

Directorate-General
for Economic and Financial Affairs

II-D-4

INDICATORS OF PRICE AND COST COMPETITIVENESS

(Note for the attention of the Monetary Committee)

Direction Générale des
Affaires Economiques et Financières

II-D-4

MISE A JOUR TRIMESTRIELLE DES INDICATEURS DE COMPETITIVITE
DE LA DG II

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Annexe: DOC II/179/4/92

**COMPETITIVENESS DEVELOPMENTS IN THE U.S., JAPAN
AND WITHIN THE COMMUNITY.**

In order to capture the complex notion of an economy's competitive position, something more than summary indicators - which cannot be interpreted too literally - is required. As well as monitoring a broad range of cost and price indicators, a degree of interpretation and overall analysis is necessary. The purpose of this note is not to solve the methodological problem of measuring competitiveness, but rather to give an overview of the salient facts provided by simple treatment of the most easily accessible information on EEC countries, the US and Japan, after a short methodological presentation.

1. COMPETITIVENESS : WHAT DOES IT MEAN AND HOW SHOULD IT BE MEASURED ?

The extent to which a country is competitive is reflected in the ability to increase its share of export markets, or to sustain a higher growth rate without a deterioration in its current account balance.

Competitiveness variations in one direction or another will tend to balance supply and demand in the economy. For example, some deterioration in competitiveness is necessary when domestic demand is growing very rapidly as a result of private sector expectations of structural improvement or economic "catching up". However, if demand disturbances are due to inappropriate budgetary policies, the response should be to correct those policies rather than induce compensation by changes in relative cost positions.

One of the most widely used indicators of competitiveness is based on unit labour costs (ULCM) in the manufacturing sector (used as a proxy for the sector exposed to the external competition). It is calculated as the ratio of manufacturing unit labour cost indices in the home country to manufacturing unit labour cost indices in its trading partners, with all data expressed in a common currency. For the home country, it corresponds to the product of the ratio of the unit labour costs indices in respective national currencies by the index of the nominal (effective) exchange rate of this country's currency against its partners' currencies. This indicator is also called a real exchange rate index. The implicit assumption behind this indicator is that, since traded goods prices are linked by strong international competition, developments in relative unit labour costs are indicative of changes in relative profitability in the traded goods' sector. Movements in such an indicator for any given country should point to changes in the incentives to produce manufactured goods in this country relative to its trading partners.

Interpreting ULCM as a measure of relative profitability is however an arbitrary simplification, which is misleading in as much as relative profitability is influenced by other factors. For example, product differentiation across countries, structural differences in their material inputs and especially differences in domestic input prices may affect profitability in a given country with respect to the others. Thus, a rise in the output price of traded goods supplied by the home country relative to the foreign price need not necessarily indicate a deterioration in competitiveness, to the extent that it may reflect a shift in external demand preferences, or to the extent that the quality of industrial specialization allows it to pass domestic cost increases on to its trading partners without any profit squeeze. Another typical case is a country with unchanged relative unit labour costs but showing a decrease in its relative output price (or an increase in its relative input prices) provoking a reduction in its relative value-added deflator. Contrary to conventional interpretation, this country has not improved its competitiveness for existing production since it registers a squeeze in profit margins with respect to its competitors. It is, therefore, necessary to examine relative profitability by looking simultaneously at ULCM indicators and at adequate price indicators. The best price indicator for this purpose is, of course, the deflator of manufacturing value-added (PVA). The PVA takes into account not only output-price variations, but also, negatively, input price movements. So, a change in the specific terms of trade of the manufacturing sector of one country, which will affect profit margins, should be correctly reflected in a change in the value-added deflator.

Accordingly, the preferred competitiveness indicator might be the ratio of the relative unit labour costs to the relative price of the value-added, since this indicator gives the evolution of labour's share in value-added for the home manufacturing sector with respect to that of its foreign competitors, which corresponds also to a measure of relative profit margins (its complement). Of course, this indicator is also imperfect :

- 1) it is an ex-post indicator, i.e. it reflects the relative cash-flow position of existing output capacities ;
- 2) it does not exhaust the possible factors which may affect the rate of return, such as differences in the cost of capital, in capital intensity or in the elasticity of factor substitution (but whose consideration would result in an excessive complication of the analysis) ;
- 3) it suffers from some weaknesses in the comparability of data across countries.

The following analysis starts with a short presentation of the trade performances and imbalances, which are the results of global developments. Then the most commonly used ex-post cost-competitiveness indicator of the traded sector - that is the relative unit labour costs in manufacturing sector (ULCM) - is examined. As an alternative indicator, relative consumer price indices, to which exchange rate operators usually refer to as a benchmark for developments in purchasing power parities, is also presented. Finally, the note tries to overcome some of the traditional difficulties with ULCM, such as differences in other domestic costs or in the path of input costs, or shifts in external terms of trade, by using the relative labour share developments as a synthetical indicator of ex-post profitability. A tentative comparison of absolute levels of total wage costs per employee and value added per employee closes the analysis.

