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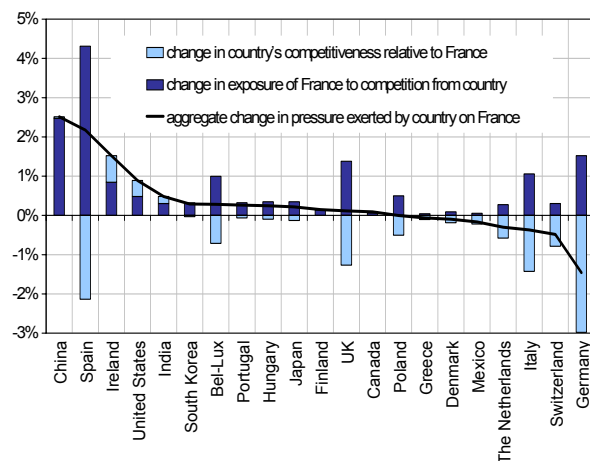
Is the impact of China's emergence on France as large as currently thought ?

- The opening up of the French economy since 1960 has facilitated an enlargment of the range of disposable products and a downward pressure on prices. These developments have benefited consumers and have translated into a larger exposure of French firms to foreign competition. These pressures globalisation has brought to bear on companies, come from both the evolution of competitiveness and from France's exposure to competition from each of its trading partners.

- Although French competitiveness - measured in terms of unit labour costs (ULCs) - has improved compared with our European partners (excluding Ireland) and Japan, and although it has held fairly steady relative to the other countries, France has come under increasing pressure from globalisation over the last 20 years due to the growing openness of France's foreign trade.

- Between 1983 and 1993, Spain and the US were the countries that contributed most to the increased pressure on France. Between 1993 and 2003, Spain continued to gain in importance, but now it contributes less than China and Ireland.

- Heavy losses in competitiveness suffered by Germany between 1983 and 1993, and Italy and the United Kingdom between 1993 and 2003, powerfully helped to limit the aggregate competitive pressure on France.

Pressure exerted by each country on France (1983-2003)

- change in country's competitiveness relative to France
- change in exposure of France to competition from country
- aggregate change in pressure exerted by country on France

Source : DGTPE calculations

DGTPE

DIRECTION GÉNÉRALE DU TRÉSOR
ET DE LA POLITIQUE ÉCONOMIQUE

Globalisation is often associated in people's minds with the growing power of the major emerging countries, China especially. China, it is claimed, is pushing up the costs and gains associated with globalisation primarily for two reasons:

- it is a very large country in terms of its population, and to a lesser extent in terms of its GDP;

- Its factor endowment differs widely from that of France - labour, and unskilled labour in particular, is very plentiful in relation to capital, and this manpower is very cheap. In the manufacturing sector, the average wage in dollars is fifty times smaller than in France[1] and differences are even larger for unskilled workers.

But does China affect France as much as people think? And more generally, is France coming under increasing pressure from its partners as a whole?

To answer these questions we need an indicator capable of measuring the pressure each country exerts on France. Unfortunately, the most commonly used indicators for measuring globalisation are somewhat rough-and-ready and fail to capture adequately two key factors, namely:

- **the change in the country's competitiveness vis-à-vis France:** trade with low wage countries such as China and India may entail higher adjustment costs than trade with the developed countries if wages are not in line with productivity;

- **the different types of competition to which France is exposed:** in France, in the competing country, and in third markets.

Here we propose an indicator that seeks to satisfy these two requirements by combining trends in competitiveness and trends in competition from the different countries.

1. France's competitiveness relative to its European partners has improved since 1980, and has remained fairly stable vis-à-vis its other partners

Labour costs (hourly wages for example) are a poor indicator of a country's international competitiveness. This is because goods are only produced at low costs if wages are low in comparison with the workers' productivity. The concept of unit labour costs (ULCs), i.e. the ratio of the cost of labour to the worker's productivity, is a better indicator of competitiveness. Expressed in dollars for all countries, ULCs serve to compare the cost of labour involved in the production of a unit of output between different countries and in a given currency[2].

