Global Competitiveness

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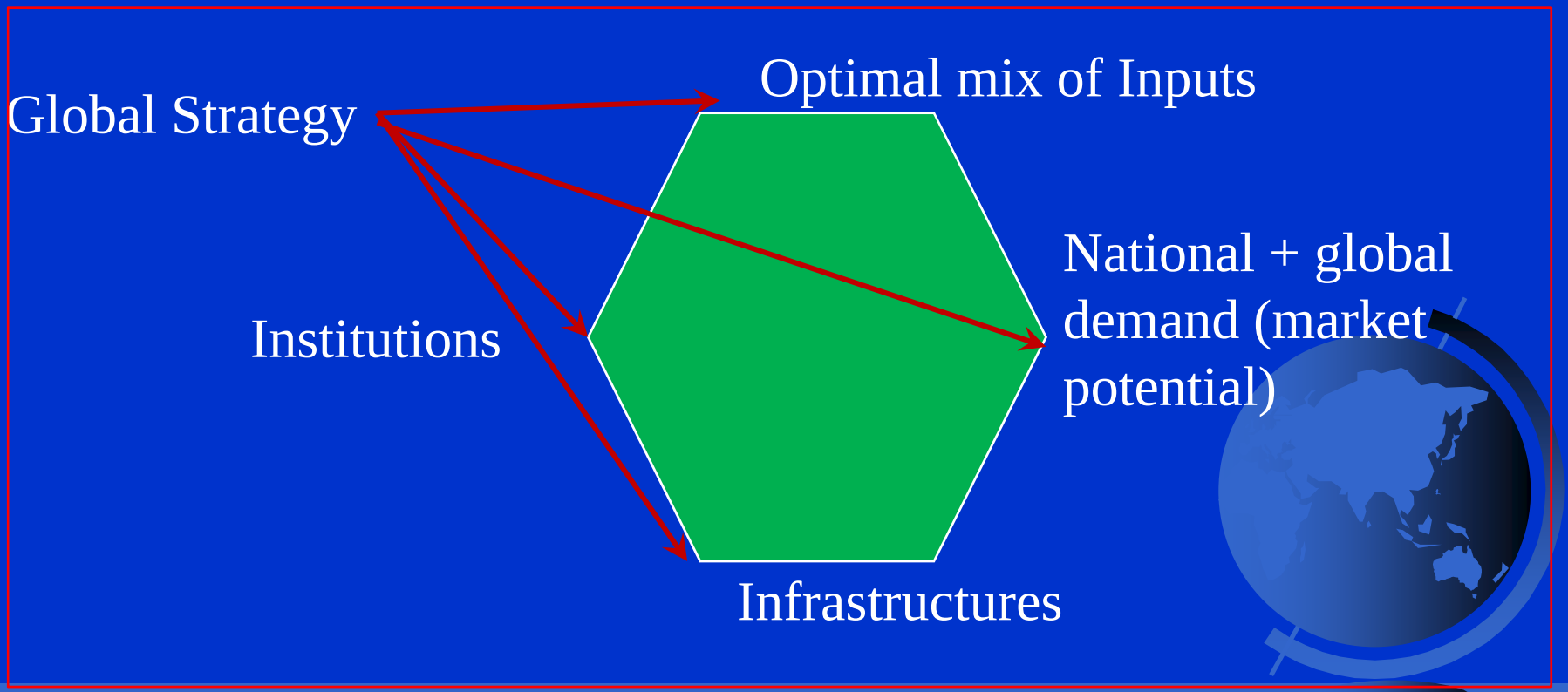
Competitiveness has nothing to do with « cheap », but with a combination of intrinsic « value elements », including price, technology, overall quality and status, that create demand for the product!

PORSCHE

What is Competitiveness?

- Porter : By-product of micro + macroeconomic + institutional variables: legal and regulatory framework and good governance:

Porter's diamond



2012 Industrial Excellence Award

Insead-IESE-Cambridge-Erasmus- WirtschaftWoche Conference

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Management Quality is defined as a coherent and **competitive** system of strategy setting, integration, participation, performance measurement, communication and employee development

☞ Winner: **Continental (Foix-France) over** BMW (Landshut, Germany).

How to boost a country's competitiveness?

1. Increasing **productivity** (good management, education & training, infrastructure and institutions, investing in R&D and innovation…)

2. Reducing **costs** (inputs, wages, exchange rates, providing subsidies and tax incentives)

3. Improving **efficiency** and product quality as well as marketing (Germany vs France?)

How Measuring Competitiveness?

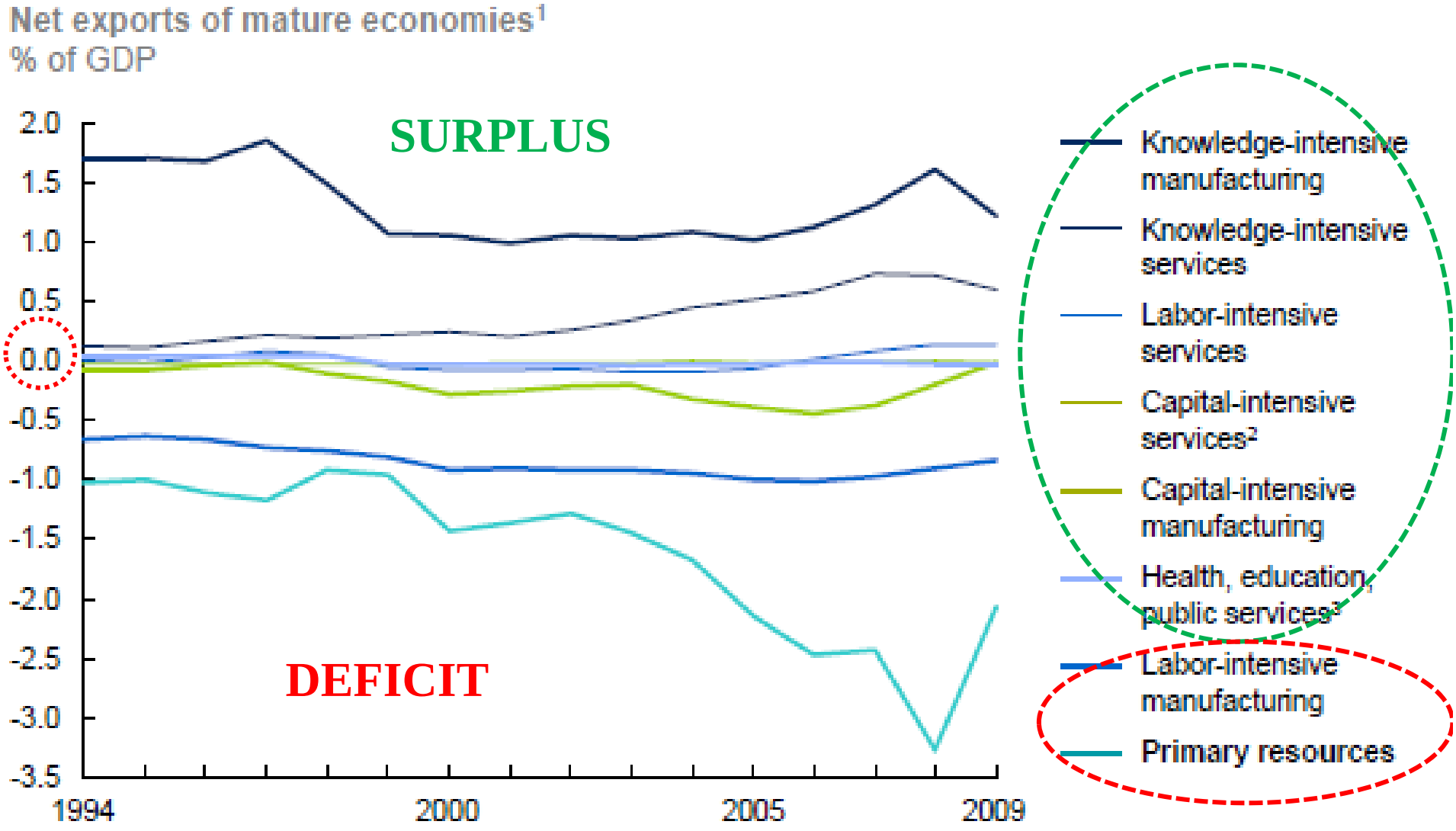
1. Market share in global exports
2. Relative costs (inflation, taxes and labour cost)
3. Real exchange rates
4. Productivity
5. Technology, innovation and R&D
6. Ratings & Rankings

What is competitiveness all about?

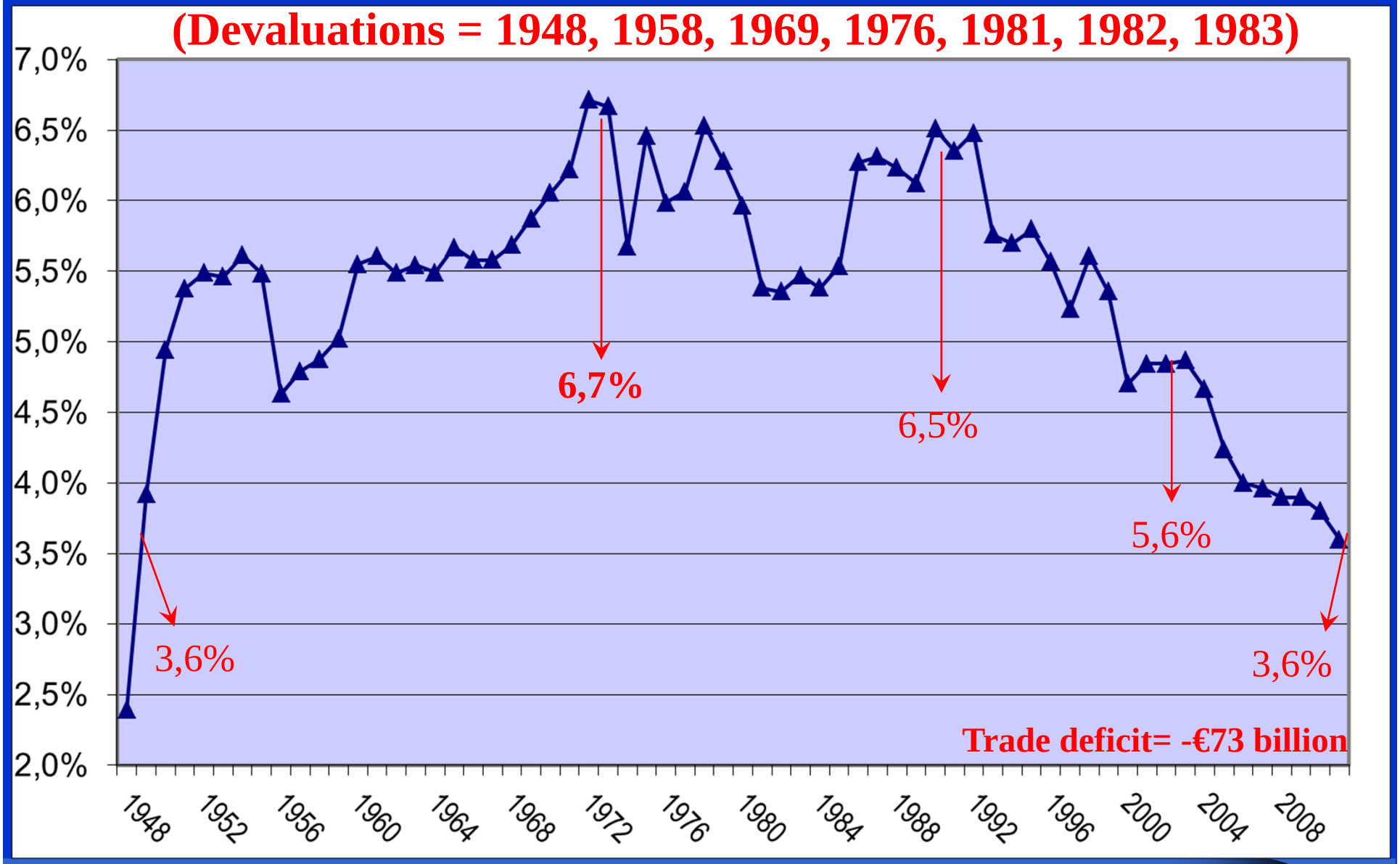
- From a country's as well as a company's standpoint, competitiveness has to do with **market share**. It reflects economic productivity as well as overall performance. It requires a country or a company not only to do better than before but better than elsewhere. And today, competitors are everywhere!

- According to OECD, competitiveness measures a country's **ability to deliver goods and services that meet global standards in a free market competition**.
- From a country's perspective, competitiveness leads to rising and sustainable standard of living (Lisboa European Council 2000).

Developed countries run a **deficit in primary** ressources and labor-intensive manufacturing but a **surplus in knowledge-intensive** exports



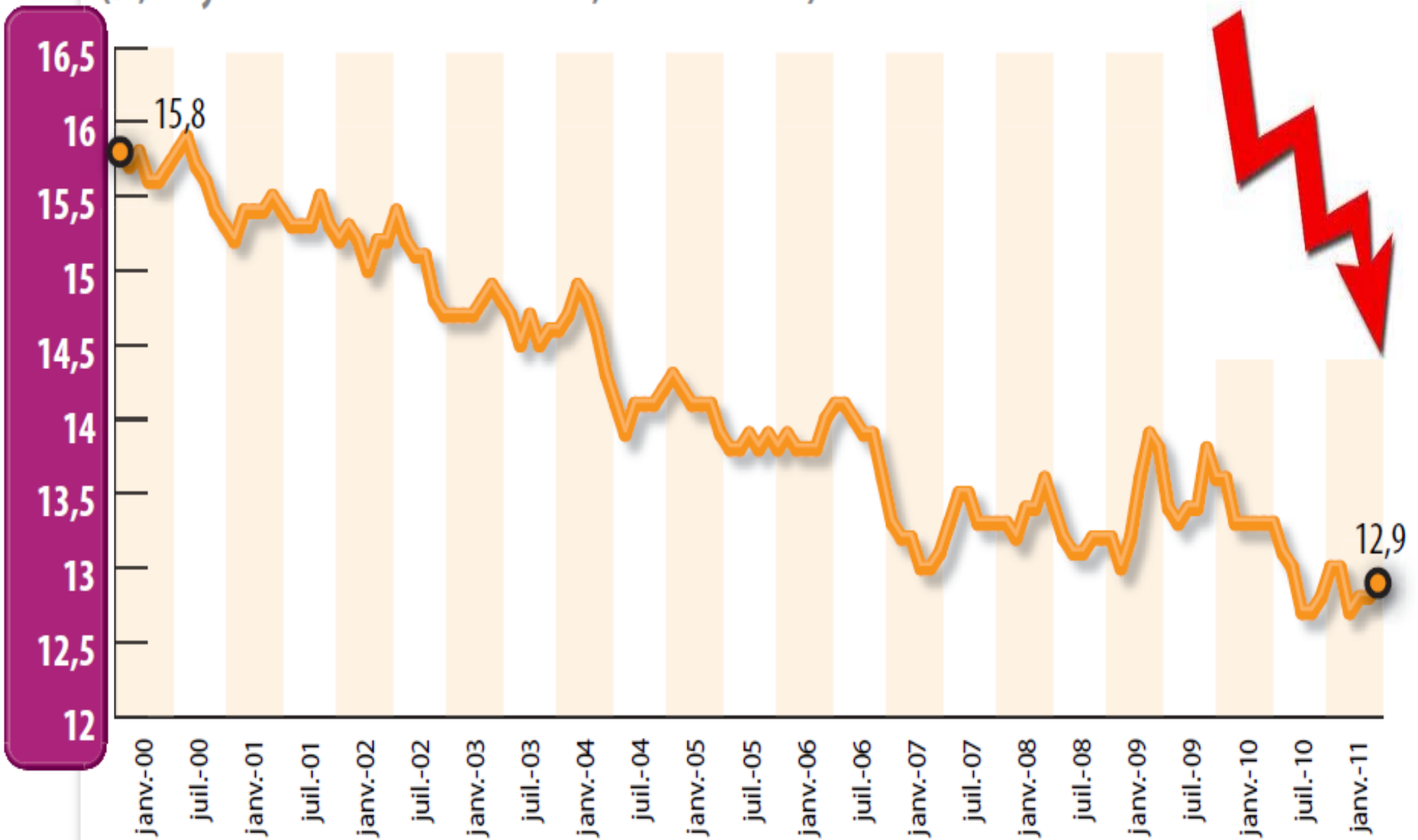
France: Market share in global exports 1948-2011



Source: FMI et OMC

The € is not to blame!

