Adjustment under EMU, Structural Reforms, Internal versus External Devaluation, and Competitiveness Indices

Η ΕΛΛΑΔΑ ΣΤΗΝ ΟΝΕ

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Adjustment under EMU

Response to Asymmetric Shocks

In the absence of a national monetary/exchange rate policy (i.e. within a currency union), a decline in demand for domestically produced goods which, initially, lowers domestic output and employment:

- would be gradually offset through a reduction in the rate of domestic inflation (relative to the other euro-area countries) thus resulting in a depreciation of the country's real effective exchange rate, which would in turn lead to a boost in demand for domestically produced goods and a gradual restoration of output close to full employment (or, the natural rate). (This process is known as Internal Devaluation.)

- however, with a common, euro-area, nominal interest rate, the decline in domestic inflation would result in a rise in the real interest rate, depress domestic consumption and investment, and retard the above mentioned adjustment. (This is known as the "Walter's critique").

- if fiscal policy can be used, then it may be able to offset the potentially destabilizing influence of the rise in the real interest rate.

- "structural reforms" may also be used to speed-up the adjustment process by allowing for faster declines in wages and prices, thus ensuring a quick depreciation of the real exchange rate (but see below about structural reforms); nevertheless, Walter's critique remains in operation in this case as well.

The upshot of the above is that in the absence of fiscal policy (or, if fiscal policy **has** to be used pro-cyclically, e.g. the Greek case since 2010) there is nothing –in theory- guaranteeing that internal devaluation would be achieved without considerable declines in output and employment in the short/medium-run. Moreover, the reduction in physical and human capital during the lengthy adjustment process may not allow the economy to return to its previous growth path for a long time.

The de-stabilizing nature of a common currency could, obviously, manifest itself in the opposite direction as well.

For example, an economy could experience a country-specific boom due to –possibly sound – perceptions about the future growth prospects of the country (or, it could be due to a decline in real interest rates due to joining a low-interest rate currency union).

In such cases, policymakers and market participants can interact to heighten pro-cyclical effects. Wage-setters, financial market participants, and fiscal authorities can quite easily overestimate the economy's sustained growth rate and underestimate the risk attached to sudden downward revisions in the economy's growth rate. This can lead to (ex-post) excessive debt accumulation, and a sudden reversal of economic prospects.

A Digression on Structural Reforms

Table 3.1. Effect of Product and Labor Market Reforms on Macroeconomic Outcomes

The effects of structural reforms depend on the type of reform, overall economic conditions, and the horizon considered.

| Area of Reforms	Normal Economic Conditions		Weak Economic Conditions		Strong Economic Conditions	
	Short Term	Medium Term	Short Term	Medium Term	Short Term	Medium Term
Product Market	+	++		+	+	++
Employment Protection Legislation			−	− −	+	++
Unemployment Benefits	+	++	−		+	++
Labor Tax Wedge	++	++	++	++		
Active Labor Market Policies	++	++	++	++		

Source: IMF staff estimates.

Note: The macroeconomic outcomes are output and/or employment; + (−) indicates postive (negative) effect; the number of + (−) signs denotes the strength of the effect. The effect of labor tax wedge decreases and spending increases on active labor market policies is smaller but remains positive when these measures are implemented in a budget-neutral way.

These findings point to the need for carefully prioritizing and sequencing reforms. They also indicate that one could legislate such measures with a credible proviso that they will come into force only when the recovery is more robust. Such an approach could induce firms to invest and hire prospectively, in advance of the actual implementation of the reforms.

Despite the hopes, the much-hyped "market-friendly" structural reforms (Internal Market, etc.) did not produce the effects predicted at the time (i.e. a boost to growth by 0.5 % p.a.).

