delta s_t \end{bmatrix}$ as endogenous variables:

$$\Delta y_t = A_0 \Delta y_t + A_1 \Delta y_{t-1} + A_2 \Delta y_{t-2} + \ldots + A_q \Delta y_{t-q} + u_t, \qquad (1)$$

Reduced form representation can be estimated:

$$\Delta y_t = \Pi_1 \Delta y_{t-1} + \Pi_2 \Delta y_{t-2} + \ldots + \Pi_q \Delta y_{t-q} + \epsilon_t, \qquad (2)$$

with

$$\Sigma = E[\epsilon_t \epsilon_t'] = \begin{bmatrix} \sigma_{11} & \sigma_{12} \\ \sigma_{12} & \sigma_{22} \end{bmatrix}.$$

MA-representation:

$$\Delta y_t = (I - \Pi_1 L - \ldots \Pi_q L^q)^{-1} \epsilon_t = \begin{bmatrix} C_1(L) & C_2(L) \\ C_3(L) & C_4(L) \end{bmatrix} \begin{bmatrix} \epsilon_{1t} \\ \epsilon_{2t} \end{bmatrix} = C(L)\epsilon_t \qquad (3)$$

Remaining parameters can be identified by placing the restriction, that transitory shocks have no long-run effect on the RER.

Two critical measures

A: Share of permanent shocks to RER accounted for by NER adjustment in the long run (in %)

$\rightarrow$ Difficulties with abandoning NER flexibility?

$\rightarrow$ Calculated as: $\frac{\text{Long run response of NER to permanent shocks}}{\text{Long run response of RER to permanent shocks}}$

B: RER variance due to permanent shocks

$\rightarrow$ Desirability of currency unification?

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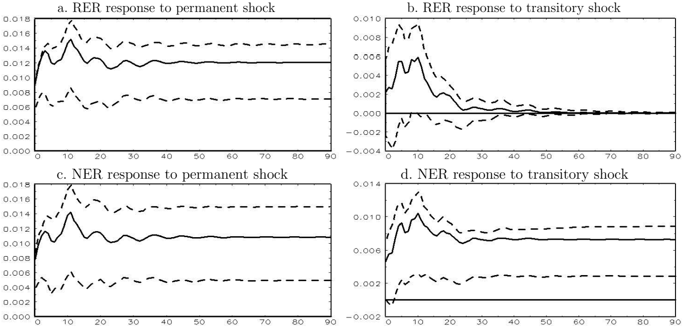
Data sources and time series features

- IMF monthly data over 1973-2011: (eop) exchange rates against Germany and CPI (Ireland and UK: PPI)
- Time span applied: EU-15: 1973-1999; Cyprus and Malta: 1973-2006; Transition economies: 1993-2006
- RER calculated as an index in its price notation
- Both RER and NER expressed in logs
- Only countries with (more or less) flexible NER regime
- Stationarity tests: mostly I(1) series
- Cointegration: not present for most of the countries

IRF (France as an example)



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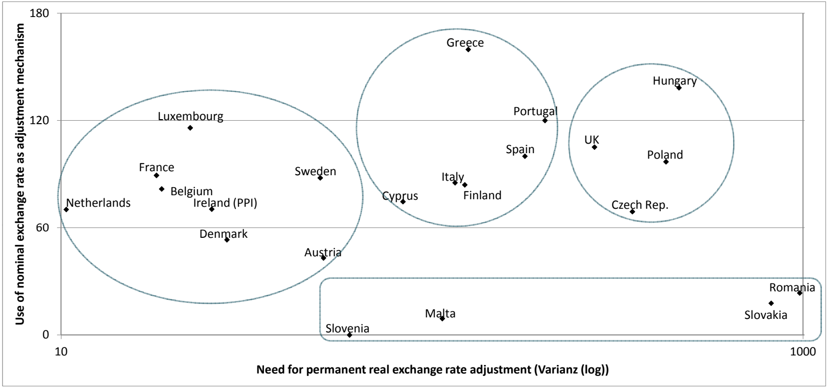
Eurozone (as in 2006)

Country	A	B
Austria	43.1	51.0
Belgium	81.7	18.7
Finland	84.0	122.5
France	89.3	18.1
Greece	159.7	125.1
Ireland (PPI)	70.4	25.5
Italy	85.2	115.3
Luxembourg	115.9	22.3
Netherlands	70.2	10.3
Portugal	120.0	201.4
Spain	100.0	177.9

Other EU countries

Country	A	B
Denmark	53.3	28.0
Sweden	87.9	49.9
UK (PPI)	105.1	274.0
Cyprus	74.6	83.4
Malta	9.2	106.5
Slovenia	0.0	59.9
Slovakia	17.7	820.6
Czech Rep.	69.0	346.6
Hungary	138.3	462.9
Poland	96.9	427.1
Romania	23.5	979.0

Classification of EU countries according to the measures A and B



- RER mainly driven by permanent shocks carried out through NER changes (esp. in Hungary, Poland, Greece, Portugal, and Spain)
- Candidates for a desirable monetary union with Germany: Austria, Belgium, Denmark, France, Luxembourg, the Netherlands and Sweden $\rightarrow$ North-European Moneatary Union?
- Nominal exchange rate flexibility as a valueble adjustment mechanism in the Medeterranean EU countries $\rightarrow$ inflation expectations and loss of competitiveness
- Hungary and Poland should choose a more steady path of monetary integration.

$\Rightarrow$ Remaining issues:

  - Application of the real exchange rate criterion for different groups of countries
  - Explanations for the movements of the transitory and the permanent component of the RER