Share of France's exports in the € Zone's total goods exports



- **Are goods produced in the developed and developing countries close substitutes so that specialization is incomplete?**

Question: Will growth in developing countries worsen the US terms of trade ?

Wrong Assumption!

- There are distinctive patterns of international specialization . Developed and developing countries export fundamentally different products, especially those classified as **high tech**.
- The OECD and EMCs specialize in quite different product categories that do not overlap. Moreover, even when exports are classified in the same category, there are large and systematic differences in unit values that suggest the products made by developed and developing countries are not close substitutes: **developed country products are still far more sophisticated.**
- The medium- and high-tech. manufactured exports of developed and developing countries differ greatly in unit values!

SOURCE: L. Edwards and R. Lawrence: Brooking Working Paper June 2010

Asia is not yet catching up with the OECD

- Though China and other Asian economies have been moving into high-tech exports, the **export unit value measures** indicate they are doing so in the least sophisticated market segments.
- The gap in unit values between their exports and those of the OECD has not narrowed over time.

Rethinking competitiveness: The global value chain

- Assuming that all export activities in the production of a good take place in the domestic economy, using domestic input only, is meaningless with the increasing fragmentation of production across borders and the increasing use of foreign inputs!
- Being ‘competitive’ in terms of exports does not necessarily generate high domestic incomes: the key is “**net income**”
- **Exports growth** overestimates the related income growth of countries that rely heavily on **imported inputs** (China)
- Ex. Producing the **iPod** in China results from an intricate production network ending with assembly in China

Source: Timmer & De Vries, Uni. of Groningen, 2013

The **global value chain** of Apple's iPhone

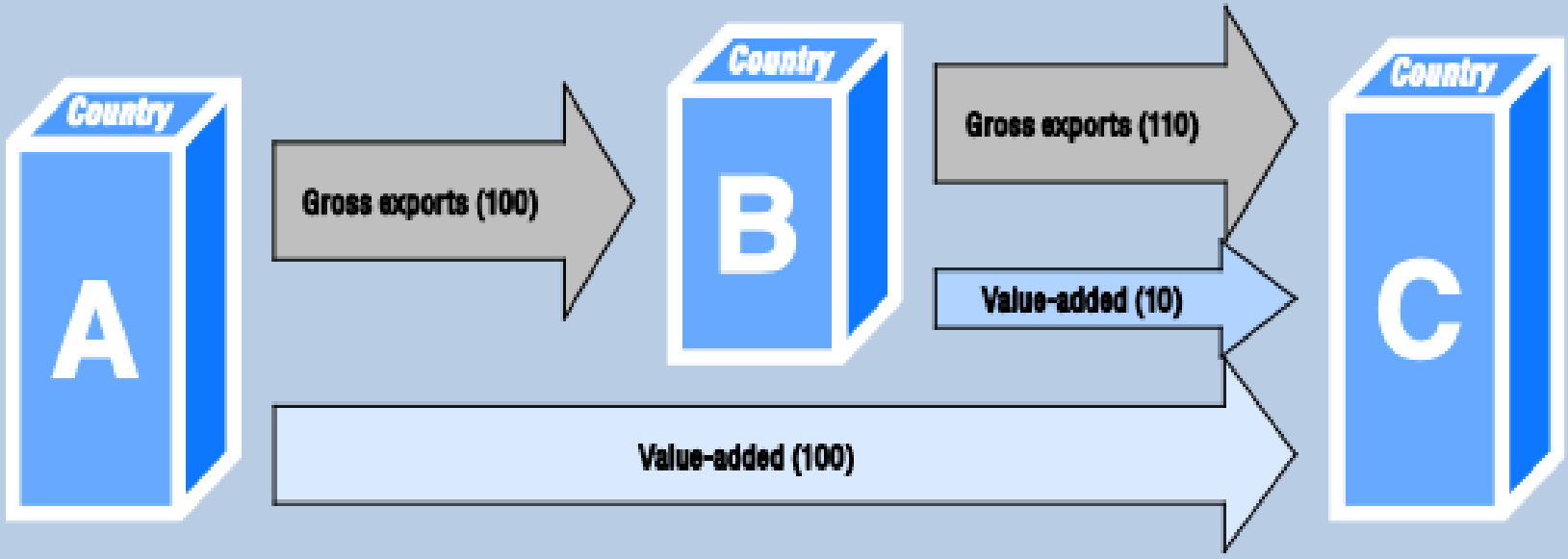
- Chinese workers simply put all the parts and components together, contributing only 3.6% of the total manufacturing cost (e.g. the shipping price).
- The traditional way of measuring trade credits all $180 to China when an iPhone is shipped to the US, thus inflating the export volume as well as the imbalance.
- Decomposing the value added along the value chain of the iPhone manufacturing suggest that, of the $2.0 billion iPhone export from China, 96.4% is actually the transfer from Germany ($326 million), Japan ($670 million), Korea ($259 million), the US ($108 million) and others ($ 542 million).

Manufacturer	Component	Cost
Toshiba (Japan)	Flash Memory	$24
	Display Module	$19.25
	Touch Screen	$16.00
Samsung (Korea)	Application Processor	$14.46
	SDRAM-Mobile DDR	$8.50
Infineon (Germany)	Baseband	$13.00
	Camera Module	$9.55
	RF Transceiver	$2.80
	GPS Receiver	$2.25
	Power IC RF Function	$1.25
Broadcom (USA)	Bluetooth/FM/WLAN	$5.95
Numonyx (USA)	Memory MCP	$3.65
Murata (Japan)	FEM	$1.35
Dialog Semiconductor (Germany)	Power IC Application Processor Function	$1.30
Cirrus Logic (USA)	Audio Codec	$1.15
Rest of Bill of Materials		**$48.00**
Total Bill of Materials		**$172.46**
Manufacturing costs		**$6.50**
Grand Total		**$178.96**

Source: Rassweiler (2009)

Measuring net export value added trade

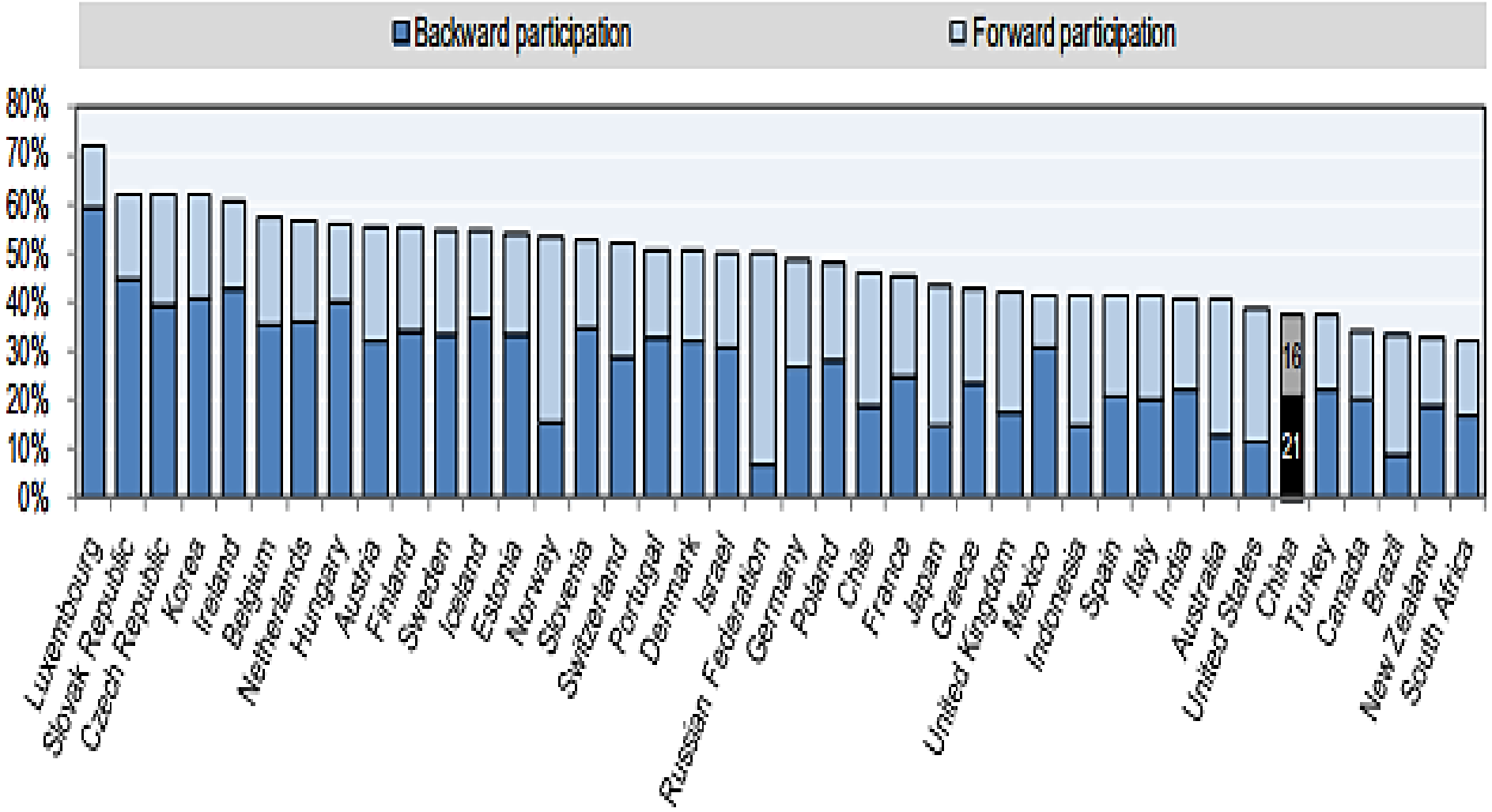
The Trade in Value Added initiative factors out the double counting implicit in current gross flows of trade and instead measures the flows of value that is added (labour compensation, taxes and profits) by a country in the production of any good or service that is exported.



For example, country A exports USD 100 of goods, produced entirely within A, to country B, which further processes them before exporting them to C where they are consumed. B adds value of USD 10 to the goods and so exports USD 110 to C. Conventional measures of trade show total global exports and imports of USD 210 while only USD 110 of value added has been generated in their production. Conventional measures also show that C has a trade deficit of USD 110 with B, and no trade at all with A even though A is the chief beneficiary of C's consumption. If instead flows in value added are tracked, C's trade deficit with B drops to USD 10 and it now runs a deficit of USD 100 with A.

Source: OECD 06-2013

Backward participation in global value chain measures foreign inputs in China's exports (21%) while **forward participation** measures the country's domestic inputs in other countries' exports (16% for China)



