Che senso ha e come si misura la competitività delle nazioni

Introduction

- The Real Effective Exchange Rate

- The rate of growth of per capita income

- Synthetic indices

The Real Effective Exchange Rate (REER)

At the **firm level**, for a product we can distinguish:

-price competitiveness: this determined by production costs, the profit margin and the exchange rate

-non-price competitiveness: this involves design of product, quality, post-sale services etc.

The Real Effective Exchange Rate (REER)

At the **country level** there is an analogy for price competitiveness. This can be thought as a measure of average price competitiveness of the domestically produced products.

As a consequence, this measure gives a summary view of the average price competitiveness of a country's products

(it is not a measure of country competitiveness in the Mercantilist meaning)

The Real Effective Exchange Rate (REER)

The name of this measure for the bilateral case is: Real Exchange Rate (RER):

$$\textbf{RER = (P/P*)}\times\textbf{E}$$

where: P = domestic price level; P*=foreign price level;   E = nominal exchange rate (price of domestic currency in units of foreign currency).

(note the link between RER and Purchasing Power Parity Law)

The Real Effective Exchange Rate (REER)

A more utilized measure takes into account the average price competitiveness of a country products with respect to a large number of countries. It is the Real Effective Exchange Rate (REER):

REER = weighted average of bilateral RER

Where the weights take into account the relevance of a country as an export mkt and/or import mkt for the country of reference.

The Real Effective Exchange Rate (REER)

Computation of REER can be different due to:

- Number of trading partner countries

- Weighting scheme adopted: simple or double weighting

- Aggregator: usually arithmetic or geometric weighted average

- Type of price adopted: GDP deflator, consumer prices, producer prices, unit labour costs
[ULC = cost of labour per unit of output produced = (W/LP), where W=total labour compensation per hour worked; LP = labour productivity]
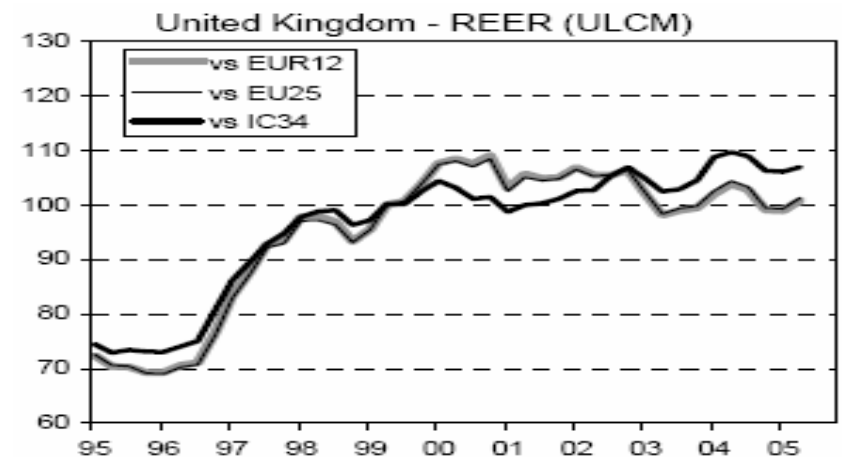
The Real Effective Exchange Rate (REER)

An application:

**Italian products have lost considerably price competitiveness in the last 10 years. Is this loss due to the introduction of the Euro?**

Analysis: let's utilise the Italian REER based on unit labour costs in the manufacturing sector compared to that other leading European countries

(source: Price and Competitiveness, EU Commission).

The Real Effective Exchange Rate (REER)