Taking dollar ULCs as an indicator of competitiveness, we find that a country's competitiveness rises when labour costs fall in the local currency, that productivity (expressed as the ratio of real value added to total employment) rises, and/or that the local currency depreciates relative to the dollar. Below, for reasons of availability of data, we concentrate on manufacturing ULCs[3], reconstructed from available sources (see appendix 1).

Estimating levels of unit labour costs is a difficult exercise, in particular for developing countries. Wage costs usually include social contributions paid by companies and should also take into account compensations of "single worker companies", two factors which are generally not calculated in developing countries. Moreover, it is very diffcult to estimate levels of producti-

vity which could be compared. Such calculations require purchasing power parities by sectors of activity, which is actually something harldy available. Consequently, the results should be treated cautiously.

French manufacturers' ULCs have remained in check for the past 25 years. Real French wages have slowed sharply[4] relative to the 1960s and 1970s as a result of rising unemployment in the 1980s and 1990s, the policy of "wage de-indexing" and moderate real increases in the minimum wage (SMIC)[5]. **Overall, wages moved in line with productivity gains; as a result French ULCs in 2004 were at the same level as in 1980.**

ULCs were also relatively stable in the major emerging countries and in the United States. On the other hand, ULCs in the other European countries and in Japan have risen significantly since 1980. Consequently French competitiveness has improved relative to its European and Japanese partners over the past 25 years and remained stable in relation to its non-European partners (charts 1 and 2).

In absolute terms, and taking into account previous comments on the brittleness of data, France appears to be roughly as competitive as Germany and the UK in 2004. By contrast, it is less competitive than Italy and Spain where

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(1) Cf. B. Van Ark, J. Banister, C. Guillemineau (2006) : «Competitive advantage of low-wage countries often exaggerated», *Executive action series n° 212, Conference Board et China Center for Economics and Business.*

(2) Which leaves aside the cost of capital utilisation.

(3) With the exception of Italy, for which ULCs concern the whole of the economy.

(4) Cf. Desplatz, Jamet, Passeron, Romans (2003): «La modération salariale en France depuis le début des années 1980», *Economie et Statistique n°367.*

(5) Cf. Carcillo, Delozier (2004): «Le SMIC en France : pouvoir d'achat et coût du travail sur longue période», *DPAE n°39.*

Chart 1: competitiveness vs. European partners	Chart 2: competitiveness vs. non-European partners
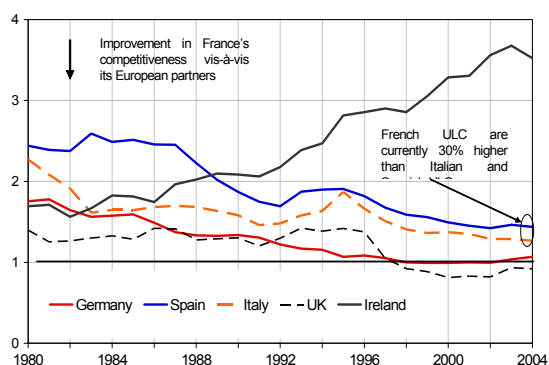
Interpretation: the chart presents the ratio of French ULCs to foreign ULCs. French ULCs were 1.7 times higher than those of Germany in 1980. This ratio had fallen to 1 in 2004. French competitiveness relative to Germany has thus improved considerably in the intervening period. Data concern the manufacturing sector, except in the case of Italy.
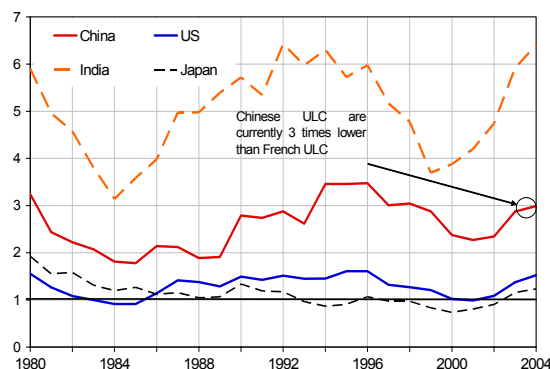
Interpretation: the chart represents the ratio of French ULCs to those of other countries. French ULCs were twice those of China in 1980. This ratio increased to 3 in 2004, which means that French competitiveness has deteriorated relative to China in the intervening period.