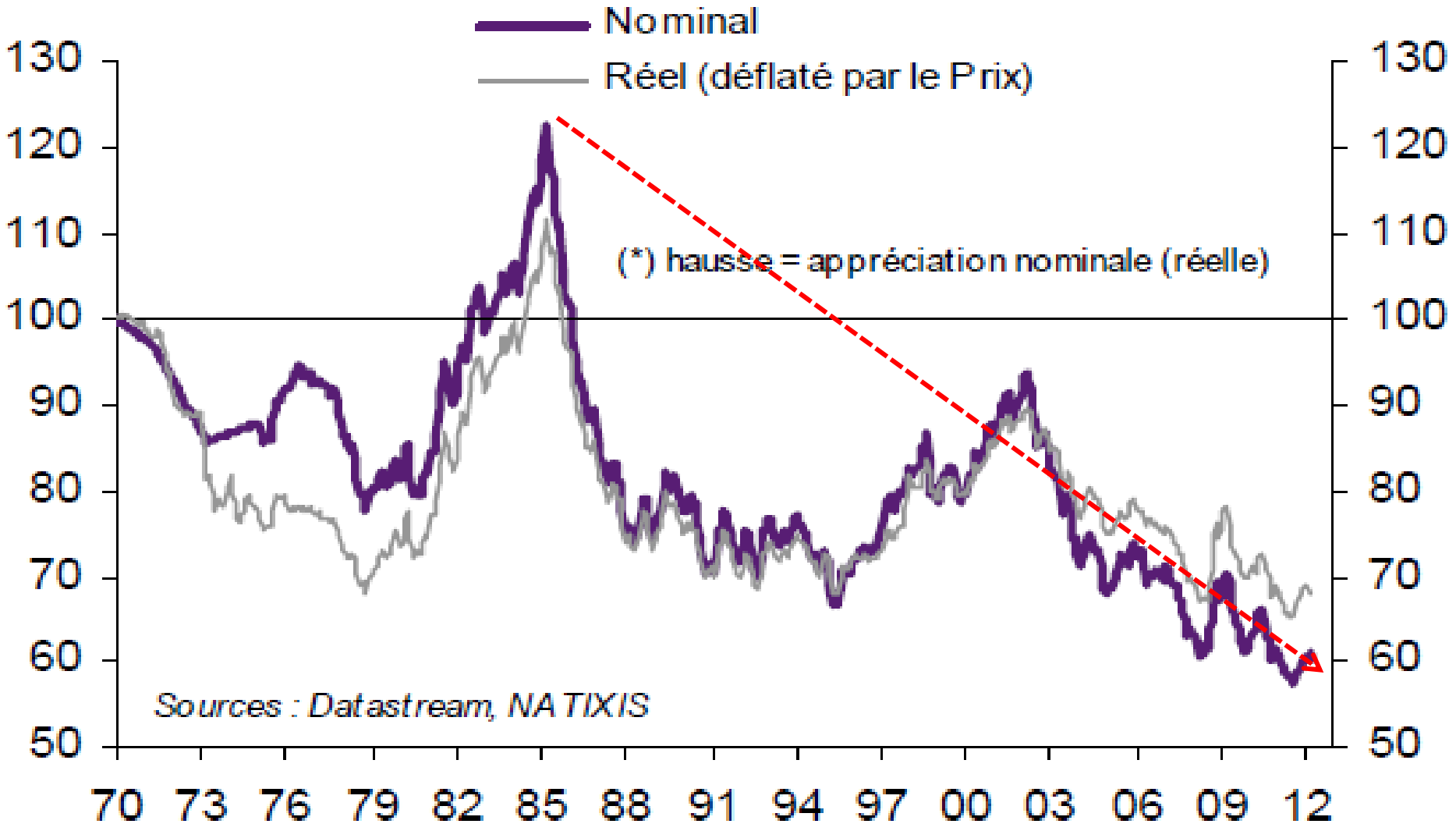
Source: OECD 2013

2. Root causes of competitiveness gap

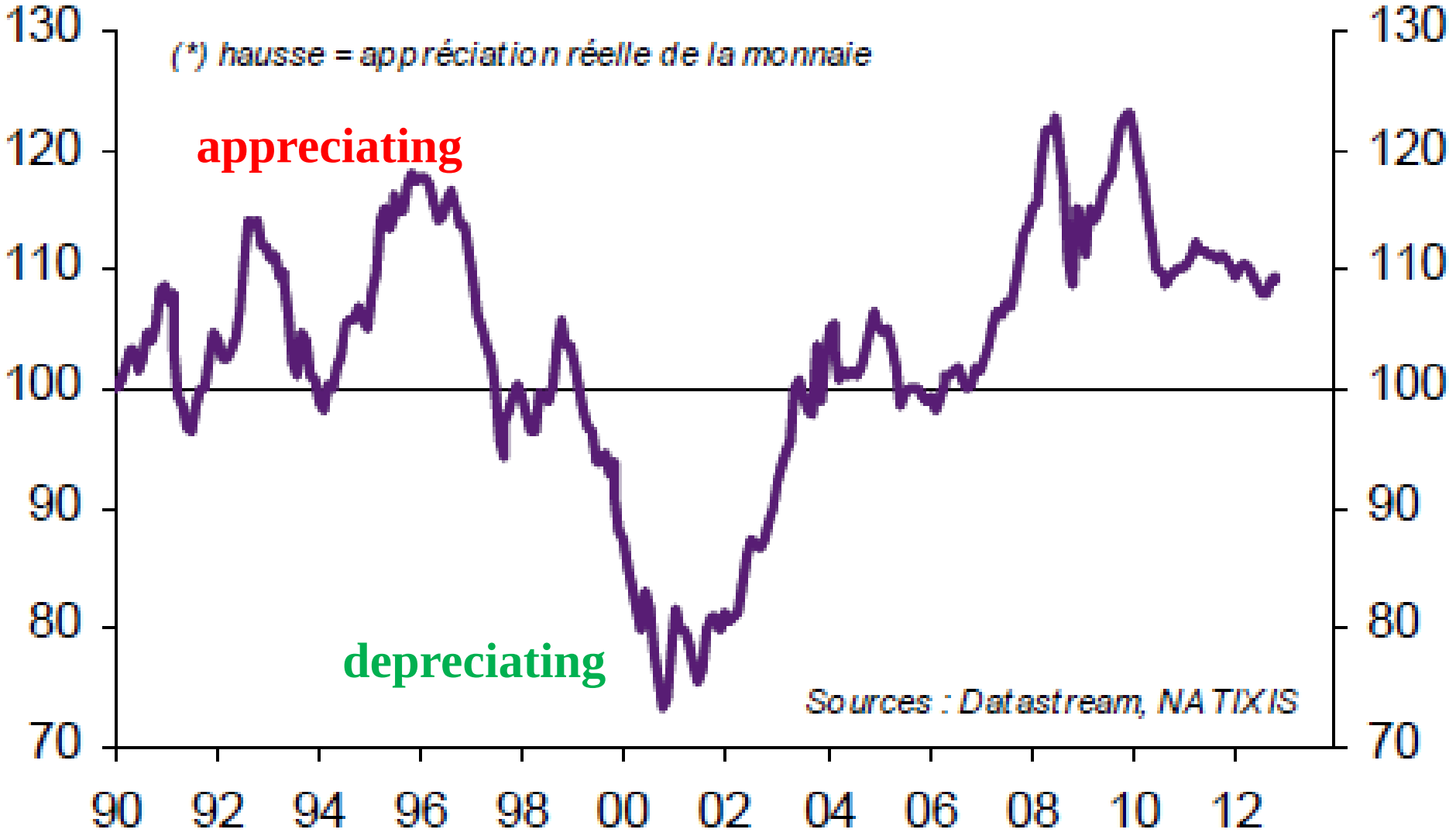
Relative costs =

- Exchange rates
- Inflation
- Taxes
- Wages

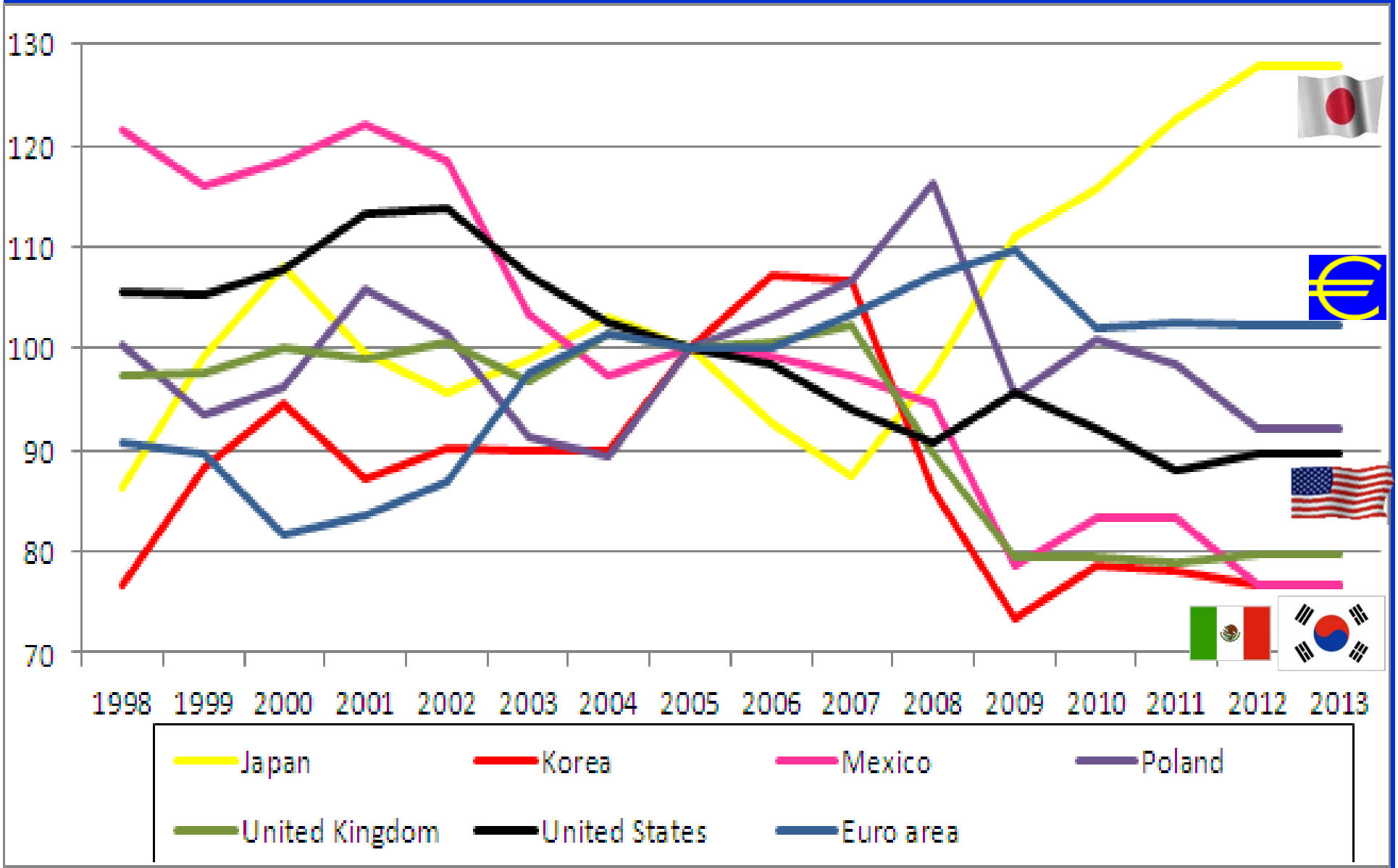
Exchange rates: Decline in the US$ in the mid-1980s accelerated since 2001!



The Euro real effective exchange rate 1990-2012



Effective exchange rates as source of cost competitiveness

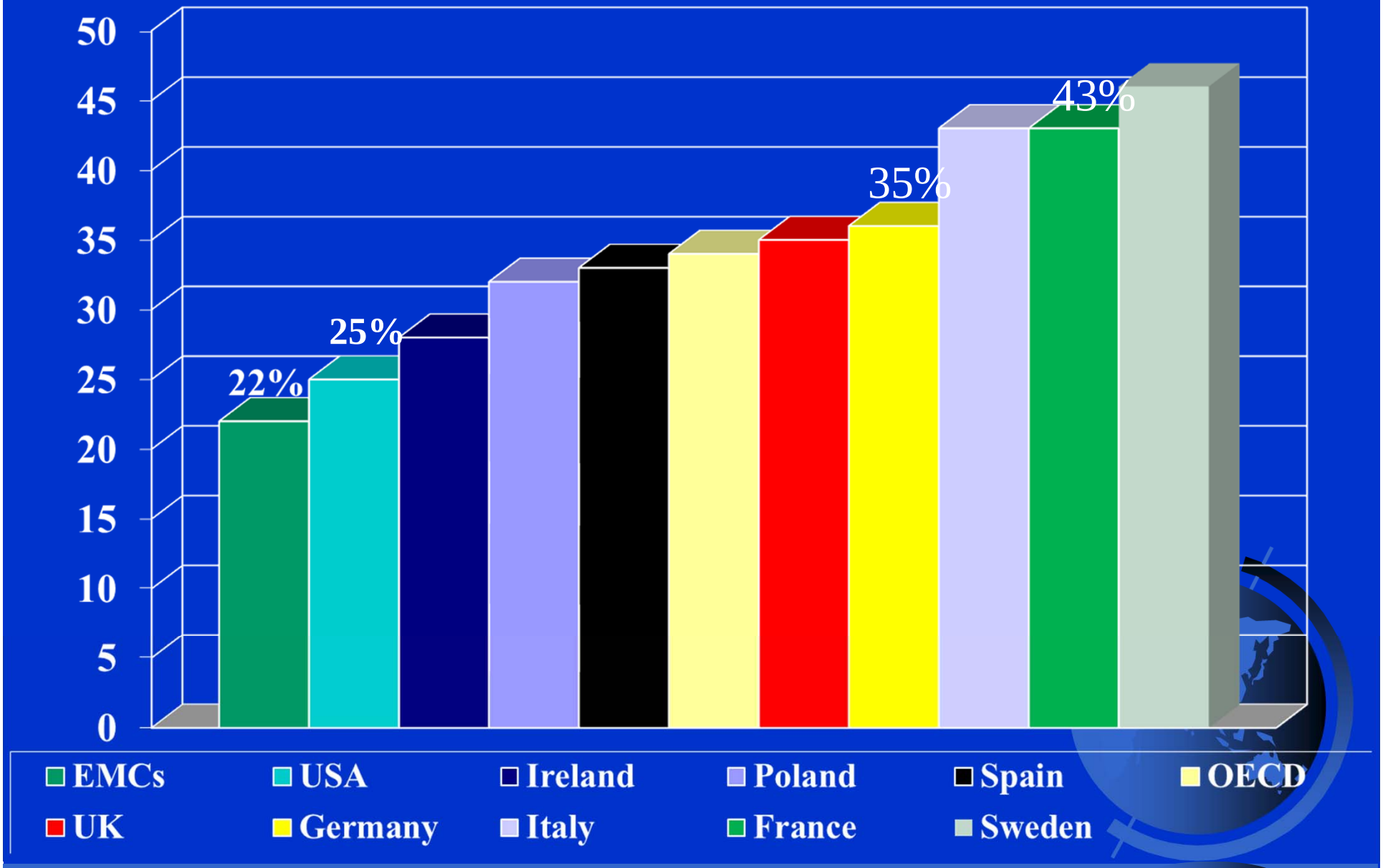


Competitiveness = **relative tax rates and labor prices**

- Carlos Ghosn : « For a given car worth €14,000, there is a 10% cost difference between a Poland or Turkey-based car production and a France-based manufacturing production »

- About 70% of that difference stems from taxes and social charges….

OECD: Overall tax pressure as % of GDP



Source: OECD 2012

Competitive corporate tax rates?

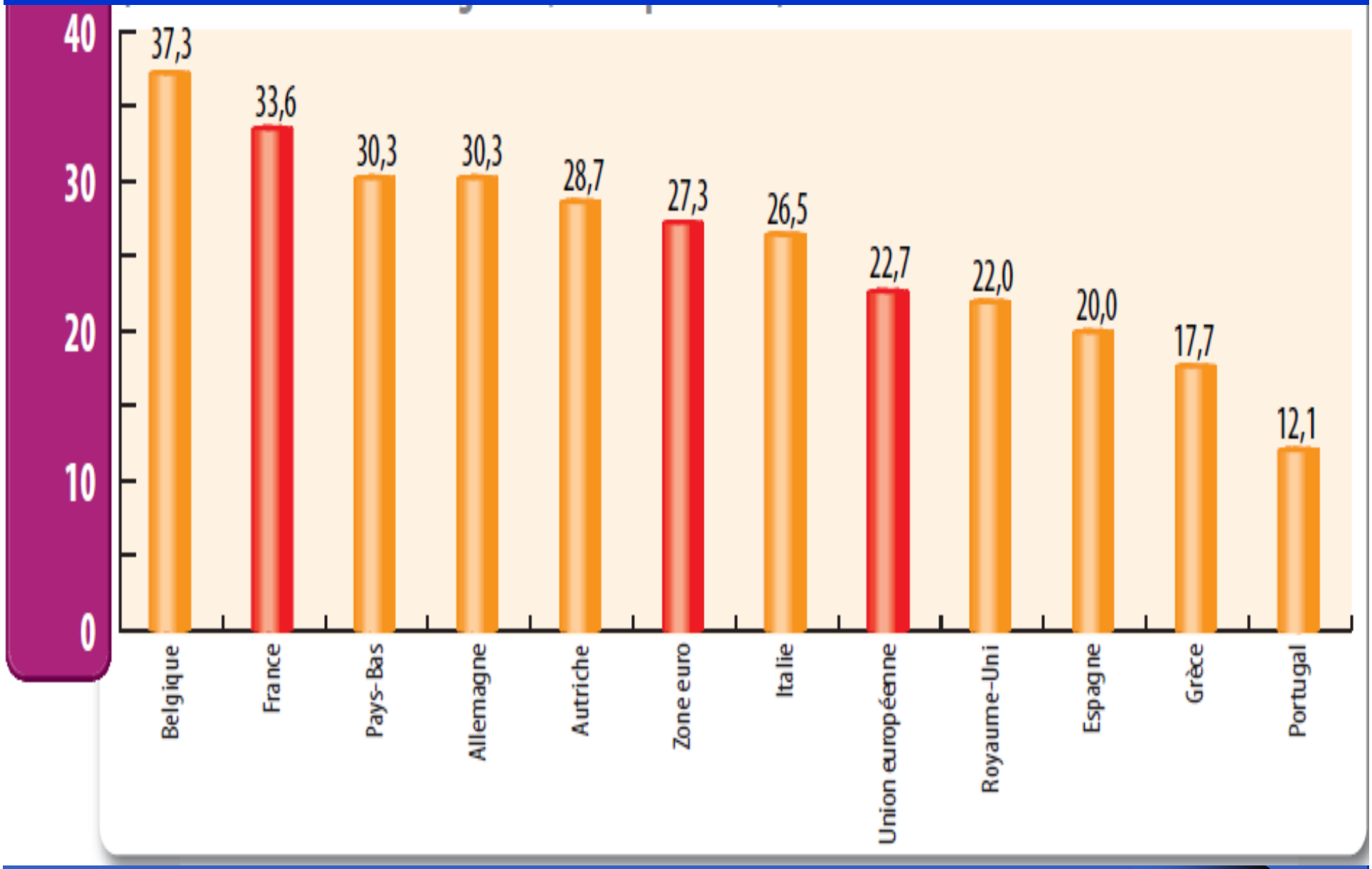
In France, 25% of the CAC40 companies do not pay any profit tax. The average tax rate reaches 8% for the large companies and 22% for the SMEs.