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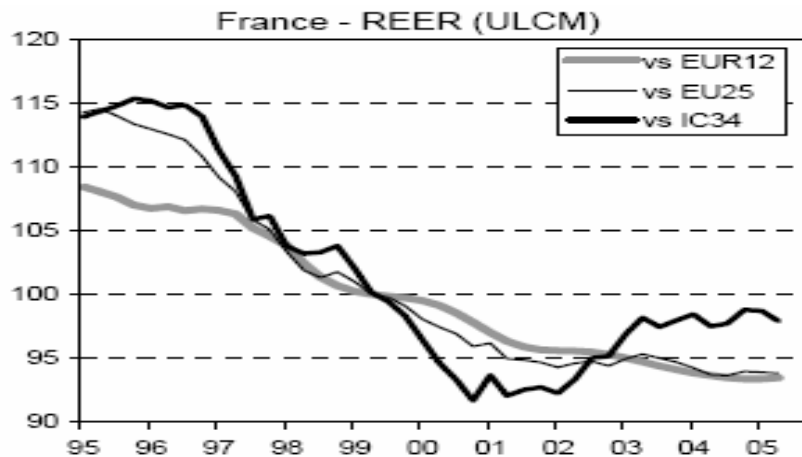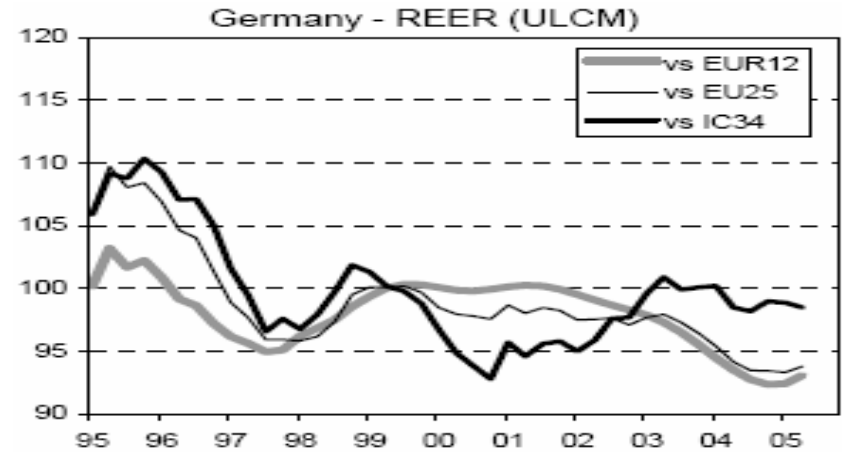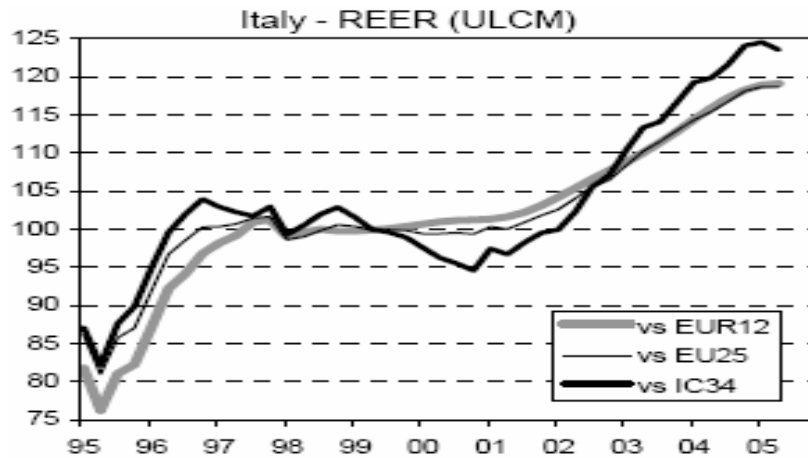
The Real Effective Exchange Rate (REER)

This is not due to the Euro:
both France and Germany experience a much better evolution.

memo: the REER utilized is based on Unit Labour Cost which depends on labour compensation (+) and on labour productivity (-)

During this period total labour compensation in Italy had a moderate evolution. On the contrary, a **sharp deceleration of labour productivity growth has taken place in Italy.**

The Real Effective Exchange Rate (REER)

HOURLY LABOUR PRODUCTIVIY
Total Industry
(volume indeces, 1995=100)

source: Groningen Growth and Development Centre, 60-Industry Database, September 2006, http://www.ggdc.net

Legend:
- ITALY
- EU-15
- USA

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The Real Effective Exchange Rate (REER)