Growth rate in cumulative output per person employed, in constant prices, relative to base year (1990)
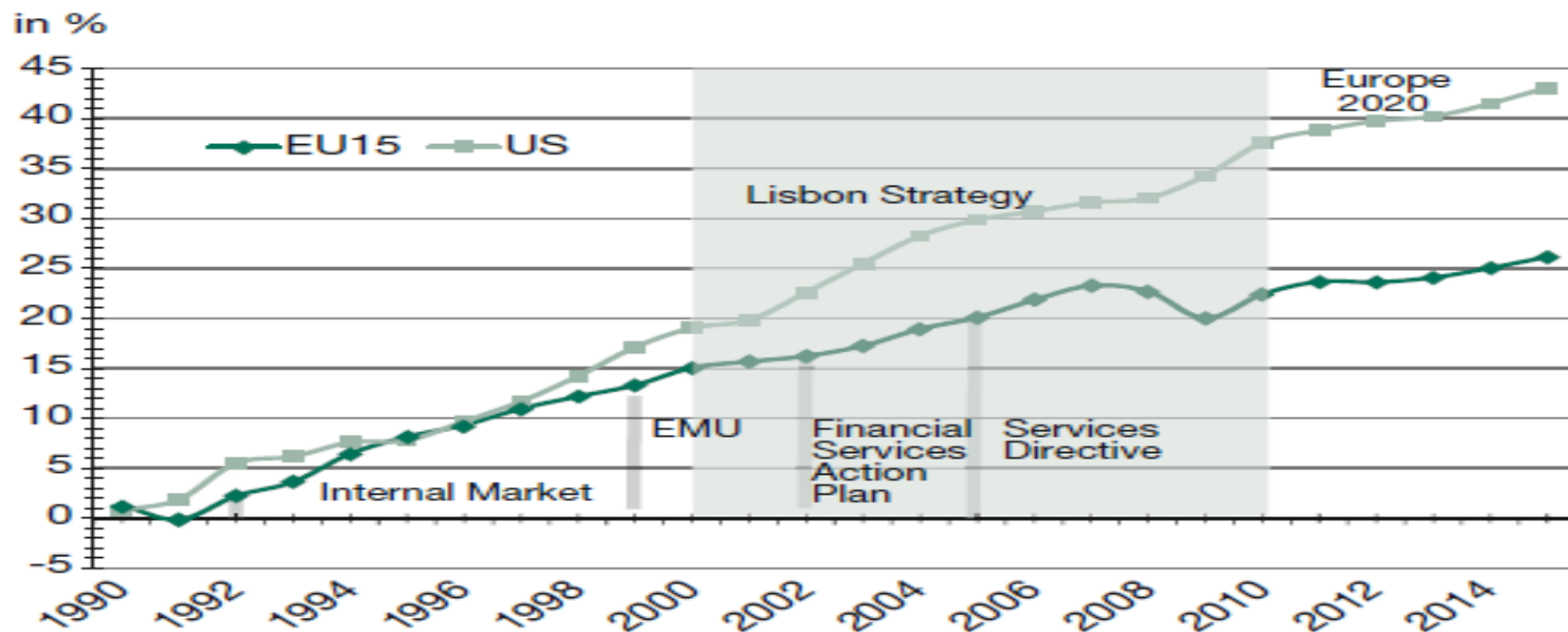
Source: Own calculations based on AMECO data.

Major EU reform efforts and their expected growth impact as officially estimated

Reform	Expected benefits
Internal Market (1992)	2% output gain through economies of scale. Further efficiency gains through stronger competition, total 4.5-6.5% of GDP.[1]
Economic and Monetary Union (1999)	Static gains (elimination of transactions costs): 0.5% of GDP. Dynamic gains much higher but no figure.[2]
Financial Services (2002)	Up to 1% increase in GDP.[3]
Services Directive (2005)	GDP increase of 0.8% for the state of implementation in 2011. Up to 1.6% of all services actually affected by the Directive are included (plus large FDI increase).[4]
OECD: benefits from deregulation at national level	Labour productivity increase by 10%. Benefits derived from aligning product market regulation to international best practice (often within EU).[5]
IMF: recovery from crisis through reforms	Increase in GDP of 4% in medium run and up to 12% in long run.[6]
Lisbon Strategy (2000)	Implicitly 3% growth. Benefits of reaching R&D, employment and education targets and completing internal market for services: GDP up 12-23%.[7]
Europe 2020	Growth up by 0.7% p.a. for total of 7% higher GDP in 2020 for full implementation.[8]

Sources: [1] P. Cecchini: Europe 1992: the overall challenge, Commission of the European Communities, SEC (88) 524 final, 13 April 1988; [2] M. Emerson, D. Gros, A. Italianer, J. Pisani-Ferry, H. Reichenbach: One Market, One Money: An Evaluation of the Potential Benefits and Costs of Forming an Economic and Monetary Union, Oxford 1992, Oxford University Press; [3] See M. Giannetti, L. Guiso, T. Jappelli, M. Pagano: Financial Market Integration, Corporate Financing and Economic Growth, European Economy, Economic Papers No. 179, European Commission, 2002; [4] J. Monteagudo, A. Rutkowski, D. Lorenzani: The economic impact of the Services Directive: A first assessment following implementation, European Economy, Economic Papers No. 456, European Commission, June 2012; [5] J. Arnold, P. Hoeller, M. Morgan, A. Wörgötter: Structural Reforms and the Benefits of the Enlarged EU Internal Market: Much Achieved and Much to Do, OECD Economics Department Working Paper No. 694, OECD, 2009, pp. 16-17; [6] International Monetary Fund: Jobs and Growth: Supporting the European Recovery, Washington DC 2014, International Monetary Fund; [7] G.M.M. Gelauff, A.M. Lejour: The new Lisbon Strategy. An estimation of the economic impact of reaching five Lisbon Targets, Industrial Policy and Economic Reforms Papers No. 1, European Commission, 2006; [8] A. Hobza, G. Mourre: Quantifying the potential macroeconomic effects of the Europe 2020 strategy: stylized scenarios, ECFIN Economic Papers 424, European Commission, September 2010.

Labour Mobility As a Shock Absorber in Currency Unions
(The Eurozone, despite its name, is **not** –yet- a Monetary Union…)

- The optimum currency areas literature of the 1960s (***Mundell***) considered a high-degree of labour mobility as a prerequisite for a successful currency union (thinking in terms of U.S. citizens moving from the "rust- belt" to the "sun-belt" states).

- When the euro was designed in the 1990s, many euro-sceptics (especially from the U.S.) were arguing that, unlike the U.S. (in which there was plenty of evidence that workers indeed moved freely and rapidly from slumping to booming regions), Europe was less suited to a single currency because it lacked America's extremely high labour mobility between states.

- ***McKinnon*** offered a different criterion regarding optimum currency areas— the share of tradables goods output in GDP. A high share of traded goods implies that the required relative price adjustments would be smaller in very open economies, and also that having more transactions would increase the benefits of a common currency.