Tax attractiveness? A complex matter

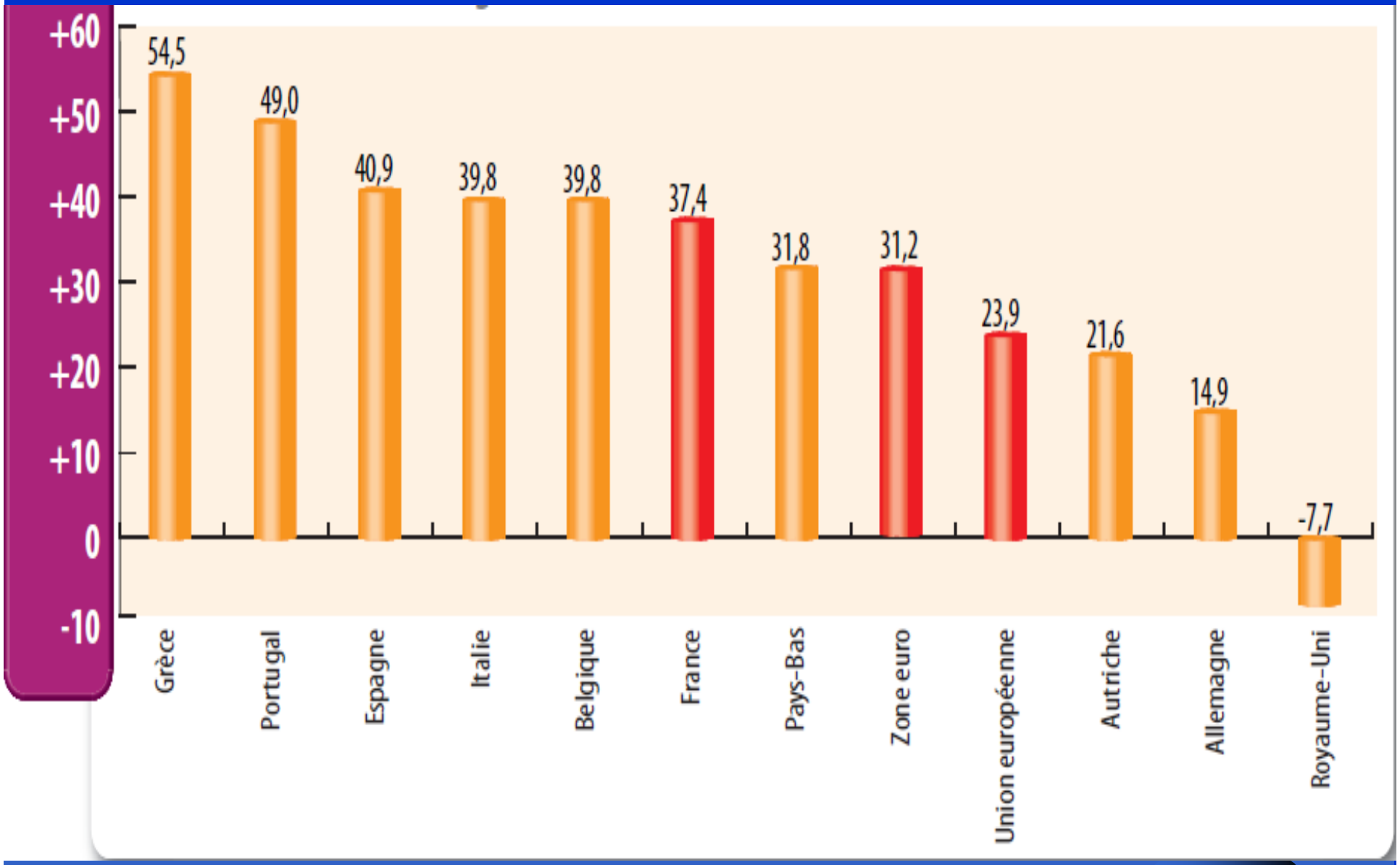
- Business taxation consists of more than just company tax. The effective tax element imposed on companies in France is much lower than the nominal company tax rate would lead one to believe. The **tax base and exemptions** should be taken into account. The main way multinationals avoid corporate income tax is transfer pricing (separate company accounting and fictitious corporations)

- An analysis of tax payments in relation to gross operating profit shows that "**France is in a more favorable position, with a basic imposition rate of tax on profit of around 17%".** Improvements in tax regimes imposed upon foreign investors, the higher ceiling on research tax credits – now the most advantageous in Europe – and the suppression of local business tax mechanisms on production investment have "sent strong signals to foreign investors."
- On a global scale, France is now the fifth cheapest country worldwide for company setup costs (jobs, installation, transport, charges and taxes, equipment and energy) and the cheapest in Europe. Source: Report by AFII President David Appia June 2012

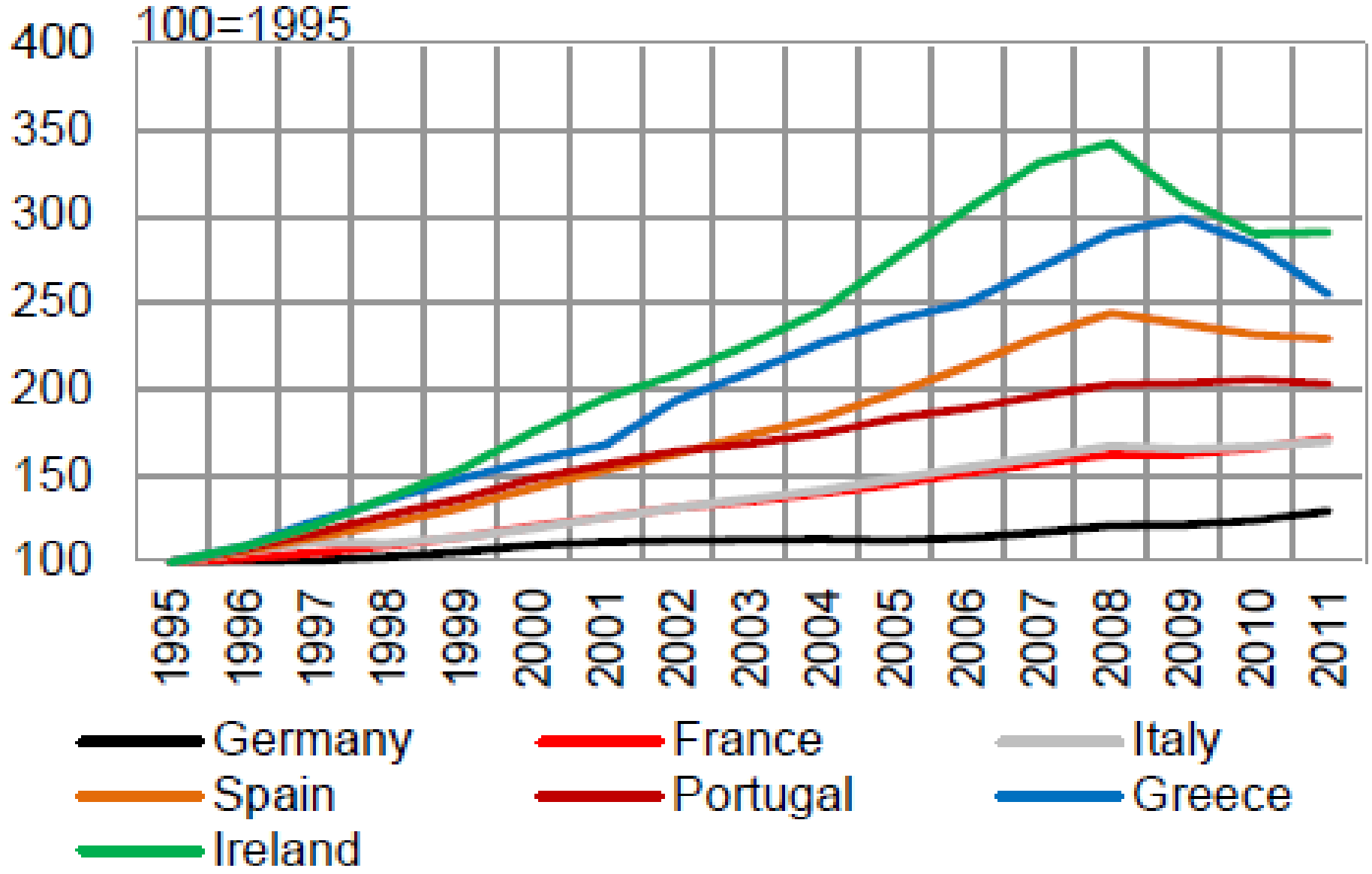
Relative €/hour labor cost in the EU



Labor cost growth rates 2000-10 %



Country-by-country wage trends



Source: Crédit Agricole S.A.

How comparing **relative** labor costs across countries?

Total wages cannot allow to compare the actual cost of employees. Wages do not take into account labor compensation (social charges, taxes…). And high wages do not mean the same thing in high and low productivity sectors or countries regarding business profitability!

Unit Labor Cost measures Competitiveness = Average total labor compensation per worker and per unit of output, including **productivity**

Ratio of At the macroeconomic level, for a country =

$$\frac{\text{Labor compensation per worker or per hour}}{\text{Output per worker or per hour}}$$

Global competitiveness = **Labor Costs + Productivity**

- Unit labor cost =

Labor compensation/ Output per employee =

labor productivity

- ULC depends on both labor compensation and productivity gaps!
- The key is comparing relative levels of labor compensation/employee with **relative levels of labor productivity** within the OECD and between the OECD and EMCs: Tunisia? China? Vietnam?

What is productivity?

Productivity =

Ratio of a volume of output

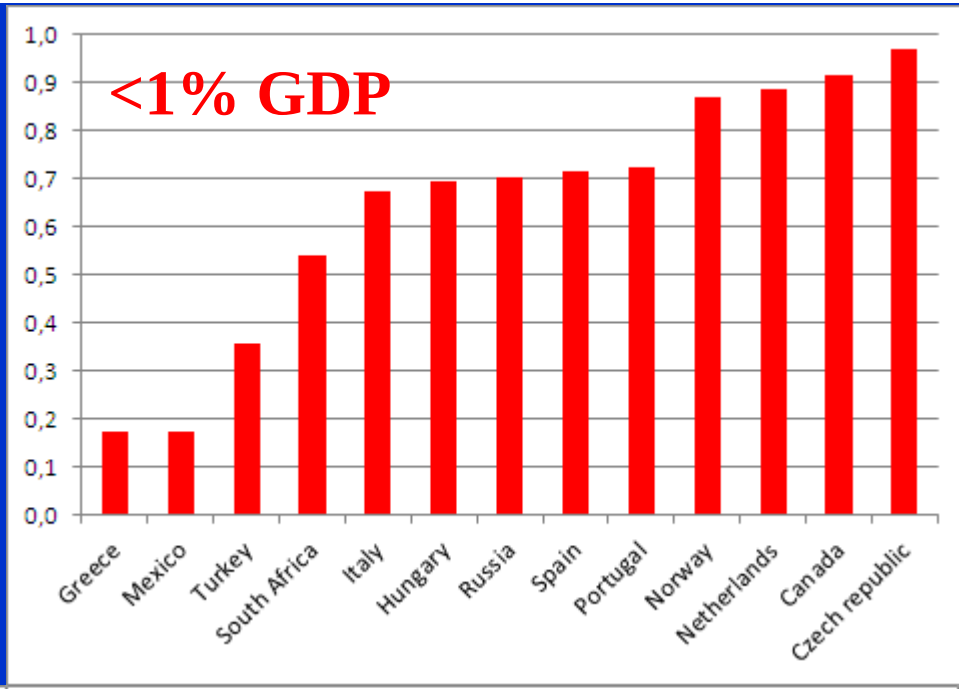
to a volume of input use

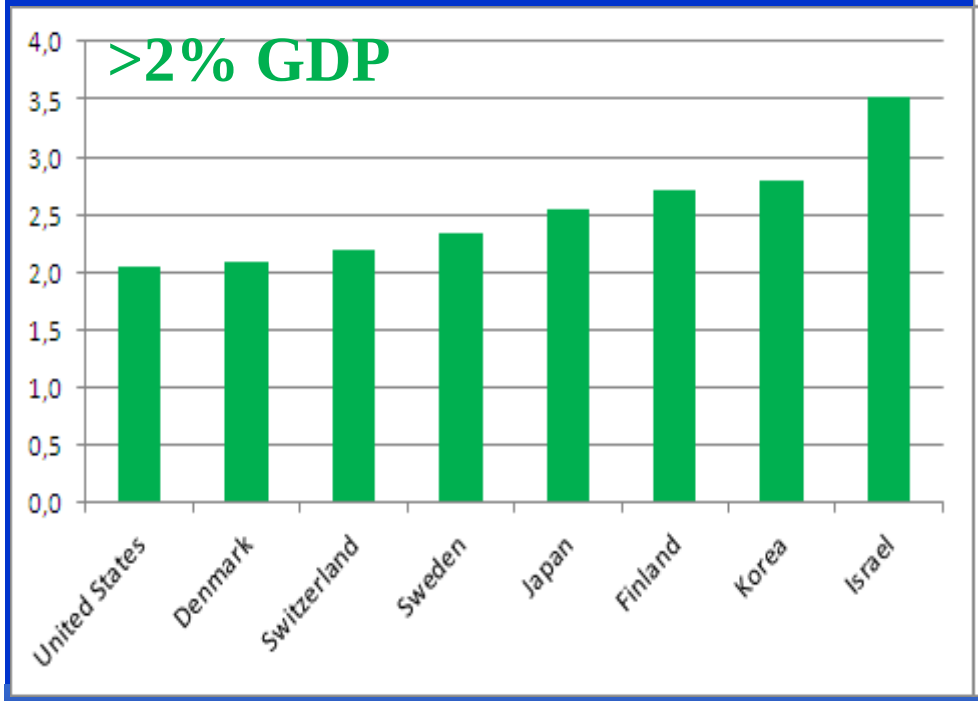
Labour Productivity = Ratio OUTPUT/LABOUR

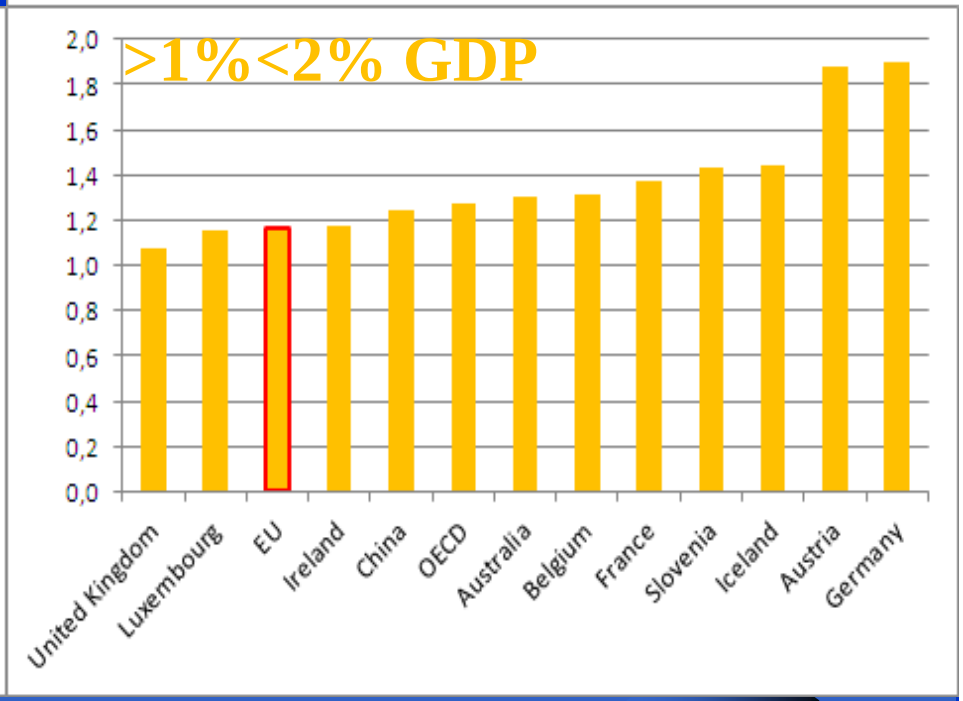
- Combination of technological progress, R&D, NTIC, capital investment, labour volume and quality, labour cost, labour intensity, work hours, social cohesion, strikes….