FIGURE 8B Productivity growth rates in G-7 countries
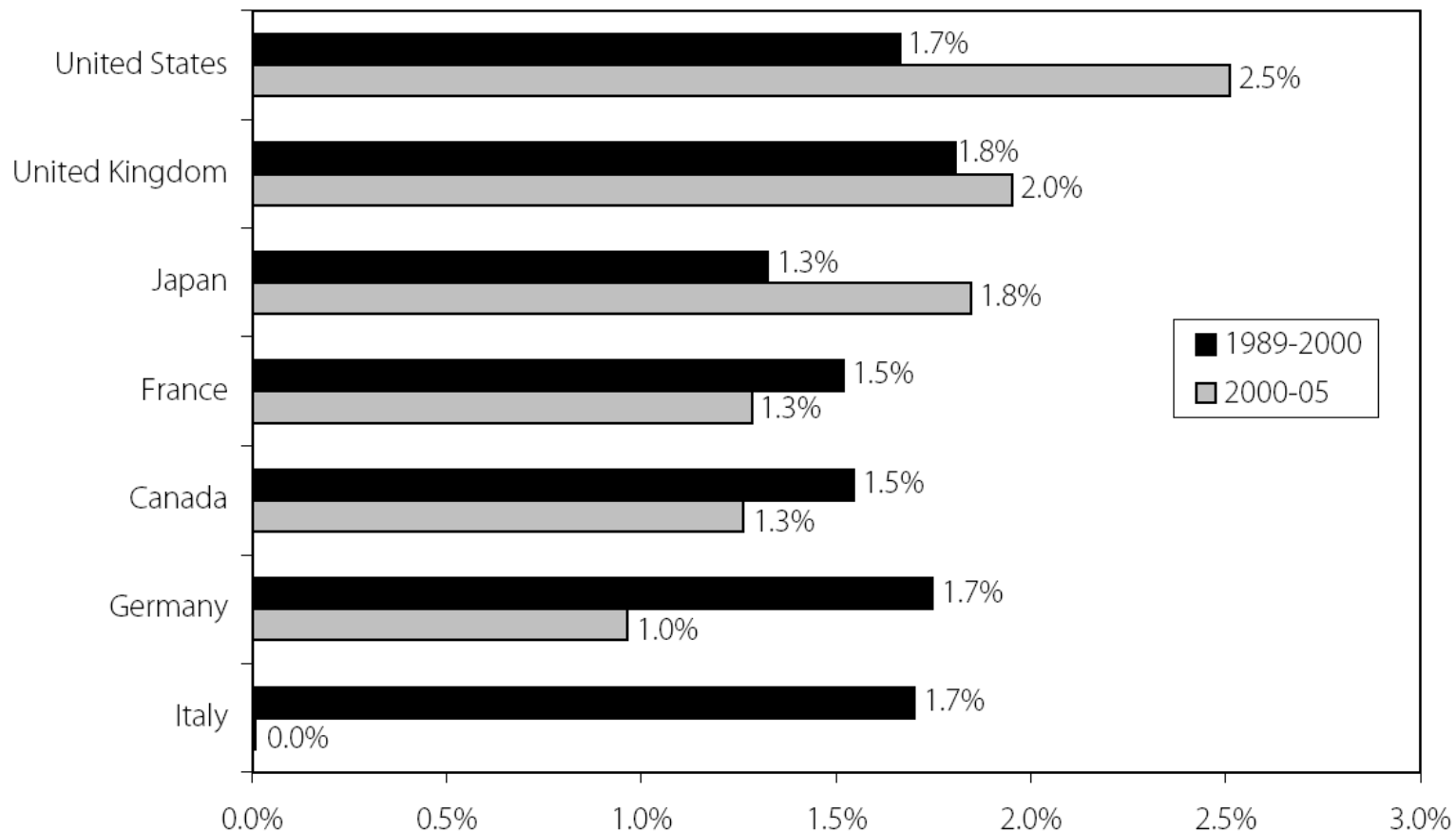
Source: Authors' analysis of OECD (2003a and 2005b) data.

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Economic growth

A different measure of country competitiveness is the rate of growth of the economy (in absolute and/or per capita terms). This measure is more in line with the "acceptable" definitions of country competitiveness.

An application:

the relative slow rate of growth of the European economy with respect to that of the US especially after the second half of the '90s.

Economic growth

There are two different interpretations of this:

a) The glass is half empty (Sapir Report)

b) The glass is half full   (Blanchard)

Economic growth

- Half empty

UE experienced:

strong convergence in GDP per capita for 2 decades and a half

weak convergence in the '70s

divergence after the first half of the '90s

EU GDP in 1970 and in 2000 is approximatively the 70% of the US one

Economic growth

source: Gordon (2004)