- *Kenen* argued that fiscal integration was crucial, and that it mattered a great deal whether depressed regions would be cushioned by paying less in taxes and receiving more in benefits from the core.

Since the start of the Euro crisis in Greece (and possibly in other countries) a vicious circle is operating, since a depressed economy is leading to:

- considerable emigration of (especially high-skilled) workers that is undermining the tax base, and is making an exit from the crisis even harder, as the working-age population shrinks relative to the old (implying either increasing taxes on the young or cutting pensions).

- lower fertility, which –although it will take more time to manifest itself – will also impact on future growth prospects.

- diminished expectations about the country's economic potential, thus leading to depressed investment today...

Internal vs External Devaluation in the Greek Case

INTERNAL DEVALUATION (ID)

- In a currency union, ID will come about thru a tightening in the public and private budget constraints which leads to a reduction in aggregate demand and output since wages and prices adjust slowly. Thru time, wages and prices will start adjusting, and the economy's increased competitiveness is expected to offset the initial decline in aggregate demand **(assuming the absence of Walters Critique)** thru increased exports/decreased imports, and to increase output and employment.

EXTERNAL DEVALUATION (ED)

- With ED, the process is faster since the depreciation of the domestic currency (drachma) can immediately lead to the required large real depreciation (e.g. by 30%) without a protracted adjustment period (i.e. without waiting for the rise in unemployment to make the wage reductions politically "acceptable").
- In effect, while *ED* requires changing one price, *ID* requires changing a myriad of prices, something which is difficult to do in the presence of diverging economic interests and weak governments. (Think also of how much more convenient it is to change from summer to winter time, rather than change billions of schedules.)

- *After both kinds of depreciation the balance sheets of firms in the real economy will deteriorate, because the euro-values of the real assets, such as real estate property and, to some extent, equipment capital, will fall while the euro-value of liabilities may not fall as much or not fall at all.*

- *The latter is the case after an ID. As debt contracts are made in nominal euro terms, the liabilities will not be affected, but the general price decline will devalue companies' real assets, driving many of these companies into bankruptcy. This will also hurt their creditors, which may be other real-sector firms, but, above all the banking system.*

- *After an ED, the euro-value of real assets in normal companies will likewise decline; only the liabilities to foreigners, which typically are of minor importance, will remain fixed. Liabilities to domestic creditors, the banking system in particular, will have been converted to drachma and will therefore decline in euro terms, which is a substantial relief. Thus, in the real economy, the probability of default of normal companies will be smaller after ED than after an ID.*

- *However, an ED will most likely lead to a bank run, since as soon as the rumour of a possible return to the drachma spreads, people will try to secure their money by emptying their bank accounts, and as no bank has the notes and coins it shows on its deposits, banks would quickly become illiquid/bankrupt, and a full –fledged currency/banking crisis would develop.*

- *To avoid this, the ECB would have to provide the Greek banks with the necessary liquidity. However, it is rather unlikely that the ECB would be willing to make the transition to the drachma relatively painless for Greece (i.e. it would wish to avoid "pour encourager les autres").*

- *The above suggest that, most likely, banks will fare better with ID, but the rest of the firms will fare better with ED.*

- It is thus impossible to predict with any confidence whether the balance-sheet effects will be larger under ID or ED. (Note, however, that the depreciation of the real exchange rate will have to be higher in the new equilibrium under ID, since the current account adjustment will be slower and the accumulation of foreign debt larger in this case).

- However, real interest rates do remain larger while countries try to defend a peg or to go thru ID…

- Moreover, credit availability (even if interest rates are low) may be lower when asset prices are declining and collateral values collapse…or, if the probability that the country will be unable to defend the peg is non-negligible…

Real Lending Interest Rate (GDP deflator, %)

Real Interest Rate (GDP deflator, %)