The leaders and laggers in R&D Investment

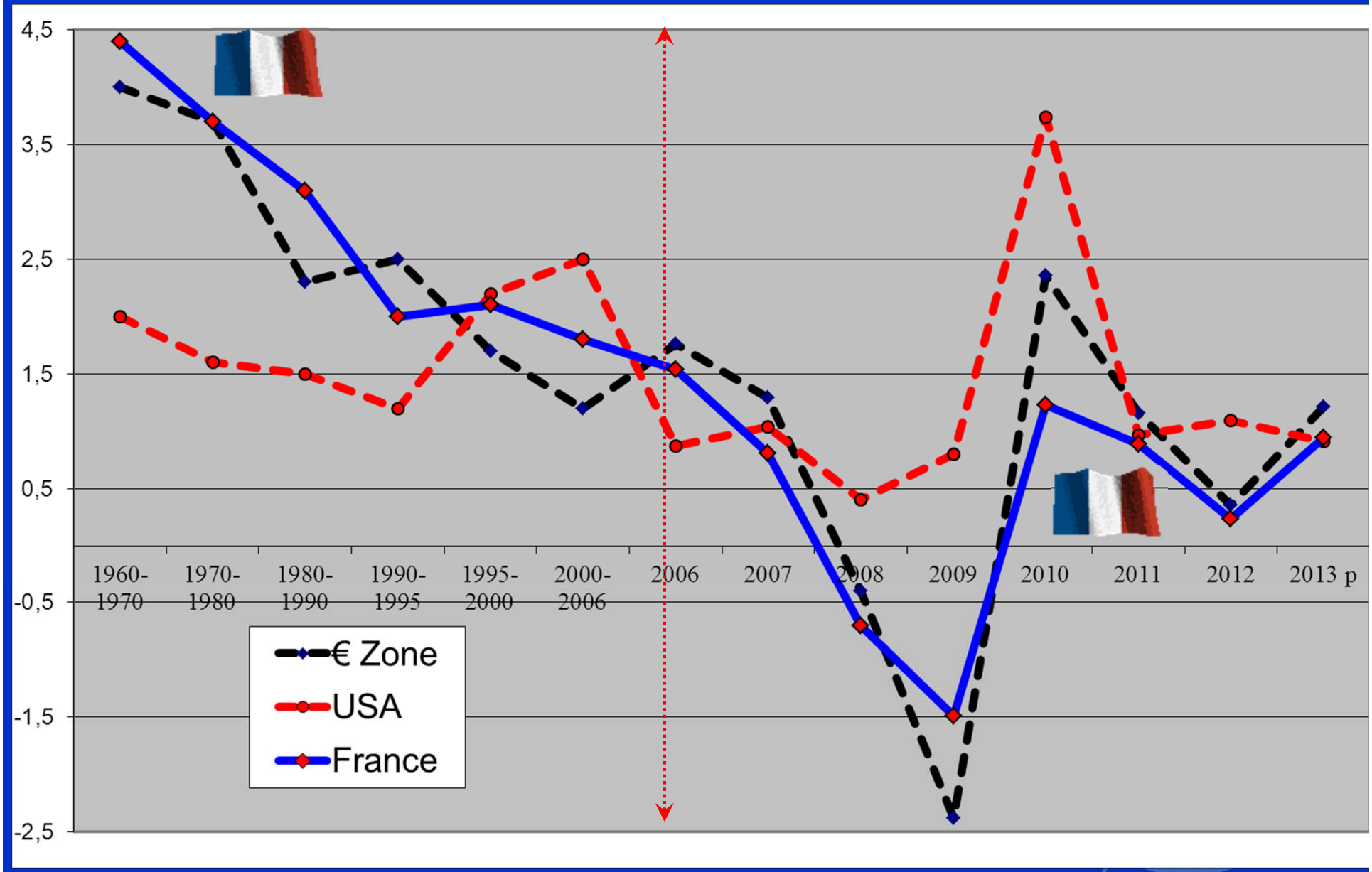
(Source OECD 2013)





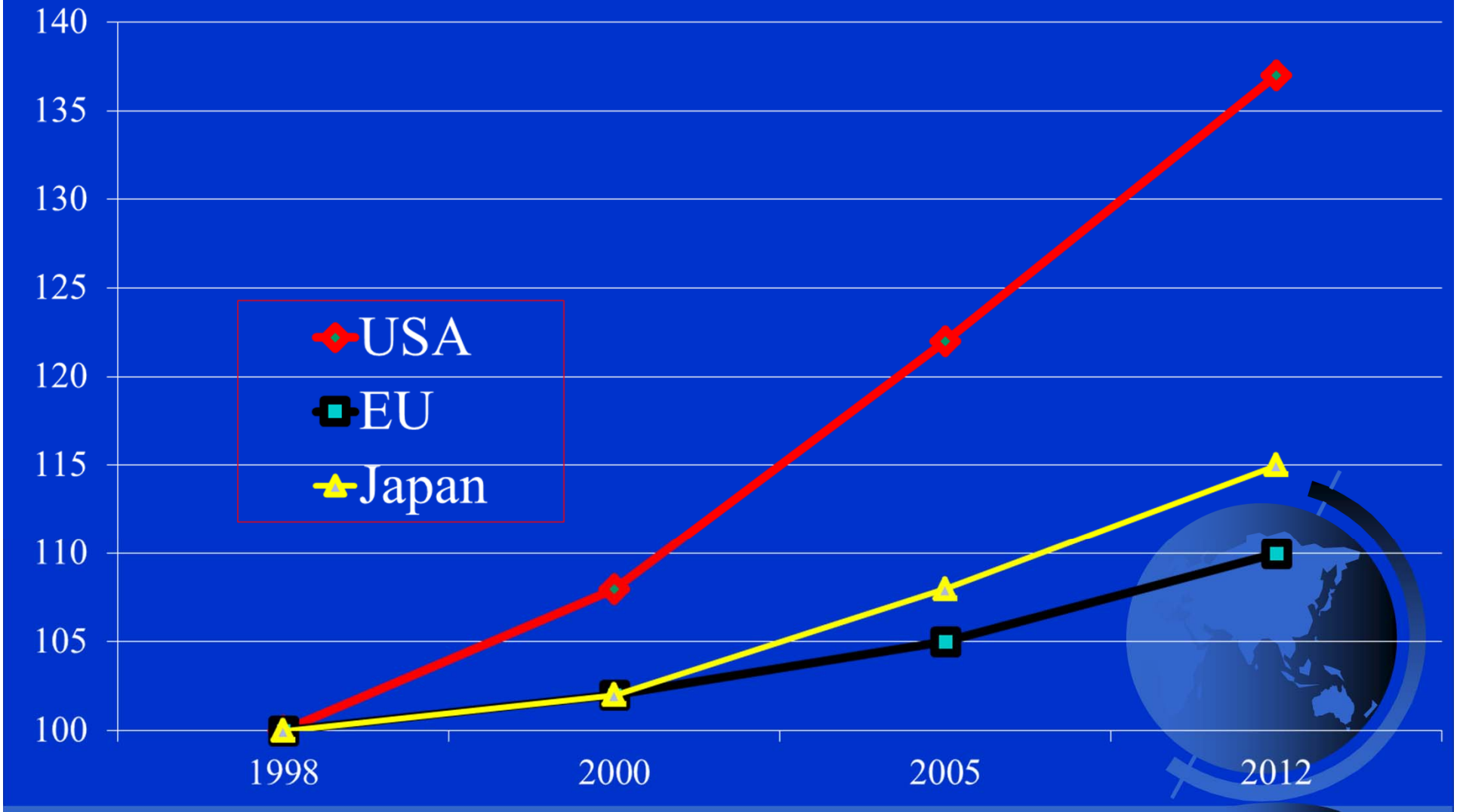


Comparison in **Productivity growth rates**



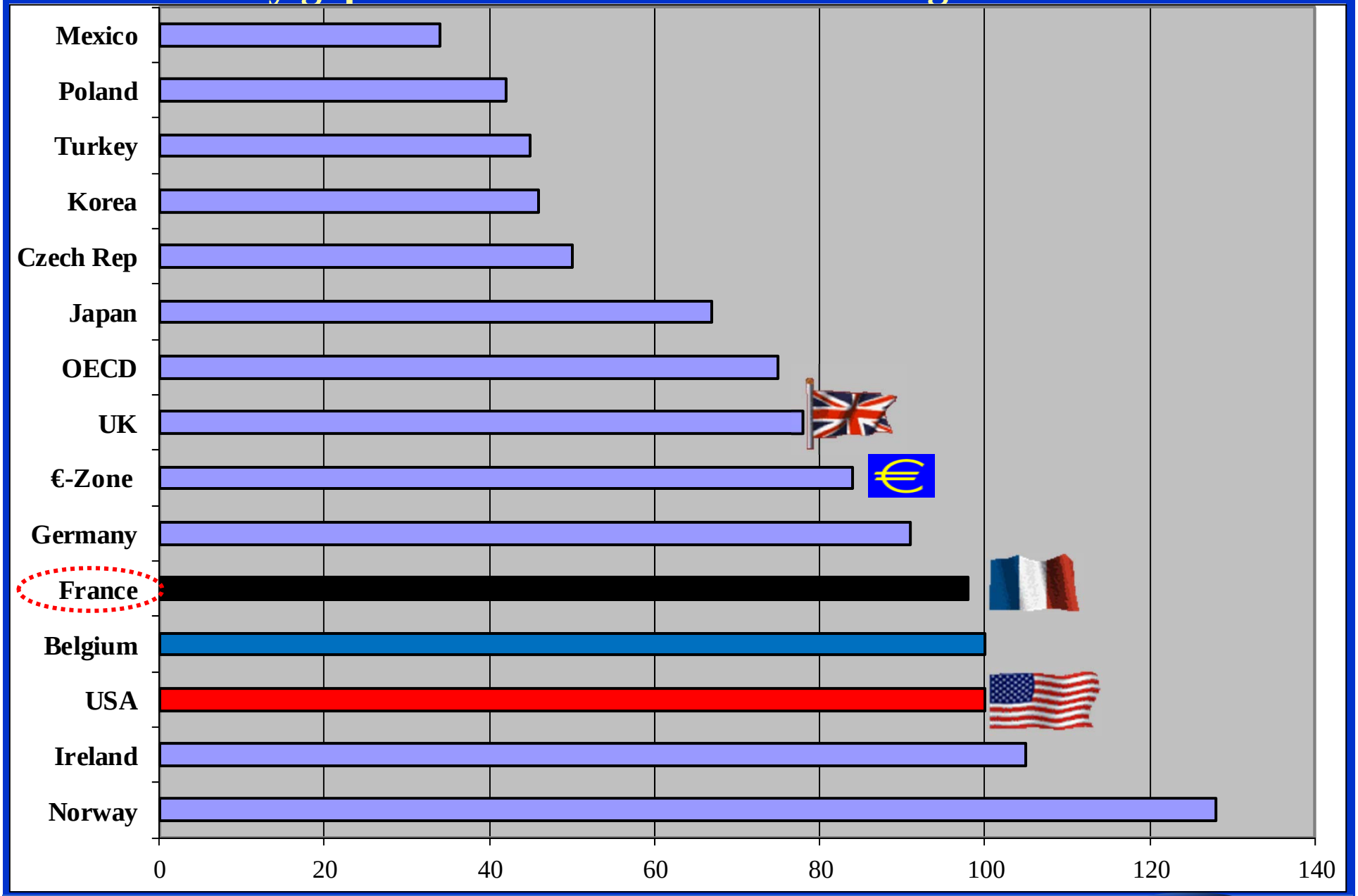
Source: OCDE/2012

Between 1998 and 2012, labor productivity increases by 37% in the US, 15% in Japan, and 10% in the EU