Figure 3
Ratio of Europe to the United States,
Output per Capita and Output per Hour,
selected years, 1820-2000
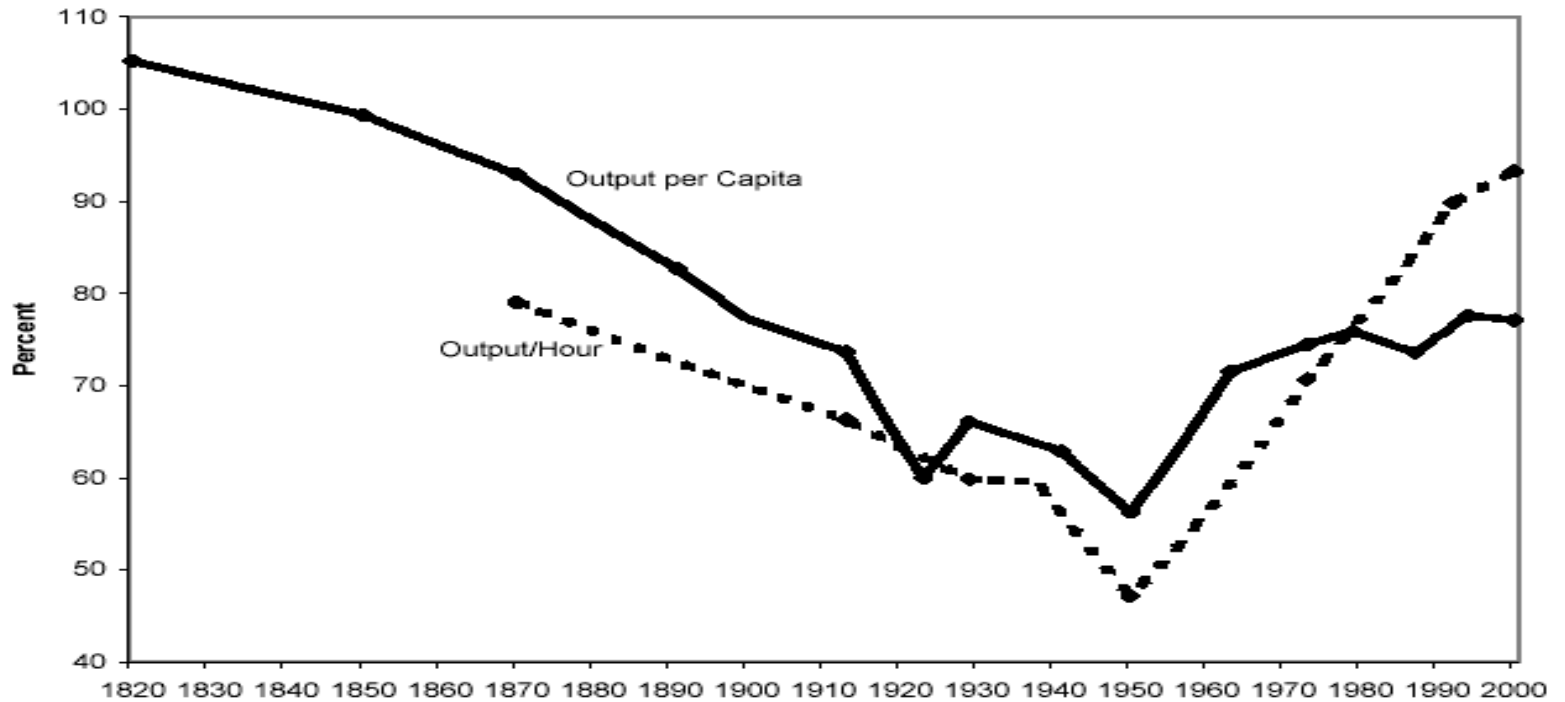
Economic growth

- Half full

This is true, but it is valid only for **<u>output per capita.</u>**

The picture is much less negative when we consider **<u>output per hour worked</u>**: EU is approx 90% of the US one.

The difference is due to the fact that European employees work less hours during the year.

Economic growth

$\Delta \ln(GDP/Pop) =$
$= \Delta \ln(GDP/HrsWorked) + \Delta \ln(HrsWorked/Pop)$

GDP per capita growth =

Hourly labour productivity growth +

Hour worked per capita growth

The difference is due to the fact the European employee work a smaller number of hours per year wrt to US citizens.