ULCs are about 30% lower and far less competitive than Ireland where ULCs are 3 to 4 times lower. These latest figures might however result from a very different structure regarding activity sectors, in particular a much larger weight of new technologies in the Irish economy. France also seems to be less competitive than its large non-European trading partners: American and Japanese ULCs are repectively 35% and 20% lower than in France. Laslty, the gap is very large with the large emerging countries: ULCs in China and in India are respectively 3 times and 6 times lower than in France. Such a gap with China and India reflects very large wage differences which are only partially offset by productivity differences. Given the heterogeneity of the Chinese economy (in particular the coexistence of old national firms where productivity is low

and very productive private companies), this means that in some sectors or for some products, Chinese ULCs are even significantly below 1/3 of French ULCs. Some available data suggest that this could halve relative ULCs[6].

Further, average ULCs fail to distinguish effects associated with differences in factor endowment. The relative abundance of unskilled labour in China means that the wages of China's skilled workers are high relative to those of unskilled workers: a bus driver in Shanghai is paid 3.2 times less than an engineer, for example, whereas the ratio is only 1.8 in France[7]. **In that case, Chinese ULCs are probably much lower than in France in the unskilled labour intensive sectors, and relatively higher in the skilled labour intensive sectors.**

2. The opening up of the French economy is increasing its exposure to foreign competition

France has continuously opened up its economy to the rest of the world over the past 25 years, and to the rest of Europe especially. The 1980s and 1990s saw the implementation of the single market in Europe, which contributed to a boom in intra-sector trade[8] :

- French consumers have benefited greatly from these developments through the wider choice of goods on offer, and lower prices thanks to economies of scale and increased competition ;
- French firms too have benefited greatly from the new markets thus afforded to them.

The benefits to France of this opening up, like the costs, result from its increased exposure to international competition.

Foreign firms compete with France in three places: in France, in their domestic market, and in third markets. The United States, for example, can take market shares from France:

- in France, by exporting goods that replace local manufacturing products,
- in the United States, if American goods are more competitive than French exports,
- in third countries, if American exports are more competitive than French exports.

France's exposure to competition from each country can be measured by the share of French GDP exposed to competition from each country (see box 1).

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(6) Cf. B. Van Ark, J. Banister, C. Guillemineau (2006) : «Competitive advantage of low-wage countries often exaggerated», *Executive action series n° 212, Conference Board et China Center for Economics and Business.*
(7) Cf. «Prices and Earnings, a comparison of purchasing power around the globe», *2003, UBS.*
(8) Intra-sector trade refers to trade in goods belonging within a given sector.

DGTPE

> ### Box 1: **measuring France's exposure to competition from each of its partners**
>
> France's exposure to competition from partner k is defined as the portion of French GDP exposed to competition from country k, in France, in country k and in third markets.
>
> If Q_F is French output, $X_{F,\,i}$ French exports to a country i, $X_{i,\,F}$ French imports from country i, X_F aggregate French exports, and D_F French demand, then the share S_k of French GDP that is exposed to competition from country k is:
>
> $$S_k = \frac{Q_F - X_F}{Q_F} \times \frac{X_{k,\,F}}{D_F} + \frac{X_{F,\,k}}{Q_F} \times \frac{Q_k - X_k}{D_k} + \sum_i \frac{X_{F,\,i}}{Q_F} \times \frac{X_{k,\,i}}{D_i}$$
>
> Where:
>
> $\dfrac{Q_F - X_F}{Q_F} \times \dfrac{X_{k,\,F}}{D_F}$ measures exposure to competition from country k, in France,
>
> $\dfrac{X_{F,\,k}}{Q_F} \times \dfrac{Q_k - X_k}{D_k}$ measures exposure to competition from country k, in the country k,
>
> $\displaystyle\sum_i \dfrac{X_{F,\,i}}{Q_F} \times \dfrac{X_{k,\,i}}{D_i}$ measures exposure to competition from country k, in all third markets,
>
> We also have: $\dfrac{Q_F - X_F}{Q_F} + \dfrac{X_{F,\,k}}{Q_F} + \displaystyle\sum_i \dfrac{X_{F,\,i}}{Q_F} = 1$.
>
> The data used to estimate exposure to competition are drawn from the Chelem database (CEPII) and concern goods exclusively. The sectors selected are agriculture and industry with the exception of energy. The countries studied are the OECD countries and the major emerging countries (see complete list in chart 5), which accounts for 87% of French trade[a]. To limit price effects, French imports and exports are expressed in volume terms, and likewise French GDP for the sake of homogeneity[b]. The other quantities are expressed in money terms, however, in the absence of available data expressed in volume terms.
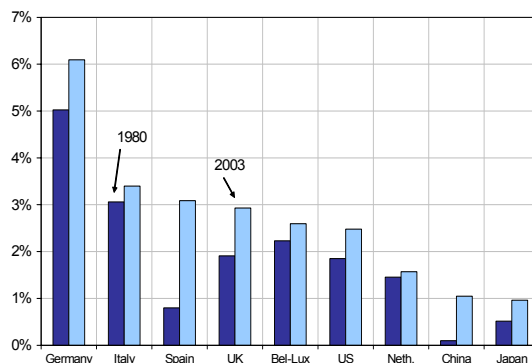
a. The Arab countries (the Gulf countries and North Africa) are the main missing countries.
b. Even when calculated with these quantities in money terms, the results are very comparable.