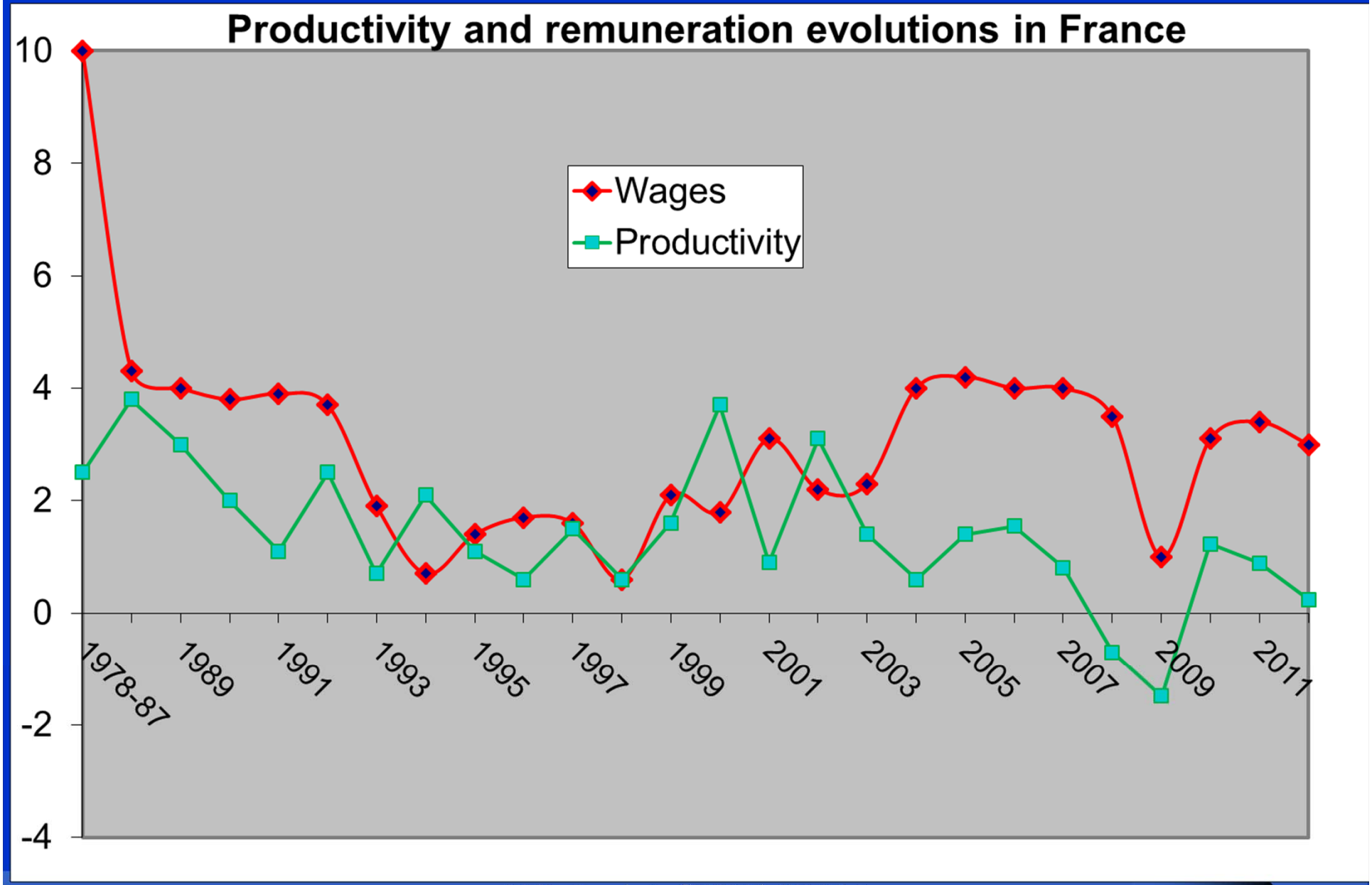
Source: Natixis 2012

Productivity gaps in the OECD = GDP/working hour in % of USA



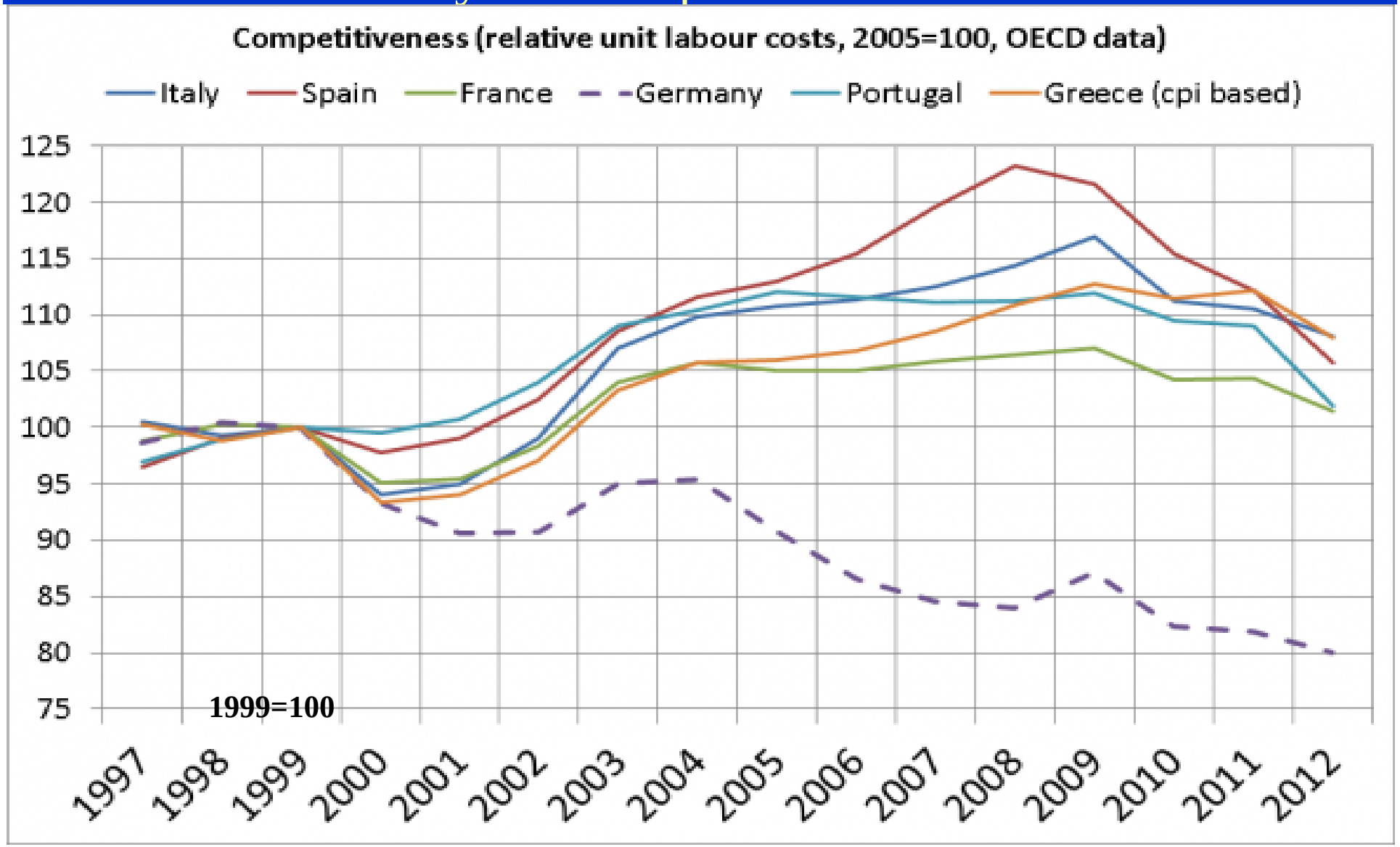
Source: OECD 2012

Productivity versus Salary rise in France % 1978-2012



Source: OCDE-Eurostat

Germany has cut salary costs, with low domestic demand and dynamic export revenues

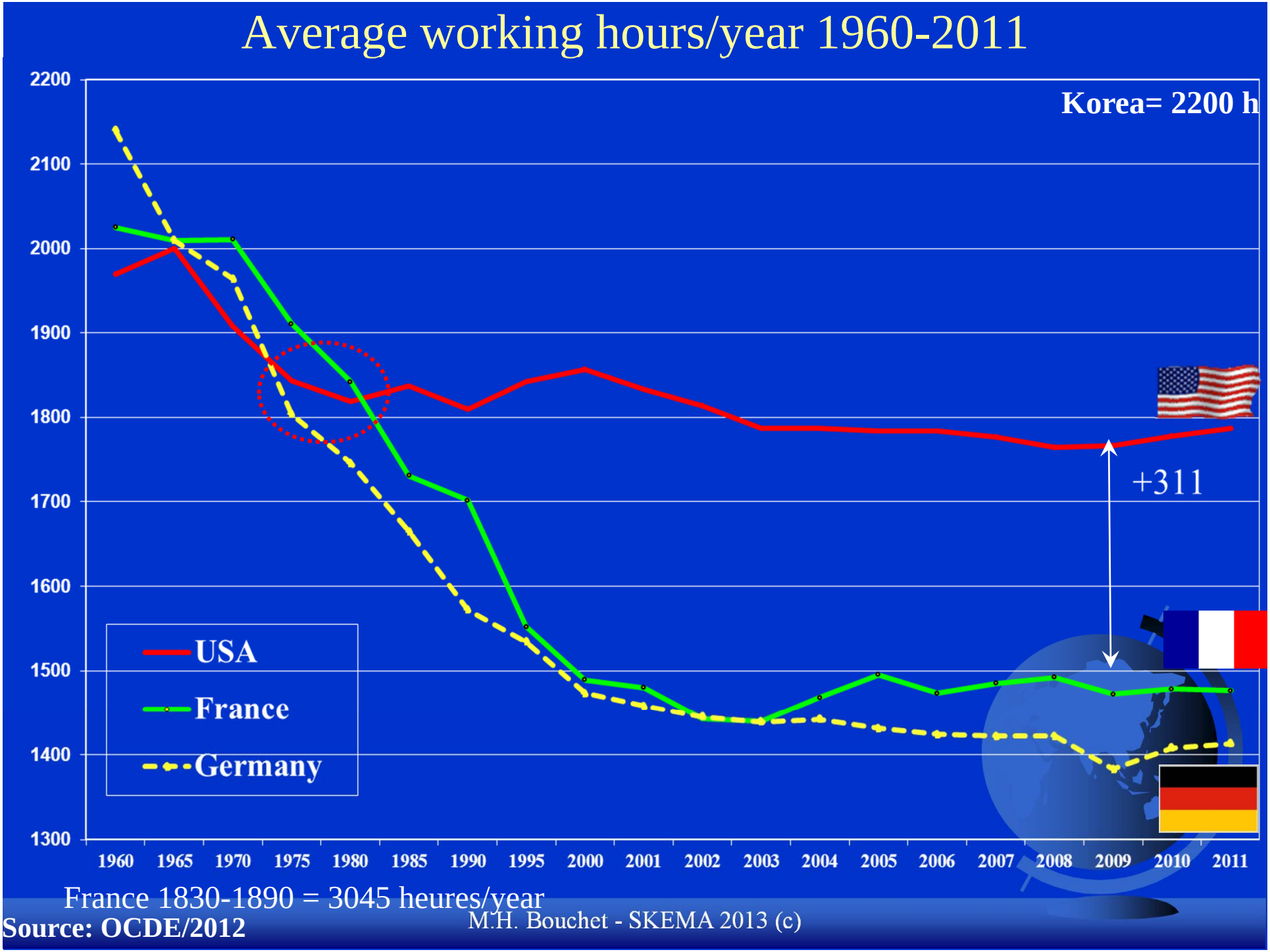


Competitiveness in the € Zone?

A true measure of comparative competitiveness in the same currency zone, i.e. in the Euro-zone, should take into account not only **unit labor costs** (total labor costs including social charges), but also the **value added content of industrial exports.**

Germany's exports are much less price-elastic than exports from Spain, France, Italy and Portugal. Hence, high labor costs in France add to the lower competitiveness of France's exports, due to the lower VA content of the industrial outputs.

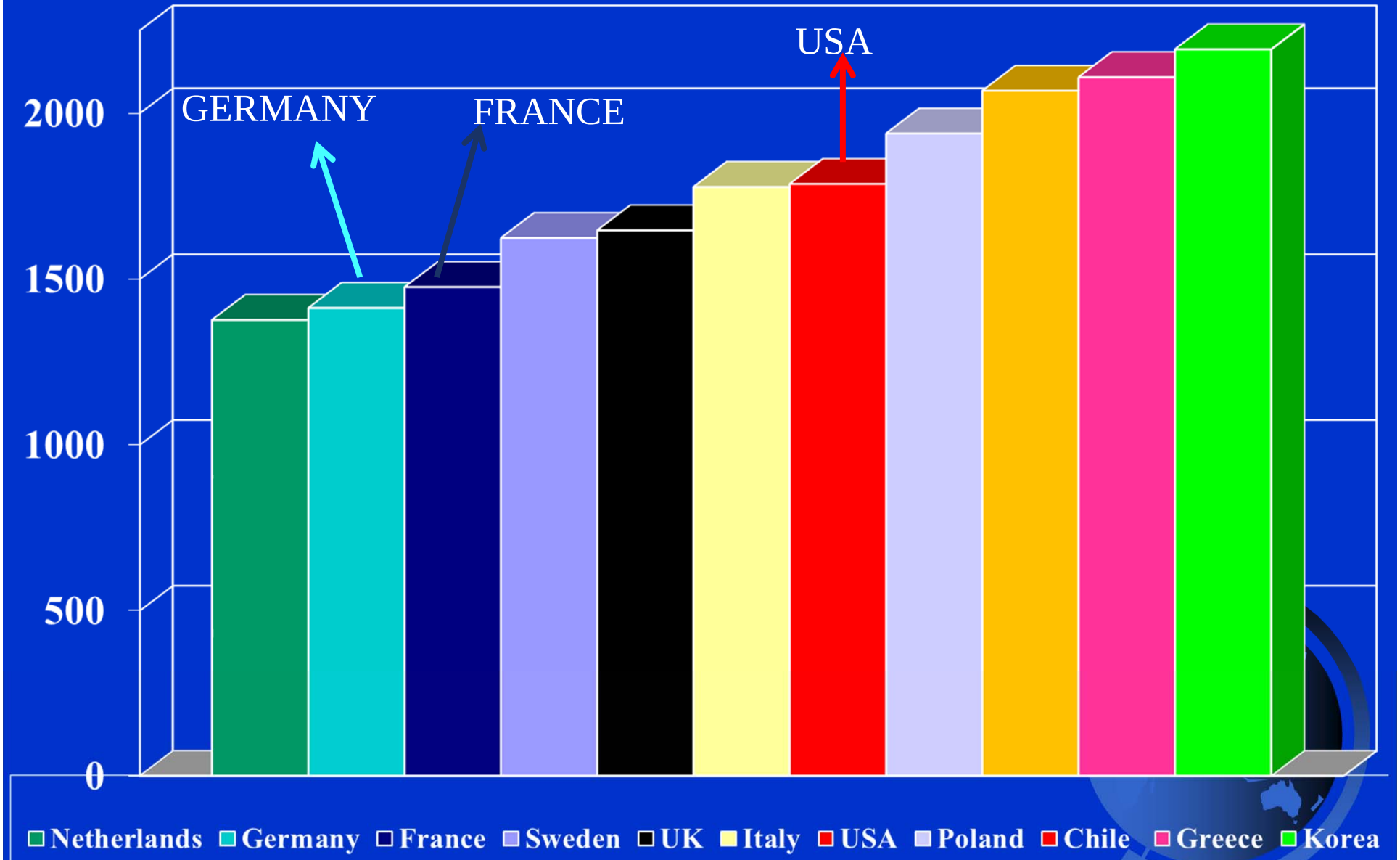
Average working hours/year 1960-2011



France 1830-1890 = 3045 heures/year

Source: OCDE/2012

Average OECD **working hours** per year/per worker



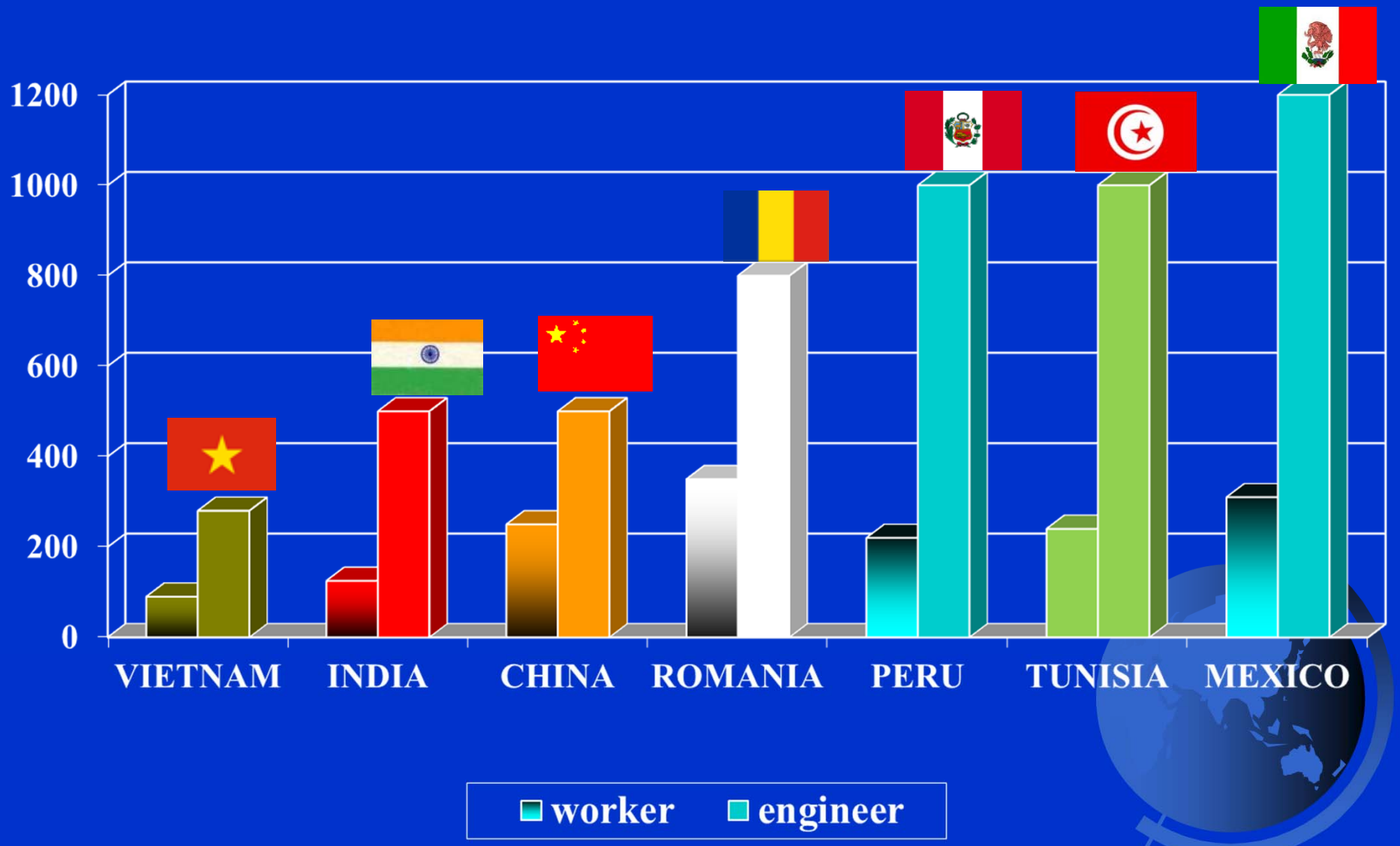
What about EMCs?