Economic growth

- Half full (continues)

for example, between 1970 and 2000 the number of hours worked per person decreased by 23% in France and increased by 26% in the US

The Europeans have "decided" to increase leisure rather than income…

But this is not the only explanation available

GDP per capita: expanded decomposition

$$\text{GDP per capita} = \frac{\text{GDP}}{\text{Population}}$$

$$= \frac{GDP}{Hours} \times \frac{Hours}{Number\ Employed} \times \frac{Number\ Employed}{Labor\ Force} \times \frac{Labor\ Force}{Population}$$

Labor Productivity

Average Hours Worked

Employment Rate

Labor Force Participation Rate

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Economic growth

- <u>Blanchard</u>'s explanation focus on the second term on the right (however, it's decline explains only one third of the decline hours per capita)

Other explanations:

- <u>Prescott</u> (2004): all decline in hours per capita was caused by higher labour taxes in Europe

- <u>Ljungqvist-Sargent</u> (2006): European welfare system increases unemployment and reduces labour force partecipation

- <u>Alesina, Glaeser, Sacerdote</u> (2006): decline in hours is mainly due to the political pressure by trade unions and left-wing parties to reduce hours and lower the retirement age

Economic growth

But in the last 10 years European performance in terms of hourly labour productivity has not been good ….….

.….probably because of the slower diffusion of information technologies (more on this from Daveri)

Economic growth

fonte: Ark (2004)

Labour Productivity (GDP per hour worked) in 1999 US$

— European Union   — United States
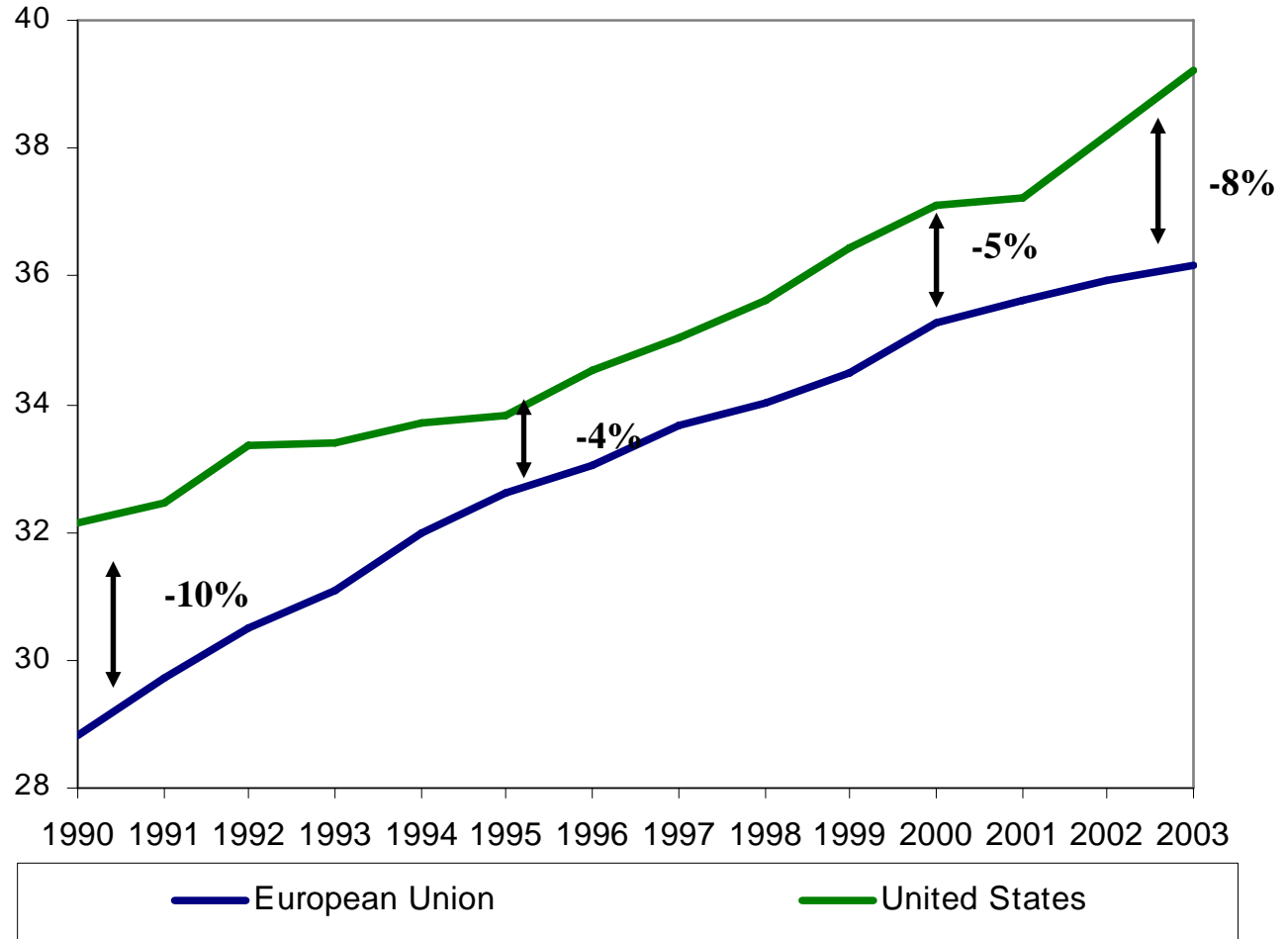
Economic growth