Greece (1 yearTreasury bond)   Portugal (10 year Treasury bond)
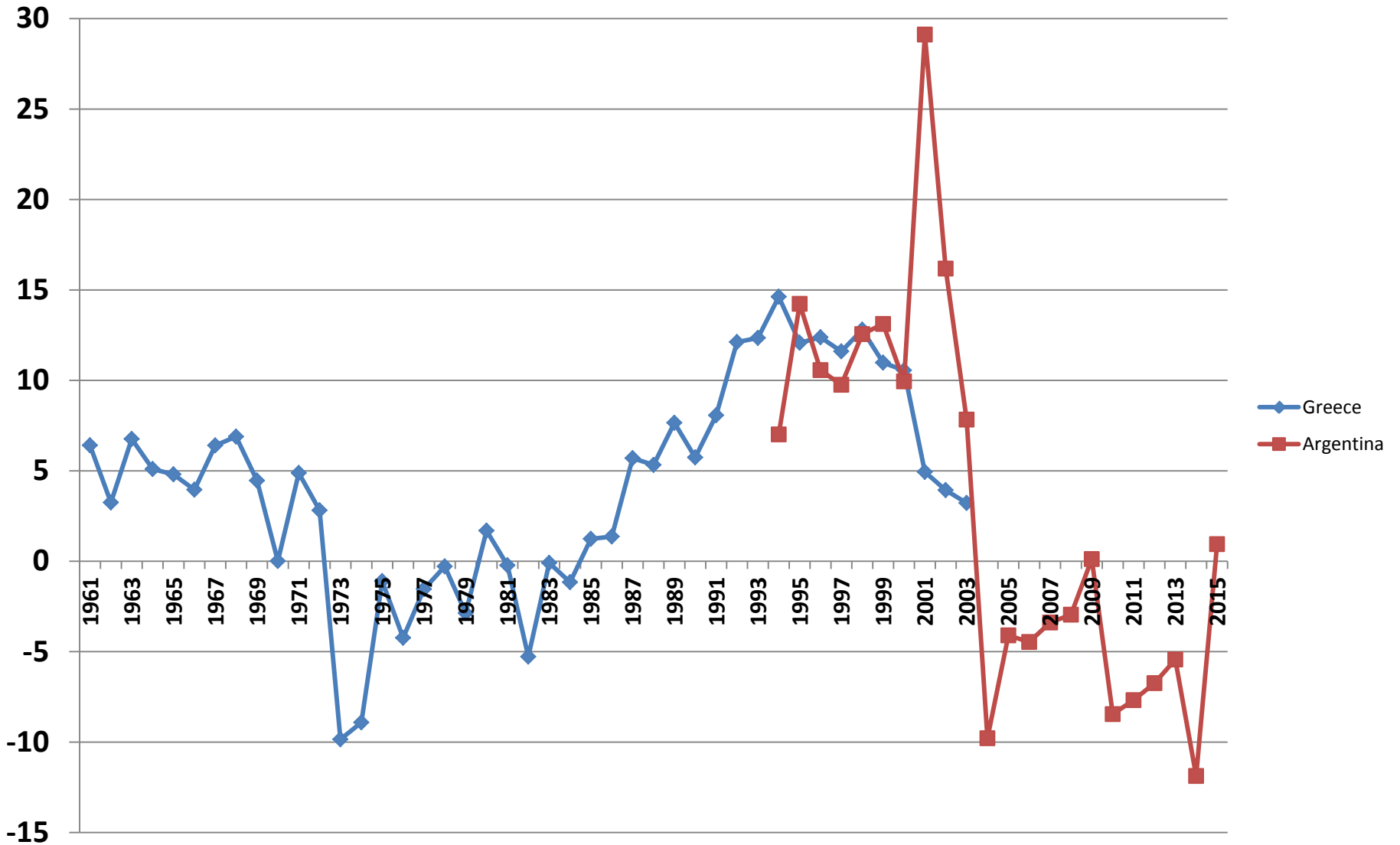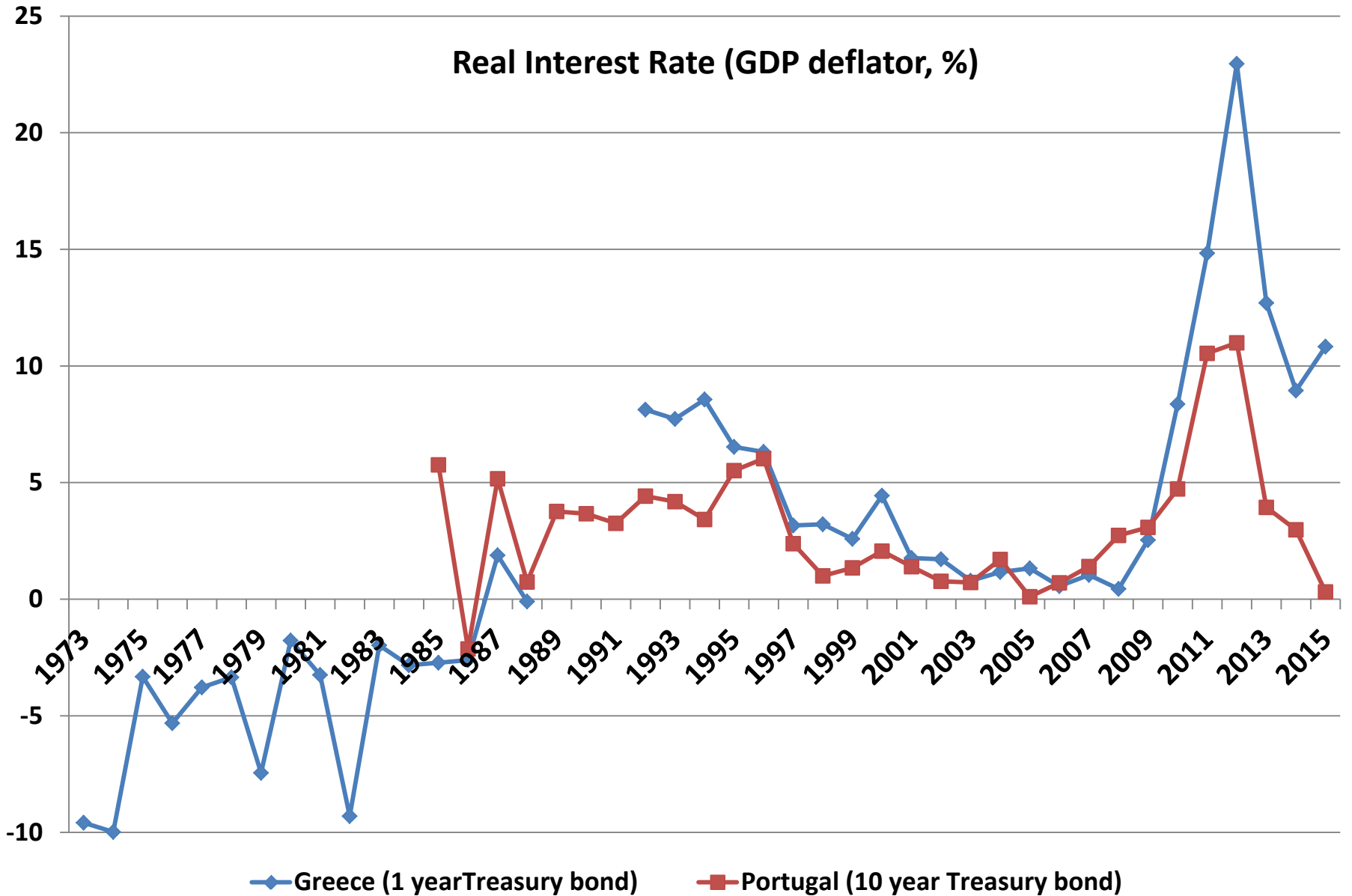
"Competitiveness" Indices