Relative hourly manufacturing labour costs

- Bangladesh: $0,25
- Vietnam: $1
- Tunisia: $1,5
- China: $1,7
- Mexico : $2,1
- Romania: $5
- Poland: $10

- Germany: $36 (€30)
- France: $41 (€34)

Average monthly labour cost (€/month)



Average monthly salary in Asia in € in 2013

	Hanoi/ Saigon	Guangzhou/ Shanghai	Singapour	Bangkok	Jakarta	Manilla	Kuala Lumpour	Delhi
Worker	**100/180**	**250/300**	**470**	**120**	**65**	**230**	**340**	**90**
Engineer	300/360	450/500	1315	450	200	350	670	500

Salary gap Asia/Europe

	Hanoi/ Saigon	Guangzhou/ Shanghai	Singapour	Bangkok	Jakarta	Manilla	Kuala Lumpour	Delhi
Worker	**1 to 12**	**1 to 7**	**1 to 3**	**1 to 8**	**1 to 21**	**1 to 6**	**1 to 4**	**1 to 20**
Engineer	1 to 8	1 to 6	1 to 2,6	1 to 6	1 to 15	1 to 10	1 to 5	1 to 6

Case Study: (I)

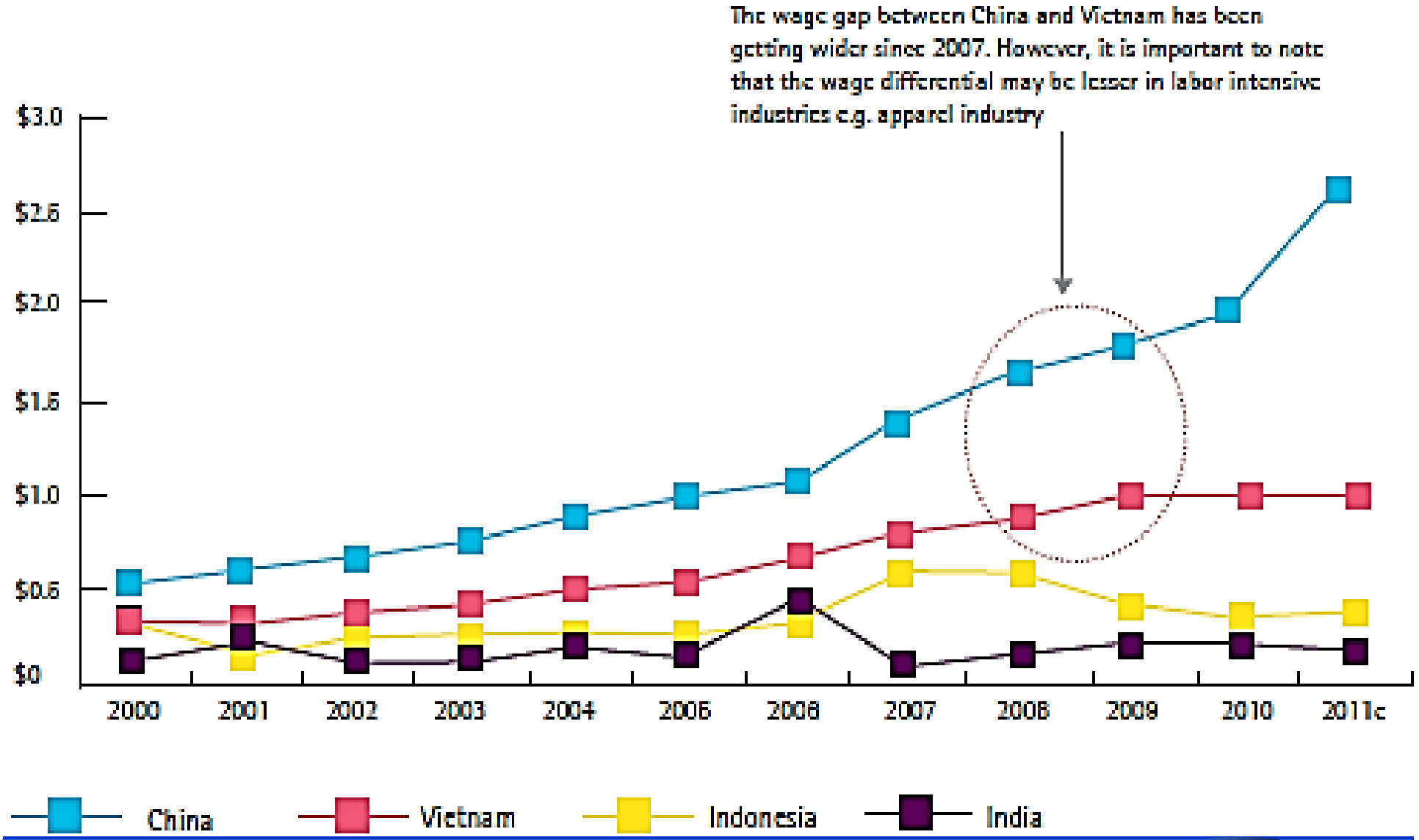
Is China's competitiveness hedge eroding?

- 1990-2010 China's combined comparative advantage: low salaries + undervalued Yuan + long working hours + low tax rates + large production capacity + cheap and abundant bank credit

- 2010-2013: rising salaries in China + stronger Yuan but stable salaries in competing countries + higher productivity + geographical proximity of large markets (Vietnam, Mexico, Indonesia, Philippines, Laos, Cambodia)

(II) Currency revaluation + minimum wage increase=

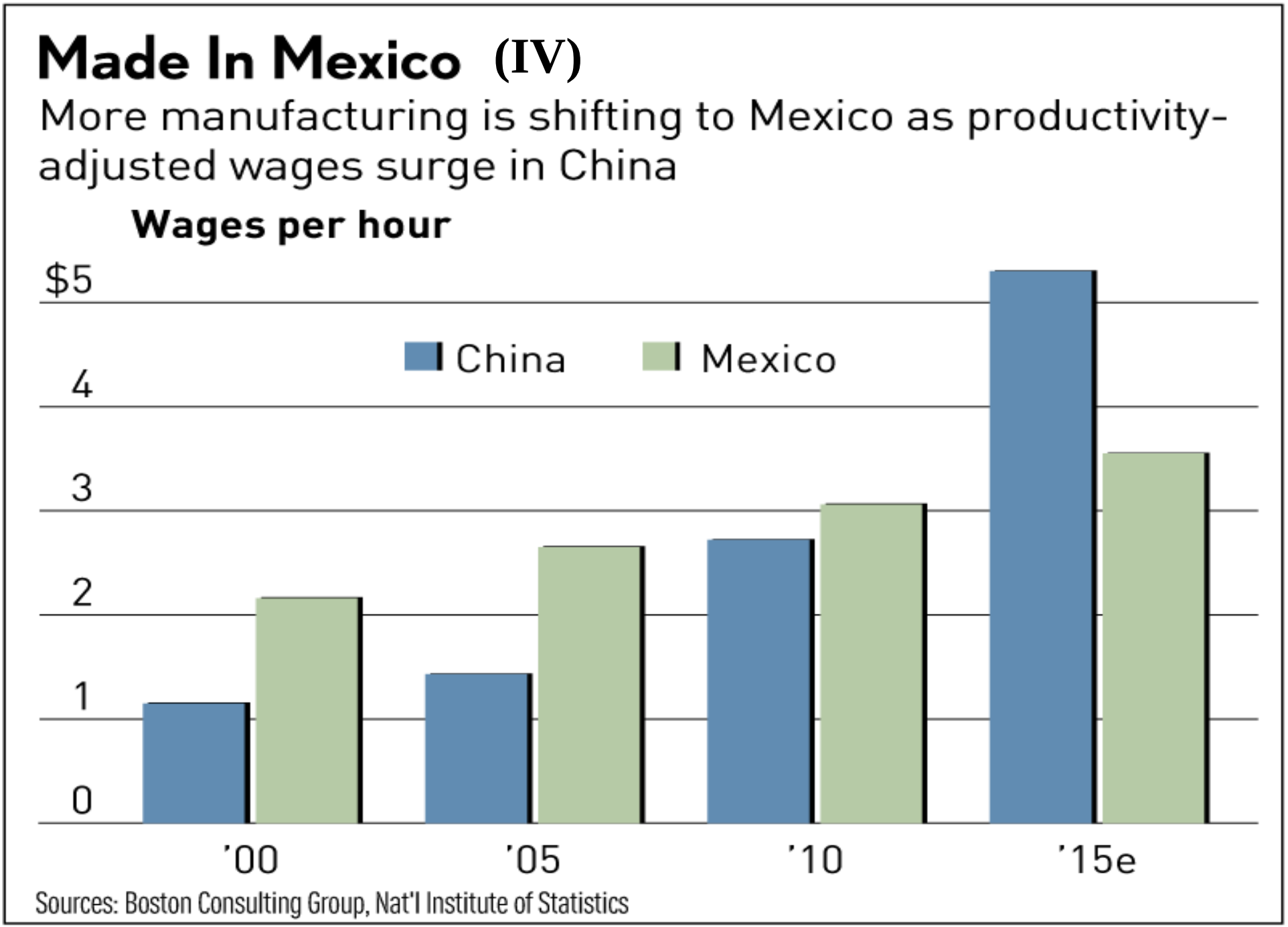
China's cost-related manufacturing competitive hedge is eroding!



Average annual earnings, 2011 (III)

Source: Oxford Economics.

Made In Mexico (IV)



China vs Mexico (V)

- Mexico's share of the US manufactured import market rose to 13% in 2001.
- After WTO membership in 2001, China crowds out Mexico with rising market share despite NAFTA trade preferences (apparel, furniture, optical…): US re-outsourcing from maquiladoras to Suzhou…
- Since 2010, Mexico's rising share in electronics, telecommunications, and transportation equipment, automotive sector…

Coming closer

After adjusting for inflation and exchange rates, in Mexico annual real wages in U.S. dollars were six times higher than Chinese wages in 2003 but only 40 percent higher in 2011.

(real annual wages in dollars)

Sources: Barclays; and CEIC China database.

Efficient enterprises

Output per worker (productivity) is rising and labor costs per unit of output are falling in Mexico's manufacturing sector.

(index, 2008 = 100)

Source: INEGI (Mexico's National Institute of Statistics and Geography).

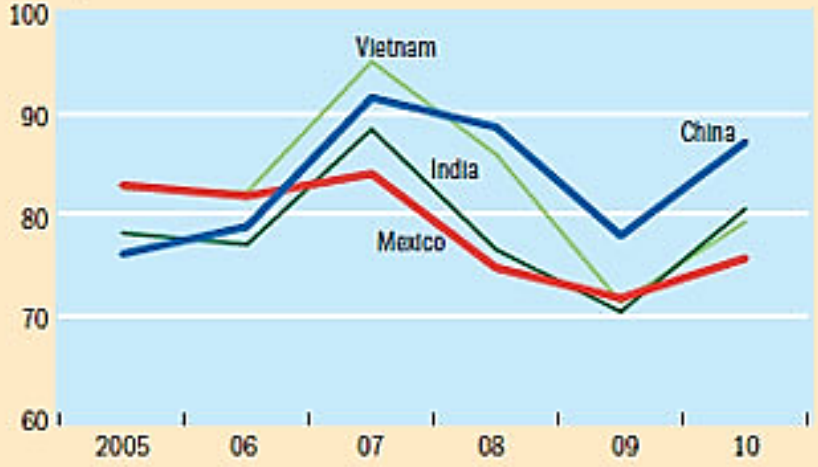
China vs Mexico (VI)

- Mexico's market share gains stem from:
- narrowing gap in labor costs (moderate wage growth and peso depreciation)
- increased productivity gains, rising transoceanic shipping costs,
- and Mexico's protection of proprietary rights and commitment to free trade.

Cheapest of all

The cost of Mexican imports to U.S. customers is the lowest among all key low-cost outsourcing countries.

(landed costs in United States relative to total U.S. domestic manufacturing cost, percent)



Source: AlixPartners (2011).

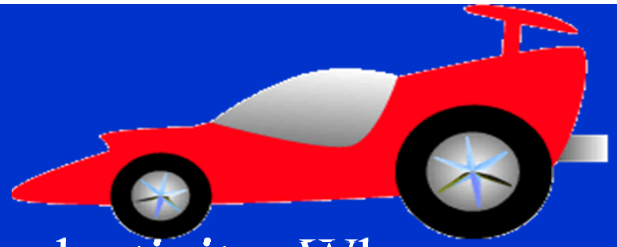
Shifting shares

Mexico's share of the U.S. import market for manufactured goods suffered after China joined the World Trade Organization, but has been climbing in recent years as China's has begun to fall.

(share of U.S. manufacturing imports, percent)

Sources: U.S. International Trade Commission; and U.N. Comtrade.

OECD versus EMCs?



- Lower wage cost goes together with lower productivity. When adjusting for productivity gaps, the cost competitiveness of EMCs is not as strong as suggested by wage differences.
- Still, in most cases EMCs retain a competitive advantage in terms of unit labor cost, because the productivity gap is smaller than the wage gap. Companies in these markets can operate at a low wage cost given the labor intensive character of the EMCs economy!
- The key for EMCs is to promote productivity through technological change and innovation to match wage increases in rapidly growing economies. For OECD countries the issue is to keep labor compensation in check with productivity (balance between net and gross pay, tax base, and cost structure of firms.
- **Key challenge** = exploiting knowledge creation as a means to stay at the productivity frontier and avoid a race to the bottom in terms of cost competition.

Productivity in EMCs?

- LEVEL: Average labour productivity in the EMCs < OECD
- Growth RATE: Though the growth rate of productivity is rising rapidly in Korea and many SE Asian countries, the average level of productivity remains below that of USA, Japan and EU

- Workers in the NICs (Korea, Vietnam, Mexico, Poland, Hungary, Turkey…) are very competitive due to low salary costs and long working hours, but the relation capital/labour leads to a still relatively low level of productivity, despite rising **R&D** effort!

Productivity is the driving force of competitiveness

- Adjusting labor compensation for productivity shows that EMCs are not as competitive as the large wage differences suggest. This happens because **both wages and productivity** are lower in the emerging economy.
- If the **labor compensation per hour** in Polish manufacturing is 15% of the U.S. level and **Polish productivity** is 30% of the U.S. level, then **unit labor cost** in Poland amounts to 50% of the US, hence a competitive advantage for Poland but not as large as relative wage levels alone would suggest!
- If the productivity gap is as large as the labor compensation gap= no comparative advantage!