TABLE 8.3 Relative productivity levels in the OECD, 1950-2004

Country	GDP per hour worked (United States = 100)					
	1950	1973	1980	1990	1995	2004
United States	100	100	100	100	100	100
Japan	15	47	55	68	72	73
Germany	39	76	88	94	104	92
France	46	77	88	103	106	107
Italy	43	83	97	104	115	92
United Kingdom	61	64	70	74	80	87
Canada	85	86	88	85	86	80
Australia	72	69	72	71	73	77
Austria	–	–	–	–	–	91
Belgium	59	85	102	110	113	113
Denmark	60	81	89	94	97	90
Finland	35	60	64	74	80	86
Ireland	–	46	58	74	83	104
Netherlands	59	92	106	112	113	100
New Zealand	–	81	71	65	63	59
Norway	57	79	101	115	128	125
Portugal	19	40	–	44	50	53
Spain	25	56	69	82	87	76
Sweden	58	79	83	81	84	88
Switzerland	86	96	101	95	86	82
Average excluding U.S.	41	68	78	85	91	86

Source: Authors' analysis of OECD (2003c and 2005b) data.

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Economic growth

TABLE 8.4 Labor productivity growth per year in OECD, 1960-2005

Country	1960-73	1973-79	1979-1989	1989-2000	2000-05
United States	2.6%	0.3%	1.2%	1.7%	2.5%
Japan	8.4	2.8	2.8	1.3	1.8
Germany	4.5	3.1	1.4	1.7	1.0
France	5.3	2.9	2.5	1.5	1.3
Italy	6.4	2.8	1.9	1.7	0.0
United Kingdom	4.0	1.6	1.8	1.8	2.0
Canada	2.5	1.1	1.0	1.5	1.3
Australia	3.0%	2.5%	1.1%	2.0%	0.8%
Austria	5.9	3.1	2.4	2.5	1.8
Belgium	5.2	2.7	2.4	1.6	1.2
Denmark	3.9	2.3	1.3	2.4	2.0
Finland	5.0	3.2	3.4	2.9	1.9
Ireland	4.8	4.3	4.1	3.7	3.1
Netherlands	4.8	2.6	1.6	1.4	0.9
New Zealand	2.1	-1.1	1.9	0.7	1.0
Norway	3.8	2.7	1.0	2.7	2.7
Portugal	7.5	0.5	2.2	2.1	0.4
Spain	5.9	2.8	2.7	1.4	0.4
Sweden	3.7	1.4	1.8	2.8	2.0
Switzerland	3.3	0.8	0.4	0.3	0.8

Source: Authors' analysis of OECD (1998, 2003a, and 2005a).

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Synthetic measures

A third way to measure is to create an index on the basis of may variables. The chosen variables are usually thought to influence economic growth.

In the last 10 years a proper industry of these measure

The two most famous indices are those contained in the Global Competitiveness Report by the World Economic Forum (WEF) and The World Competitiveness Yearbook by IMD.

Synthetic measures

I concentrate on the WEF production (choice independent of any value judgement!).

In the recent report they generate 2 major rankings. One based on the Growth Competitiveness Index and the other on the Business Competitiveness Index.

These indices are a weighted average of other indices, which are themselves weighted averages of publicly available hard data and information provided in the Forum's Executive Opinion Survey.

Synthetic measures

The Growth Competitiveness Index is intended to measure factors that contribute to a high rate of growth in GDP per capita.

It is composed of 3 pillars:

-Macroeconomic environment index

-Public institutions index

-Technology index

Synthetic measures

The Business Competitive Index complements the previous one focusing on the sophistication of the operating practices and strategies of companies and the quality of the microeconomic business environment in which a nation's company compete.