Chart 3: share of French GDP exposed to foreign competition
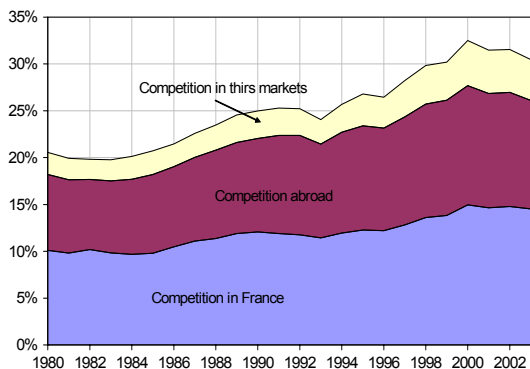
Source : DGTPE calculations

Chart 4: share of French GDP in competition with each country

Source : DGTPE calculations

Between 1980 and 2003, the opening up of the French economy increased France's exposure to globalisation[9]. The share of French GDP exposed to foreign competition increased from 20% to 30% (see chart 3).

Foreign competition operates above all in France (nearly 50%) and in the partner countries themselves (nearly 40%), but only to a small extent through competition in third markets (approximately 13%).

Consequently, France is exposed above all to competition from the countries with which it does a lot of trade, i.e. the countries of Europe. The competition exerted by the major emerging countries is relatively small in absolute terms. Even in 2003 China ranked only 8th (see chart 4). France's exposure to Indian competition is virtually negligible (however, the indicator constructed omits services, in

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(9) The apparent decline in France's exposure to international competition since 2000 stems from the appreciation of the euro, which has resulted in a reduction in the value of French exports and imports in euros relative to the value of French GDP in euros

which France's exposure to competition from India is probably a good deal greater).

The geographical breakdown of competition varies according to the type of trading partner. The countries with which France has a trade deficit (i.e. Belgium, Germany, the Netherlands and China) compete mainly in France. Conversely, those countries with which France is running a trade surplus (the United States, Canada, and the United Kingdom) are competing with France in their domestic markets. Only those Asian countries that export relatively little to France compete with France mainly in third markets (Taiwan, South Korea, and to a lesser extent Japan and India).

At the aggregate level, the breakdown of the places where competition occurs appears to be relatively stable over time (see chart 3), with the bulk of competition occurring in France. However, this competition has changed in the case of certain countries. For instance, the competition exerted by China on France is occurring more and more in France and less and less in China, owing to China's growing trade surplus with France. Chinese competition is also being felt more and more in third markets as China rapidly opens up to a large number of markets to which France also exports.