Do they measure what they claim to do?

A. Calculation of Nominal Effective Exchange Rates (NEERs)

Effective since a country's international trade is conducted across many currencies.

Issues involved:

i.   The (mathematical) index used and the base period. Nowadays chain-linked indices are preferred.

ii.   Choice of currencies to be included in the index (usually <25). For example, including the Mexican peso in the USD NEER, shows an appreciation by about 30% from 1980 to 1990; excluding the peso, shows a small depreciation…

NEERs continued

iii. The weights assigned to each currency. Recently, international organizations use double-weighting schemes instead of bilateral trade ones. Double-weighting applies (a) to each competing country's share of sales in each national market, and (b) the relative importance of each national market in the country's international trade.

Example with 3 countries: EU, US, Japan. EU is the home country, and EU producers compete against US and Japanese producers in both US and Japanese markets.

Step (a). Let US producers claim 80% of the US market (excluding EU producers' sales), and Japanese 20%. For the Japanese market (excluding EU producers' sales), the US producers get 10%, and the Japanese 90%.

Step (b). EU producers send 70% of their exports to US, and 30% in Japan.

Combining these we find that the double-export-weight for the US is equal to (80%)x(70%)+(10%)x((30%)=59%. For Japan, it is equal to (20%)x(70%)+(90%)x(30%)=41%. These weights clearly are different than the (simple) bilateral export weights (70% for US, and 30% for Japan).

Having derived the double-export-weights, we can derive the overall trade weights by combining them with import weights.

Real Effective Exchange Rates (REERs)

REERs are NEERs deflated by similarly weighted measures of prices or costs.

Price Measures

- If goods are homogeneous, prices set by producers in different countries can not deviate much from each other, so price-based competitiveness measures will not be very informative.

- If goods are differentiated, priced-based REERs can convey information about how producers may change prices to maintain market shares when nominal exchange rates change, possibly at the effect of lower profit margins.

1. Price Indices

i.   Relative export prices (expressed in common currency) are a commonly used index of REERs.

Problems:

(a) international competition tends to eliminate observed differences in export prices; some uncompetitive firms may be induced, in the short-run, to accept prices too low given their costs,

(b) export prices reflect only data of goods actually traded - goods not exported because their prices are too high do not enter the index,

(c) export prices are usually unit values (values divided by quantity), and not price indices; this means that changes, or differences, in the composition of exports may affect the index (e.g. Japan exports a lot of electronic products whose prices have been falling worldwide),

(d) transfer pricing by MNCs may also affect the information of relative export prices.

(ii) Consumer Prices have the advantage of being truly a price index.

Problems:

(a) They include non-traded goods, and exclude some traded goods(e.g. capital goods).

(b) They are affected by taxes, subsidies, price-controls.

(iii) Wholesale or Industrial Producer Prices.

Defects:

(a) Coverage differs a lot across countries

(b) Often high weight given to imported goods, thus not measuring competitiveness of domestic firms

2. Cost Measures

The most widely used measure is based on labour costs, i.e. the Unit Labour Cost (ULC), which takes into account productivity developments. It is equal to $w/(Q/L)$, where w is nominal labour compensation per worker, Q is output, and L is labour, so this measure rises if labour compensation rises faster than labour productivity.

Problems:

(a) Labour productivity is hard to measure, and changes a lot during the business cycle (e.g. a shop in Patission)

(b) If there is higher use of capital which increases labour productivity, ULC may fall, but total costs may rise.

(c) Measured "labour productivity" may be affected by wages due to composition effects; e.g. a rise in real wages (or a depreciation of the currency) which induces the less productive firms to shut down will result in higher measured aggregate labour productivity, possibly reversing the effect on ULC.

(d) The changing presence of MNCs (e.g. for tax reasons, Ireland) can inflate measured labour productivity.

3. Profitability of Producing Tradable Goods

Profitability is defined as PR=VAD/ULC, where

VAD is the value added deflator.

Problems:

(a) Value added other than labour costs includes items which are not pure profits (e.g. capital costs).

(b) The index is very sensitive to the business cycle

4. Profitability of Exports

Defined as PRX=PX/ULC, where PX is export prices.

Problems – similar as above.