This year the main competitiveness indicator used by the WEF is the Global Competitive Index

Synthetic measures

Table 4: Global Competitiveness Index rankings and 2005—2006 comparisons

Country/Economy	GCI 2006—07 rank	GCI 2006—07 score	GCI 2005—06 ra
Switzerland	1	5.81	4
Finland	2	5.76	2
Sweden	3	5.74	7
Denmark	4	5.70	3
Singapore	5	5.63	5
United States	6	5.61	1
Japan	7	5.60	10
Germany	8	5.58	6
Netherlands	9	5.56	11
United Kingdom	10	5.54	9
Hong Kong SAR	11	5.46	14
Norway	12	5.42	17
Taiwan, China	13	5.41	8
Iceland	14	5.40	16
Israel	15	5.38	23
Canada	16	5.37	13
Austria	17	5.32	15
France	18	5.31	12
Australia	19	5.29	18
Belgium	20	5.27	20
Ireland	21	5.21	21
Luxembourg	22	5.16	24
New Zealand	23	5.15	22
Korea, Rep.	24	5.13	19
Estonia	25	5.12	26
Malaysia	26	5.11	25
Chile	27	4.85	27
Spain	28	4.77	28
Czech Republic	29	4.74	29
Tunisia	30	4.71	37
Barbados	31	4.70	—
United Arab Emirates	32	4.66	32
Slovenia	33	4.64	30
Portugal	34	4.60	31
Thailand	35	4.58	33
Latvia	36	4.57	39
Slovak Republic	37	4.55	36
Qatar	38	4.55	46
Malta	39	4.54	44
Lithuania	40	4.53	34
Hungary	41	4.52	35
Italy	42	4.46	38
India	43	4.44	45
Kuwait	44	4.41	49
South Africa	45	4.36	40
Cyprus	46	4.36	41
Greece	47	4.33	47
Poland	48	4.30	43
Bahrain	49	4.28	50
Indonesia	50	4.26	69
Croatia	51	4.26	64
Jordan	52	4.25	42
Costa Rica	53	4.25	56
China	54	4.24	48
Mauritius	55	4.20	55
Kazakhstan	56	4.19	51
Panama	57	4.18	65
Mexico	58	4.18	59
Turkey	59	4.14	71
Jamaica	60	4.10	63
El Salvador	61	4.09	60
Russian Federation	62	4.08	53
Egypt	63	4.07	52
Azerbaijan	64	4.06	62
Colombia	65	4.04	58
Brazil	66	4.03	57