3. International competitive pressure on France has increased over the last 20 years, mainly as a result of growing trade with Spain and China
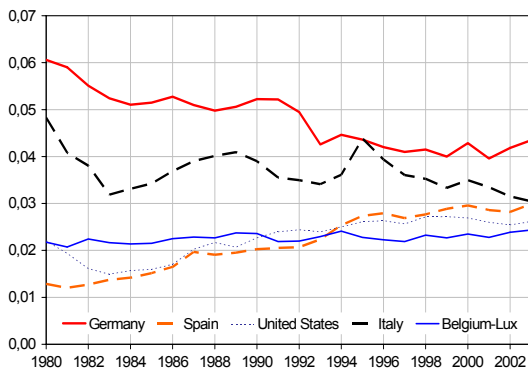
Competitiveness and exposure to competition may be synthesised by building an indicator of the pressure exerted on France by globalisation. This is assessed on the basis of the competitiveness and primary competition exerted by each country. By "pressure exerted on France by globalisation" we mean the pressure exerted by all of its partners (see box 2).

This index does not measure the cost to France of globalisation. Greater competitive pressure can indeed result in tougher conditions for French firms, through reduced competitiveness and greater foreign competition. But the offsetting gains are greater too, in the shape of lower import prices, a wider choice of products for consumers, and broader markets for French exports.

3.1 France's overall competitiveness has improved relative to its partners since 1980, but its exposure to international competition has increased over the same period

The index thus estimated shows that the pressure of globalisation on France declined sharply between 1980 and 1983. France devalued its currency a number of times during this period, which yielded very strong short-term gains in competitiveness despite large wage increases.

Since 1983, on the other hand, worldwide pressure on France has gone on growing. As shown above, this growth stems from increasing exposure to foreign competition and not from a loss of French competitiveness.
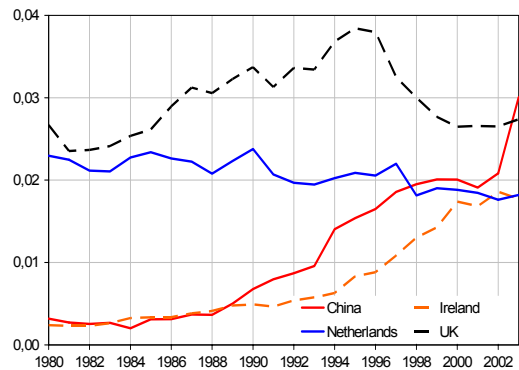
Chart 5: synthetic index of pressure exerted on France
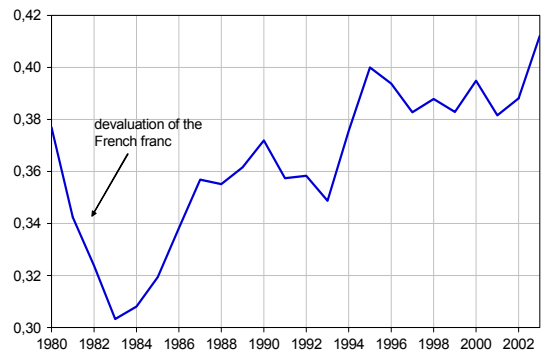
Interpretation: the construction of the index is described in detail in box 2, next page.

Breaking down the index according to the competitive pressures exerted by each country shows the pressure from European countries to be distinctly preponderant in the 1980's, whereas pressure from China has become close to those exerted by each of the large European countries over the last couple of years (see charts 6 and 7).

Chart 6: Pressure exerted by the top 5 contributors *

Germany — Spain — United States — Italy — Belgium-Lux

* eexposure to competition + competitiveness effect

Chart 7: Pressure exerted by the next largest contributors*

China — Ireland — Netherlands — UK

Hence, France's exposure to competition from China, which is distinctly less in absolute terms than that of the other European countries, is offset by Chinese competitiveness - Chinese ULCs are 2 to 3 times lower than those of large European partners.

3.2 In the period 1983-1993 the main contributors to the growth in global pressure were Spain, the United States, the United Kingdom and China

- The progressive implementation of the single market went hand in hand with an intensification of trade between France and the United Kingdom, Italy, Germany, Belgium, Portugal, and above all Spain. The boom in trade between France and Spain[10] turned the latter into the second-largest contributor to the rise in overall competitive pressure, even though Spain's ULCs rose steeply relative to those of France. Conversely, in Belgium, Italy, Portugal, and above all Germany, the expansion of trade was offset by greater French competitiveness vis-à-vis these countries. The decline in German competitiveness was a major factor limiting the change in total competitive pressure over this period. Symmetrically, as far as European countries are concerned, Spain and to a lesser degree the United Kingdom contributed powerfully to the increase in global pressure on France.