Comparative Indices

- All of the indices mentioned above can also be used to present comparative indices (i.e. ULCs in Greece relative to the other eurozone countries.)

- Comparative indices have the advantage of neutralizing common trends across all countries (e.g. a global rise in profitability).

WARNING 1: For all measures (absolute or comparative) the transition of a country from a system of price controls to a free market one will usually register large measured price rises due to quality changes (since price controls tend to depress quality); this is particularly relevant for the transition countries.

WARNING 2: The comparative competitiveness indices lose some of their value if countries' trade structures are very different (e.g. next slides...)

Share in World Exports by Complexity Group

Countries	Share in world exports							
	Top 10	Top 100	1	2	3	4	5	6
Austria	1.73	1.62	1.58	1.49	1.10	1.23	0.85	0.23
Belgium	3.76	2.26	3.21	2.89	2.01	2.05	2.60	1.85
China	1.22	1.28	2.72	8.08	10.78	13.97	12.96	13.35
Finland	0.50	1.09	1.05	1.38	0.59	0.72	0.29	0.22
France	5.11	3.57	5.78	6.08	5.43	5.58	3.08	1.59
Germany	12.24	17.99	17.73	13.50	8.01	7.64	4.65	1.89
Greece	0.01	0.02	0.03	0.16	0.13	0.24	0.31	0.37
Ireland	1.25	0.80	2.71	2.26	1.21	1.50	0.51	0.11
Italy	1.40	3.07	4.04	4.30	3.15	3.87	4.69	2.56
Luxembourg	0.81	0.15	0.14	0.30	0.15	0.20	0.11	0.03
Netherlands	5.11	3.50	2.93	3.51	3.17	2.76	3.50	2.73
Portugal	0.05	0.04	0.30	0.23	0.48	0.48	0.56	0.52
Spain	0.23	0.88	2.23	2.36	1.70	1.85	2.46	1.28

*Figures are based on the averages of export values for 2001–2007
**Countries with population of less than 2 million (except Luxembourg) were excluded from the calculation of total world export. Top 10 and Top 100 correspond to the most complex products; products are divided into six groups, 1 is the most complex product group and 6 the least.

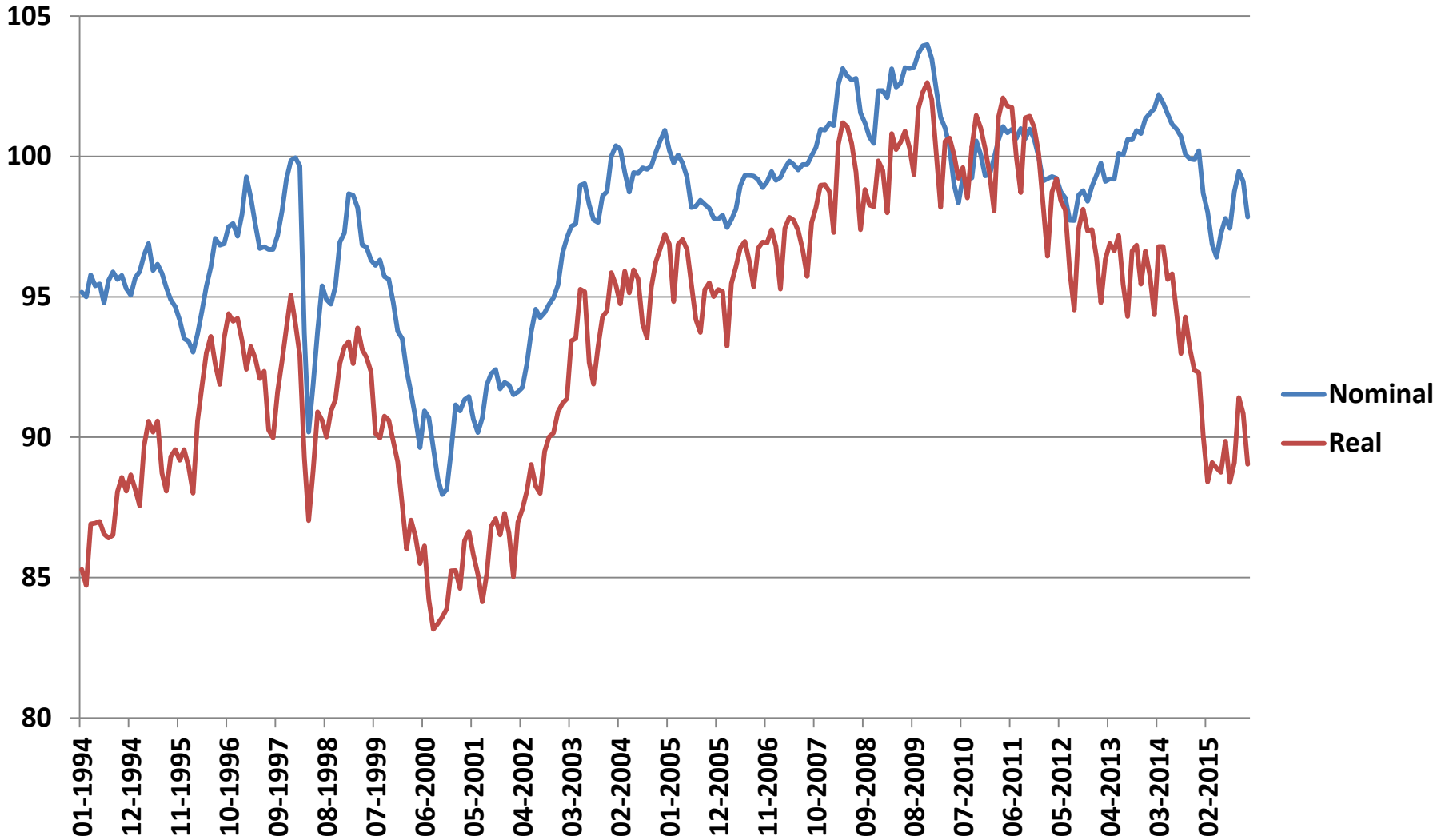# Share in a Country's Total Exports by Complexity Groups
RCA = Revealed Comparative Advantage