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Synthetic measures

Global Competitiveness Index 2006 and 2005 comparisons

Country/Economy	GCI 2006 Rank	GCI 2006 Score	GCI 2005 Rank	Changes 2005-2006	
Switzerland	1	5.81	4	↗	3
Finland	2	5.76	2	→	0
Sweden	3	5.74	7	↗	4
Denmark	4	5.70	3	↘	-1
Singapore	5	5.63	5	→	0
United States	6	5.61	1	↘	-5
Japan	7	5.60	10	↗	3
Germany	8	5.58	6	↘	-2
Netherlands	9	5.56	11	↗	2
United Kingdom	10	5.54	9	↘	-1
Hong Kong SAR	11	5.46	14	↗	3
Norway	12	5.42	17	↗	5
Taiwan, China	13	5.41	8	↘	-5
Iceland	14	5.40	16	↗	2
Israel	15	5.38	23	↗	8
Canada	16	5.37	13	↘	-3
Austria	17	5.32	15	↘	-2
France	18	5.31	12	↘	-6
Australia	19	5.29	18	↘	-1
Belgium	20	5.27	20	→	0
Ireland	21	5.21	21	→	0
Luxembourg	22	5.16	24	↗	2
New Zealand	23	5.15	22	↘	-1
Korea, Rep.	24	5.13	19	↘	-5
Estonia	25	5.12	26	↗	1
Malaysia	26	5.11	25	↘	-1
Chile	27	4.85	27	→	0
Spain	28	4.77	28	→	0
Czech Republic	29	4.74	29	→	0
Tunisia	30	4.71	37	↗	7
Barbados	31	4.70	—		n/a
United Arab Emirates	32	4.66	32	→	0
Slovenia	33	4.64	30	↘	-3
Portugal	34	4.60	31	↘	-3
Thailand	35	4.58	33	↘	-2
Latvia	36	4.57	39	↗	3
Slovak Republic	37	4.55	36	↘	-1
Qatar	38	4.55	46	↗	8
Malta	39	4.54	44	↗	5
Lithuania	40	4.53	34	↘	-6
Hungary	41	4.52	35	↘	-6
Italy	42	4.46	38	↘	-4
India	43	4.44	45	↗	2
Kuwait	44	4.41	49	↗	5
South Africa	45	4.36	40	↘	-5
Cyprus	46	4.36	41	↘	-5
Greece	47	4.33	47	→	0
Poland	48	4.30	43	↘	-5
Bahrain	49	4.28	50	↗	1
Indonesia	50	4.26	69	↗	19
Croatia	51	4.26	64	↗	13
Jordan	52	4.25	42	↘	-10
Costa Rica	53	4.25	56	↗	3
China	54	4.24	48	↘	-6
Mauritius	55	4.20	55	→	0
Kazakhstan	56	4.19	51	↘	-5
Panama	57	4.18	65	↗	8
Mexico	58	4.18	59	↗	1
Turkey	59	4.14	71	↗	12
Jamaica	60	4.10	63	↗	3
El Salvador	61	4.09	60	↘	-1
Russian Federation	62	4.08	53	↘	-9
Azerbaijan	64	4.06	62	↘	-2
Colombia	65	4.04	58	↘	-7
Brazil	66	4.03	57	↘	-9
Trinidad and Tobago	67	4.03	66	↘	-1
Romania	68	4.02	67	↘	-1
Argentina	69	4.01	54	↘	-15
Morocco	70	4.01	76	↗	6
Philippines	71	4.00	73	↗	2
Bulgaria	72	3.96	61	↘	-11
Uruguay	73	3.96	70	↘	-3
Peru	74	3.94	77	↗	3
Guatemala	75	3.91	95	↗	20
Algeria	76	3.90	82	↗	6
Vietnam	77	3.89	74	↘	-3
Ukraine	78	3.89	68	↘	-10
Sri Lanka	79	3.87	80	↗	1
Macedonia, FYR	80	3.86	75	↘	-5
Botswana	81	3.79	72	↘	-9
Armenia	82	3.75	81	↘	-1
Dominican Republic	83	3.75	91	↗	8
Namibia	84	3.74	79	↘	-5
Georgia	85	3.73	86	↗	1
Moldova	86	3.71	89	↗	3
Serbia and Montenegro	87	3.69	85	↘	-2
Venezuela	88	3.69	84	↘	-4
Bosnia and Herzegovina	89	3.67	88	↘	-1
Ecuador	90	3.67	87	↘	-3
Pakistan	91	3.66	94	↗	3
Mongolia	92	3.60	90	↘	-2
Honduras	93	3.58	97	↗	4
Kenya	94	3.57	93	↘	-1
Nicaragua	95	3.52	96	↗	1
Tajikistan	96	3.50	92	↘	-4
Bolivia	97	3.46	101	↗	4
Albania	98	3.46	100	↗	2

Synthetic measures

Bangladesh	99	3.46	98	↘	-1
Suriname	100	3.45	—	n/a	
Nigeria	101	3.45	83	↘	-18
Gambia	102	3.43	109	↗	7
Cambodia	103	3.39	111	↗	8
Tanzania	104	3.39	105	↗	1
Benin	105	3.37	106	↗	1
Paraguay	106	3.33	102	↘	-4
Kyrgyz Republic	107	3.31	104	↘	-3
Cameroon	108	3.30	99	↘	-9
Madagascar	109	3.27	107	↘	-2
Nepal	110	3.26	—	n/a	
Guyana	111	3.24	108	↘	-3
Lesotho	112	3.22	—	n/a	
Uganda	113	3.19	103	↘	-10
Mauritania	114	3.17	—	n/a	
Zambia	115	3.16	—	n/a	
Burkina Faso	116	3.07	—	n/a	
Malawi	117	3.07	114	↘	-3
Mali	118	3.02	115	↘	-3
Zimbabwe	119	3.01	110	↘	-9
Ethiopia	120	2.99	116	↘	-4
Mozambique	121	2.94	112	↘	-9
Timor-Leste	122	2.90	113	↘	-9
Chad	123	2.61	117	↘	-6
Burundi	124	2.59	—	n/a	
Angola	125	2.50	—	n/a	