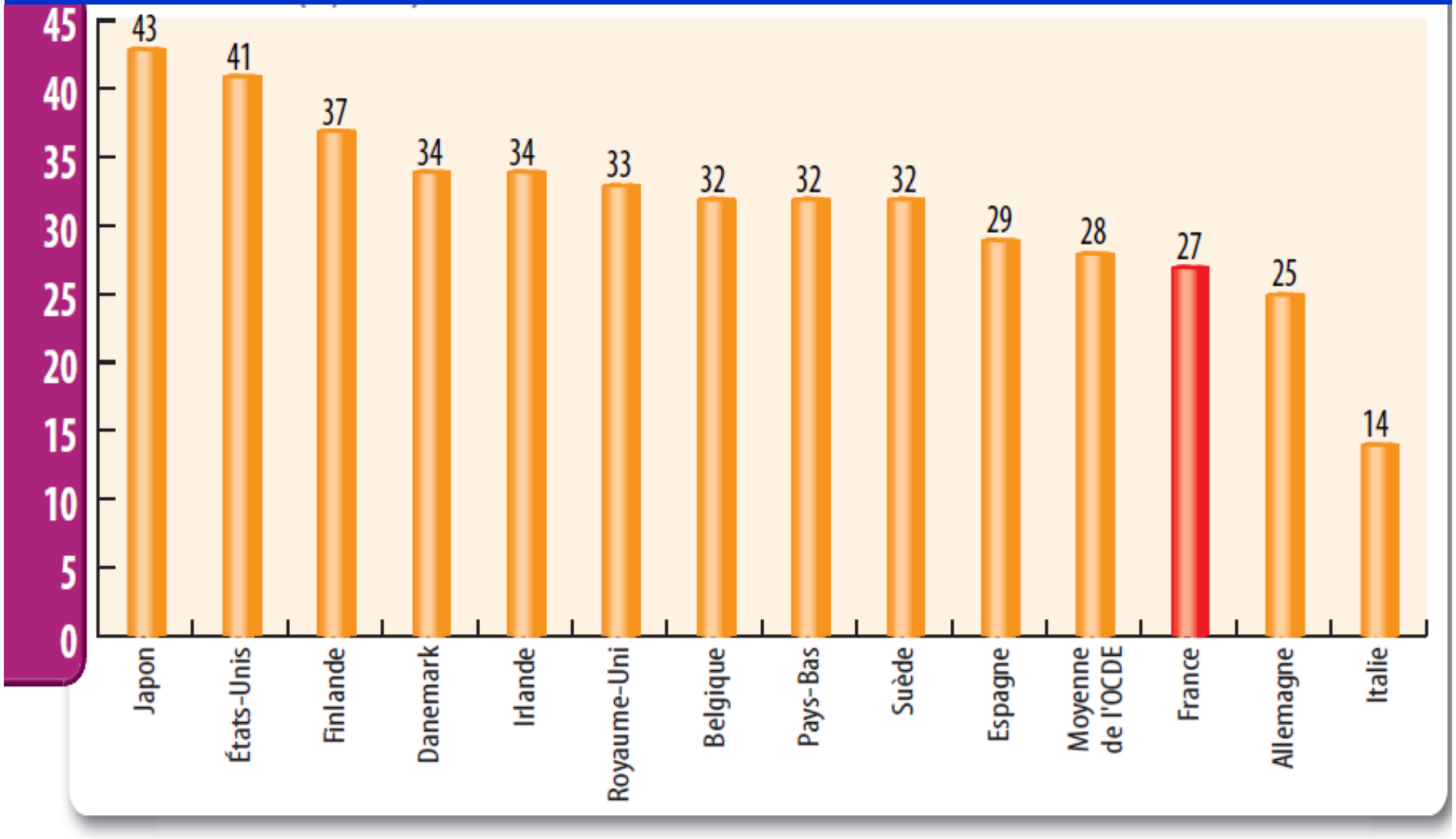
Who is and Who is not Competitive?

	Labor wage gap	Productivity gap	Labor competitiveness
Italy	137	74	0,54
Japan	107	67	0,63
Denmark	131	87	0,66
Germany	126	91	0,72
France	133	98	0,74
Norway	146	125	0,86
Russia	40	35	0,88
Greece	64	57	0,89
UK	85	78	0,92
Korea	48	46	0,96
USA	100	100	1,00
EU	82	84	1,02
Spain	77	80	1,04
Brazil	29	40	1,38
China	20	35	1,75
Poland	23	42	1,83
Mexico	18	33	1,83
Ireland	55	107	1,95
India	8	20	2,50

Source: OECD, Conference Board, US Bureau of Labor Statistics, Bouchet's calculations

1. Hourly compensation costs in manufacturing in US$ relative to US level
2. GDP/hour worked relative to US & Output per hour

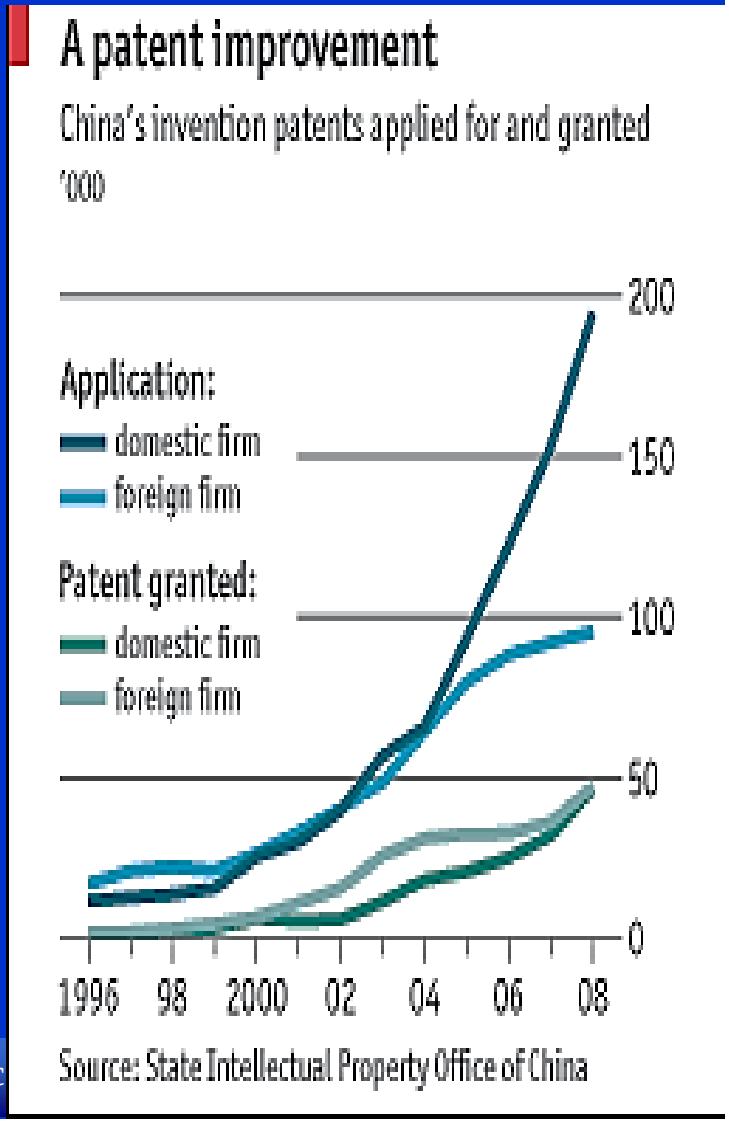
Share of higher educated population in total adult population (25-64 years)



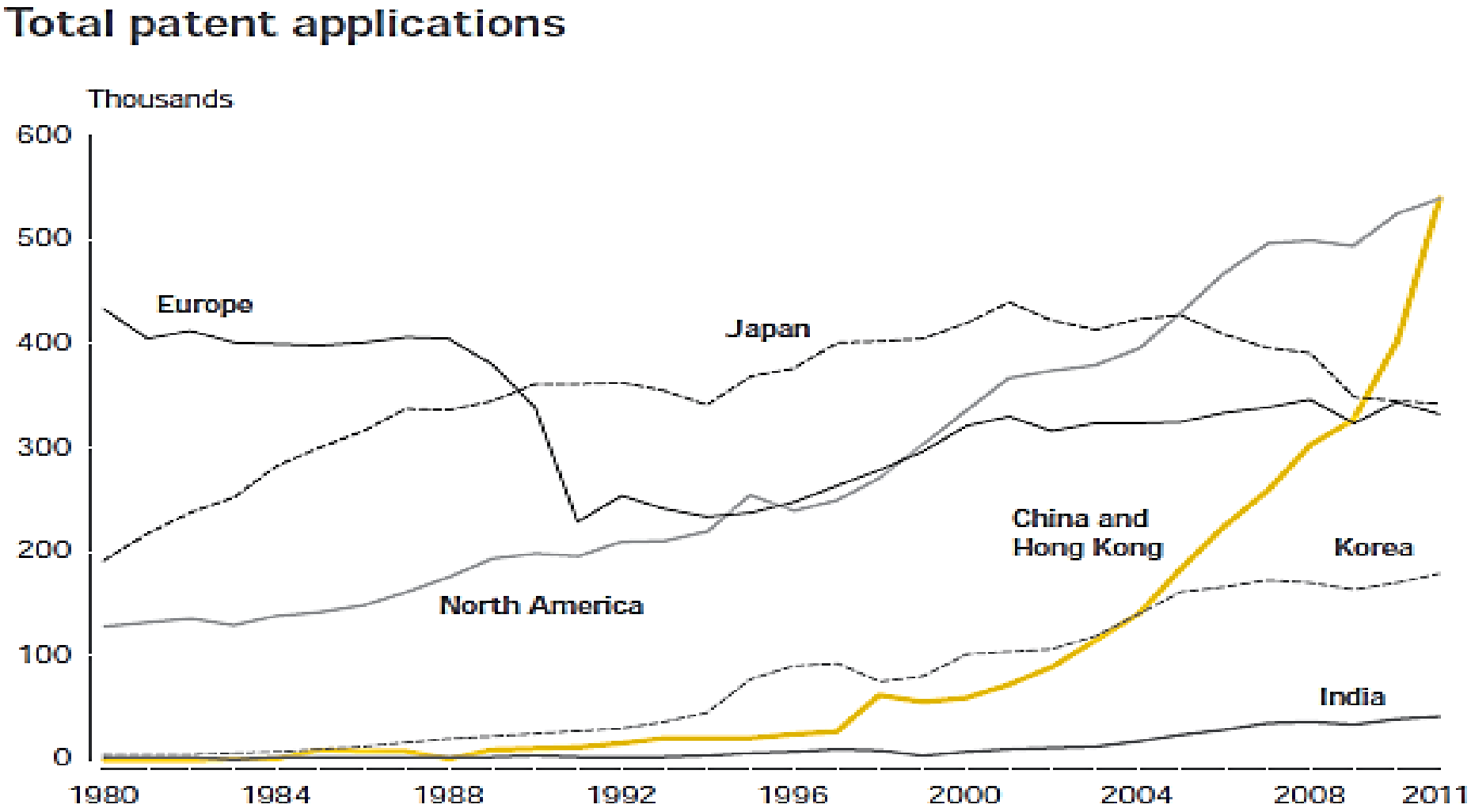
Source : OCDE, Regards sur l'éducation 2010

Competitiveness is also a matter of education, **innovation, R&D, and technology research and investment!**

- Long the *workshop* of the world, China wants to be the *brains* as well.
- 2011-12: China became the world's top patent filer, surpassing the US and Japan as it steps up innovation to improve its intellectual property rights track record.



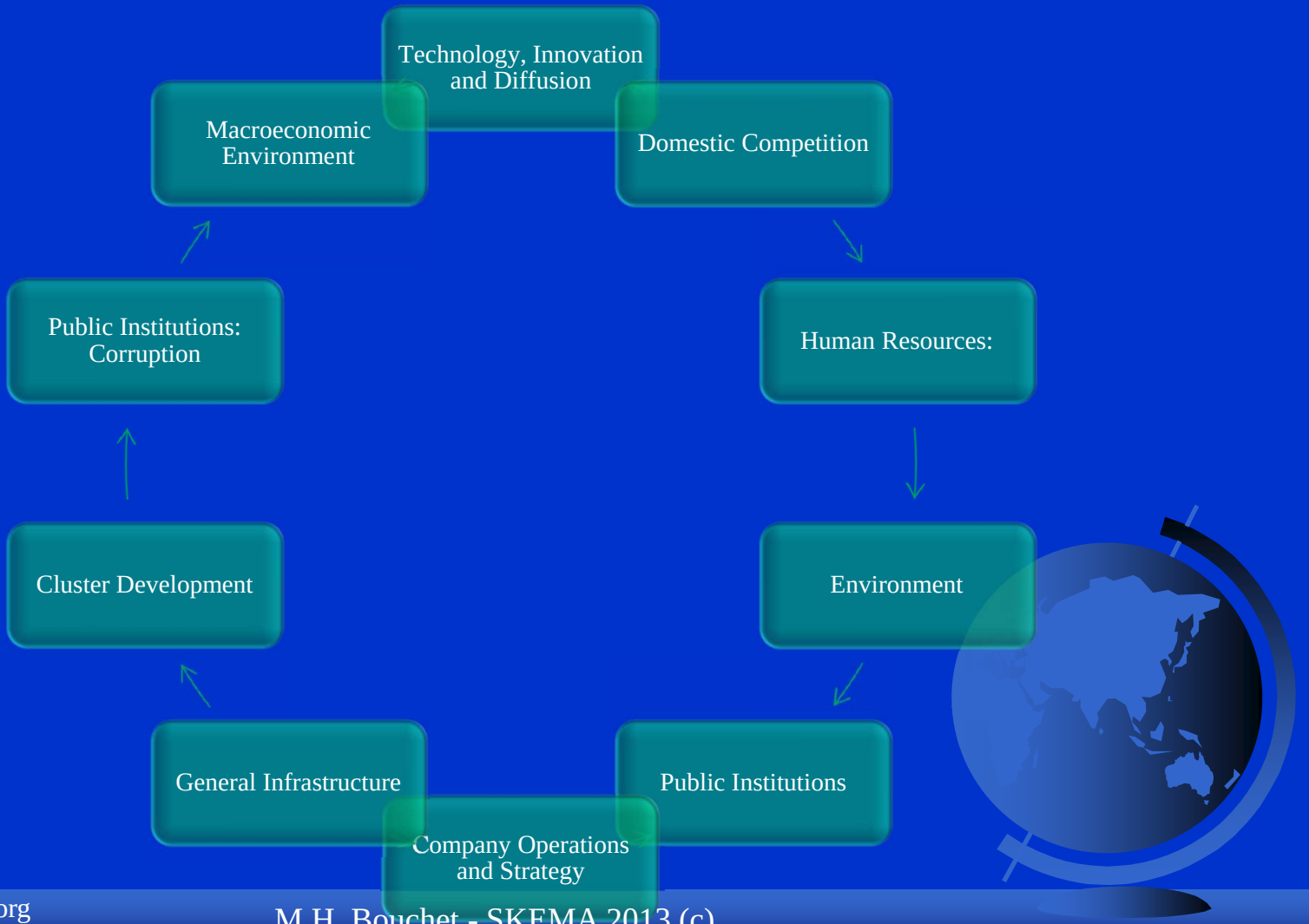
The fast rise in EMCs' R&D investment and patent applications



Source: World Intellectual Property Organization.

WEF Global Competitiveness Index:

- 144 countries, 15 indicators including both Hard and Soft data



Source: www.weforum.org

Competitiveness index 2013

Davos-World Economic Forum

1	Switzerland
2	Singapore
3	Finland
4	Sweden
5	Netherlands
6	Germany
7	United States
8	United Kingdom
9	Hong Kong SAR
10	Japan
11	Qatar
12	Denmark
13	Taiwan, China
14	Canada
15	Norway

China = 29
Brazil= 48
South Afr = 52
India = 59
Russia = 67

130	Madagascar
131	Côte d'Ivoire
132	Zimbabwe
133	Burkina Faso
134	Mauritania
135	Swaziland
136	Timor-Leste
137	Lesotho
138	Mozambique
139	Chad
140	Yemen
141	Guinea
142	Haiti
143	Sierra Leone
144	Burundi