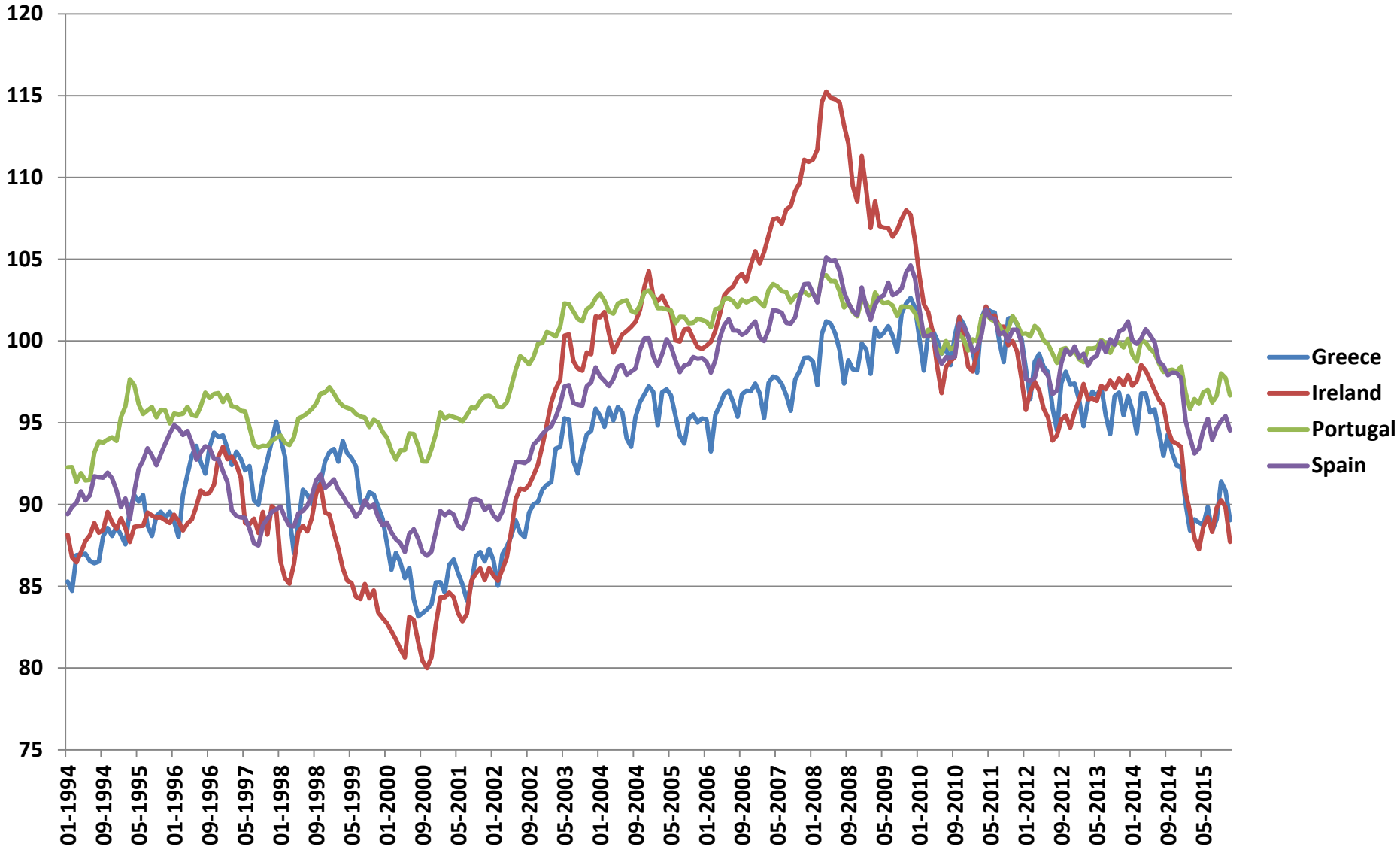| Countries	No. of products (RCA>=1)	Complexity Rank	Share in country's exports							
			Top 10	Top 100	1	2	3	4	5	6
Austria	1,369	8	0.23	6.17	30.38	23.29	19.00	14.99	8.83	3.52
Belgium	1,470	10	0.23	3.84	27.81	20.30	15.55	11.26	12.12	12.96
China	1,962	51	0.02	0.53	5.71	13.90	20.75	19.52	15.59	24.53
Finland	765	5	0.10	6.11	30.09	31.99	15.19	13.14	4.52	5.08
France	1,788	11	0.16	3.20	26.18	22.33	22.00	16.09	7.54	5.86
Germany	2,113	2	0.19	7.90	39.62	24.50	16.01	10.85	5.61	3.40
Greece	1,060	52	0.01	0.39	3.82	14.78	12.50	17.21	18.60	33.09
Ireland	421	12	0.13	2.28	39.06	26.27	15.60	13.79	3.97	1.32
Italy	2,239	24	0.06	3.47	23.16	20.06	16.16	14.12	14.54	11.96
Luxembourg	588	9	0.78	3.88	19.22	33.53	18.10	17.60	8.27	3.28
Netherlands	1,312	13	0.25	4.75	20.23	19.72	19.60	12.12	13.08	15.26
Portugal	1,188	53	0.02	0.42	15.32	9.84	22.09	15.57	15.53	21.66
Spain	1,745	28	0.02	1.89	24.18	20.80	16.53	12.77	14.46	11.25