- The index of French exposure to competition from the United States grew very moderately, but because of the very sharp improvement in US competitiveness vs. France (chiefly due to the dollar's depreciation

against the franc), the United States was the second factor accounting for the change in the index of competitive pressure over the period.

- Finally, China's influence was not preponderant during the course of this decade, but the change in Chinese pressure was nevertheless remarkable: the absence of any loss of Chinese competitiveness vs. France and the steep rise in imports of Chinese manufactured goods made this country the fourth-largest contributor to the rise in the index over the period, after Spain, the United States and the United Kingdom.

3.3 During the course of the following decade (1993-2003), pressure from China increased the most, followed by Ireland, although Spain continued its rise

- Imports from China continued to grow very rapidly. Computers, electrical and electronic equipment joined the list, in addition to the imports of apparel and leather seen in the 1980s. Because the growth in these imports was very pronounced and the relative competitiveness of the two countries remained constant, China contributed very powerfully to the increase in total competitive pressure on France.

- In the 1990's, relative gains of Irish competitiveness (see chart 1) as well as the increase of competition exerted by Ireland in France and in the third markets pushed the pressure exerted by Ireland on France much higher.

Box 2: constructing a synthetic index of pressure exerted by globalisation on France

The pressure exerted on France by a given country is defined as the product of that country's relative competitiveness vs. France and France's exposure to competition from that country. The aggregate index of pressure exerted by globalisation on France is, quite simply, the sum of pressures exerted on France by each of its partners. This index I is therefore (with the notation used in box 1):

$$I = \sum_k \left[\frac{Q_F - X_F}{Q_F} \times \frac{X_{k,F}}{D_F} + \frac{X_{F,k}}{Q_F} \times \frac{Q_k - X_k}{D_k} + \sum_i \frac{X_{F,i}}{Q_F} \times \frac{X_{k,i}}{D_i} \right] \times \frac{CSU_F}{CSU_k}$$

This competitive pressure increases when the country exports more to France, when the country imports more from France, when it exports more to the same countries as France or, finally, when its ULCs decline relative to those of France. Countries relatively distant from France, such as China and India, and exerting relatively weak competitive pressure on France because their trade links with France are relative distended, can nevertheless exert powerful competitive pressure on France if they are highly competitive.

This indicator is difficult to interpret in absolute terms. It is worth noting, however, that the contribution of each country k to the indicator is equal to the share of French GDP exposed to competition from country k, ULCs in country k are the same as those in France.

Charts 8 and 9: Change in the pressure exerted by each country (exposure to competition + competitiveness effect)

1983-1993

1993-2003
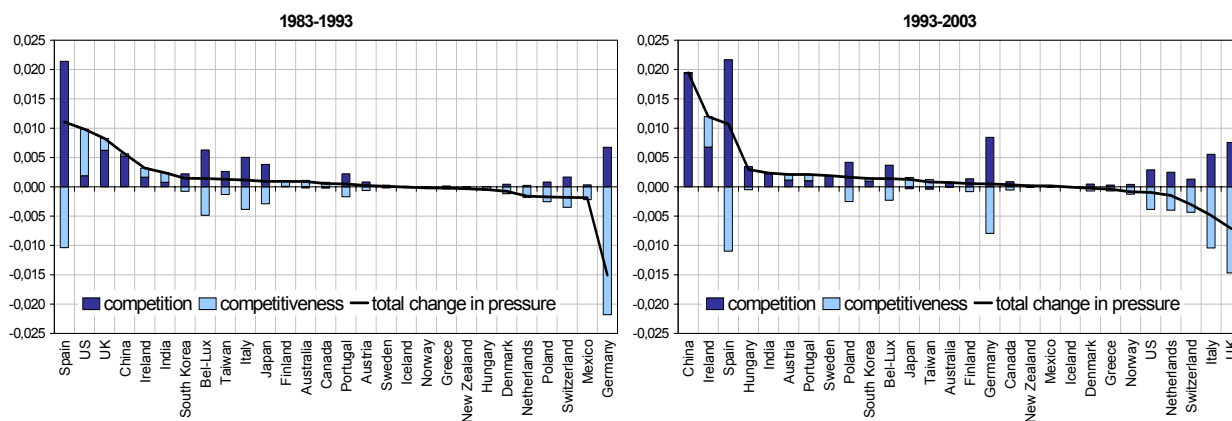
Note: in both charts countries are ranked from the left to right in descending order of pressure exerted by them..