*Figures are based on the averages of export values for 2001–2007

** Top 10 and Top 100 correspond to the most complex products; products are divided into six groups, 1 is the most complex product group and 6 the least.
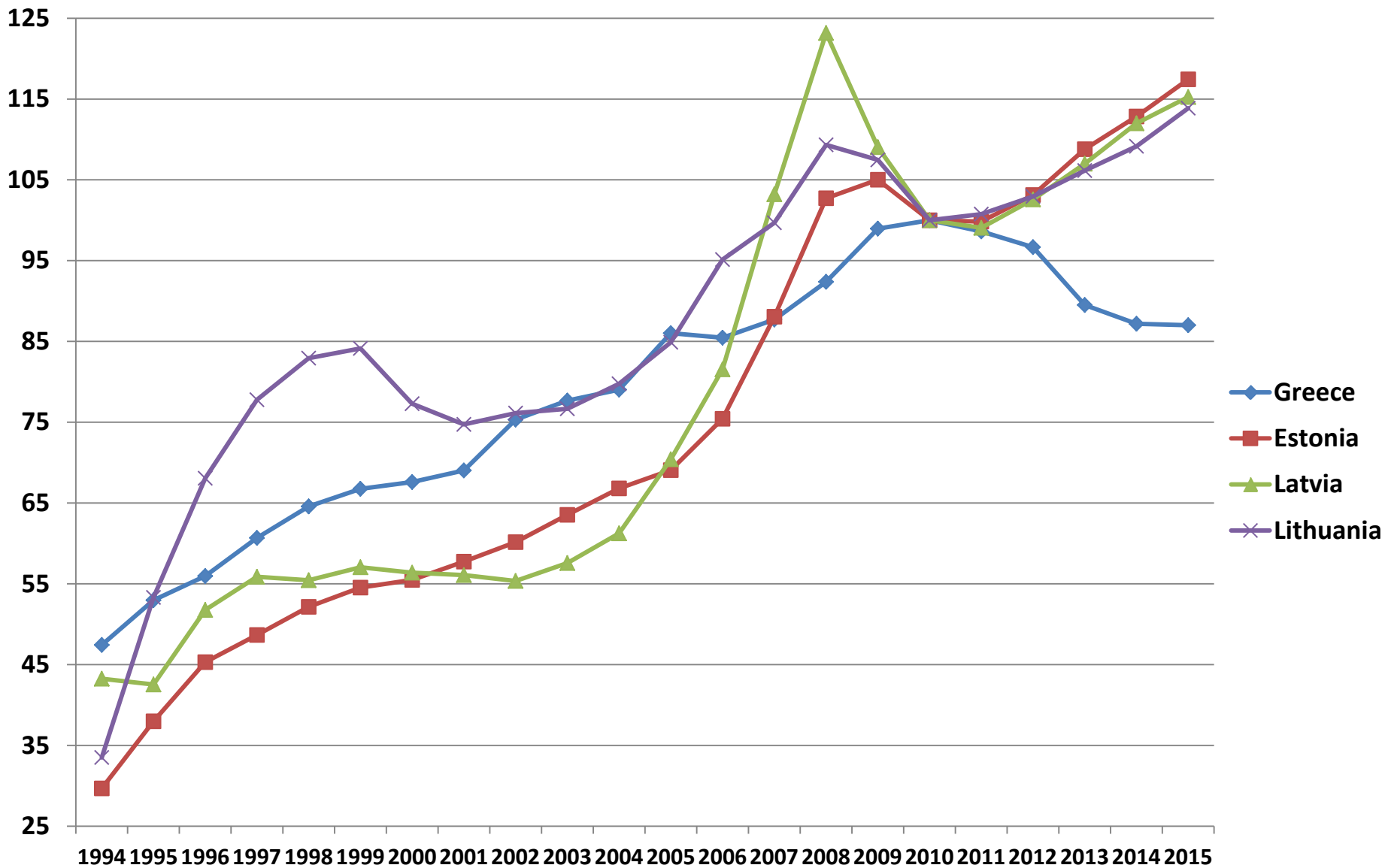
Greece: Nominal and Real (CPI-Based) Effective Exchange Rates (2010=100)

REERs (CPI-Based), 2010=100

Legend: Greece, Ireland, Portugal, Spain

Nominal ULC (2010=100)

- Greece
- Estonia
- Latvia
- Lithuania

Greece: ULC Measures (2010=100)

- RULC 37 countries
- RULC 24 countries
- RULC EU15
- Absolute ULC