- Even if the change in Franco-Spanish trade was more pronounced than the change in Franco-Chinese trade (notably due to the continuing very rapid growth in trade in the car industry with Spain), Spanish pressure rose less than Chinese pressure over this period because Spain's competitiveness vis-à-vis France deteriorated very significantly.

- The other countries that substantially increased their pressure on France were those European countries that expanded their trade with France while at the same time gaining in competitiveness relative to France, namely Portugal and Austria. This also applied to those Eastern European countries that grew their trade with France, i.e. Poland and Hungary.

- Conversely, Italy and the United Kingdom were a major factor attenuating the change in global pressure on France through their loss of competitiveness vis-à-vis France.

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Annexe : **constructing comparable unit labour cost data sets in absolute terms**

The US Bureau of Labor Statistics publishes trends in ULCs in dollars for the whole of the manufacturing sector, as does the OECD. This information is incomplete in two respects: 1) it leaves out China and India, 2) ULCs levels are not comparable.

It is possible to construct a certain number of data sets that are comparable in absolute terms by calibrating them on ILO data[a]. That is because these data permit comparisons in absolute terms of manufacturers' ULCs across different countries at different dates. By taking levels for 1996 (the most recent available data point), we were able to reconstruct trends in manufacturers' ULCs in dollars with the aid of trends in ULCs in local currencies and exchange rate trends (using Ecowin data). Accordingly, three factors are liable to contribute to divergent trends in ULCs across different countries, namely: productivity trends, labour cost trends in local currency, and exchange rate trends.

Other methods need to be used for the construction of Indian and Chinese manufacturers' ULCs.

Concerning India, ULCs trends in rupees used are calculated on the basis of the average wage in rupees in the manufacturing sector (as supplied by the ILO). The data used for labour productivity, on the other hand, are those used for the economy as a whole, calculated using World Bank data (total real GDP and total manpower). The data set is calibrated in absolute terms with the aid of UNCTAD data, which provide comparisons of manufacturers' ULCs at a given date[b]In the absence of recent data for ULCs, these have been extended to 2003-2004 by ULCs in constant rupees (consequently only changes in exchange rates have an impact).

For China, ULCs trends in dollars are calculated in a relatively recent article[c]. These are adjusted to their 1998 level (as for India) with the aid of UNCTAD data.

Finally, there are those countries for which ULCs trends are available, but for which there are no data in absolute terms permitting their calibration. The level of their ULCs is artificially calibrated to fit that of other countries. For instance, the ULCs of Switzerland, Iceland and Norway are calibrated to fit the European average; those of ULCs of Taiwan to fit those of China; those of Hungary and Poland to fit those of Turkey; those of New Zealand to fit those of Australia. ULCs series for some countries do not go back far enough in time, in which case series are retropolated to the beginning of the 1980s. China's ULCs are retropolated from 1987 to 1980 with the aid of those for Taiwan. Those of Hungary and Poland are retropolated with the aid of those for Turkey. Portugal's ULCs are retropolated with the aid of those of Spain. This retropolation has little impact on the global index since the countries concerned accounted for only a very small portion of the index at the time.

a. Cf. Bart Van Ark, Judith Banister et Catherine Guillemineau (2006) : «Competitive advantage of "Low-Wage" countries often exaggerated», *Executive Action series n. 212, octobre 2006, the conference board, China center for economics and business.*
b. Sébastien Dullien (2004) : «China's changing competitive position :lessons from a Unit-Labor-Cost-Based REER».
c. Cf. Bart Van Ark et Erik Monnikhof (2000) : «Productivity and unit labour cost comparisons : a data base», *Employment sector, International Labour Office Geneva*

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