2. CURRENT ACCOUNT BALANCES AND TRADE PERFORMANCES (TABLE 1 AND CHART 1).

Other factors than changes in competitiveness may account for the evolution of trade balances and performances. Changes in relative cyclical positions (income effects), relative growth in productive potential (supply effects and output gap) and competitiveness (relative-price effects) are the three main categories of determining factors.

In more recent years, relative demand growth (cycle) seems to have played a major role in shaping the external positions of a majority of industrialized countries. Since 1987, the relative dynamism in domestic demand enables three groups of countries to be distinguished : one with a higher domestic demand growth, another with a lower growth, and those whose growth hovered around the average for the group as a whole (see table 1).

TABLE 1

INCOME EFFECT AND TRADE PERFORMANCE IN 1992 AGAINST 1987

1. Countries with a higher domestic demand growth

	Japan	Spain	Portugal	Germany	Belgium	Greece	EG 12
a. Relative Domestic Demand (1987 = 100)	114.8	112.5	113.4	104.5	104.2	102.2	102.8
b. Market Share in volume (1) (1987 = 100)	92.5	105.4	106.7	94.8	93.8	88.8	94.7
c. Current Balance (% of GDP, variation against 1987)	- 0.4	- 3.6	- 1.7	- 3.7	0.0	- 0.3	- 1.3

2. Countries with a lower domestic demand growth

	Denmark	USA	UK
a. Relative Domestic Demand (1987 = 100)	88.7	92.0	95.6
b. Market Share in volume (1) (1987 = 100)	102.2	122.3	90.9
c. Current Balances(% of GDP, variation against 1987)	+ 5.8	+ 2.5	- 0.5

3. Countries with a neutral domestic demand growth

	Netherlands	France	Italy	Ireland
a. Relative Domestic Demand (1987 = 100)	99.5	99.7	101.0	101.5
b. Market Share in volume (1) (1987 = 100)	100.1	105.6	96.0	118.2
c. Current Balances(% of GDP, variation against 1987)	+ 2.7	+ 0.3	- 2.2	+ 5.4

(1) Export volume of a country, compared to the export volumes of industrial countries.

Sources : Commission services

I.M.F. - International Financial Statistics

In the first group, domestic demand growth was 14.9 % higher for Japan than for the average of its 19 industrial partners, 13.4 % for Portugal, 12.5 % for Spain, 4.5 % for (Western) Germany, 4.2 % for Belgium, 2.2 % for Greece and 2.8 % for the Community as a whole. These growth differentials should, *ceteris paribus*, explain a deterioration of the current balances and trade market shares in these countries, as a function of their respective income-elasticities. Indeed, the table below shows that it is the case in all these countries for current balances, and also for market shares except for Portugal and Spain. For these two countries, the two other factors of trade performance were thus playing a more important role than income effects.

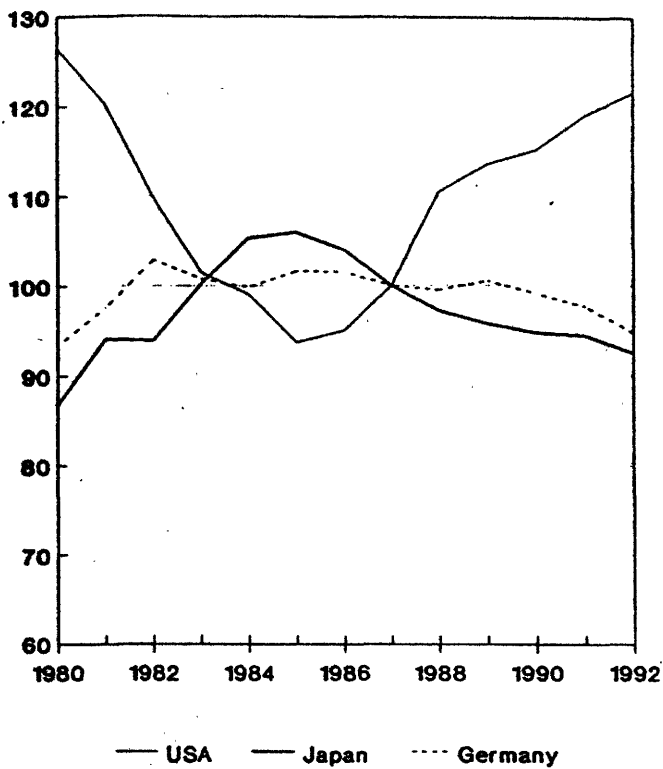
For the second group (Denmark, the US and the UK) with a lower rate of growth, the same argument implies that income effects should, *ceteris paribus*, improve trade performances and current balances. It is indeed the case for two of the three countries of group 2: only the UK registered a deterioration of both current account and market shares indicators in spite of a significant differential in its domestic demand with respect to the other industrial countries. This implies "*a priori*" a loss of competitiveness for the British economy.

In the third group (France, the Netherlands, Ireland and Italy), the cumulative income effects were rather neutral during the 1987-1992 period. Only the Netherlands registers also a neutral market share performance; France and Ireland show significant progress, whilst Italy loses market share. This indication of an improvement of competitiveness for France and Ireland, as well as of a deterioration in Italian competitiveness, is confirmed by the developments of current account balances.

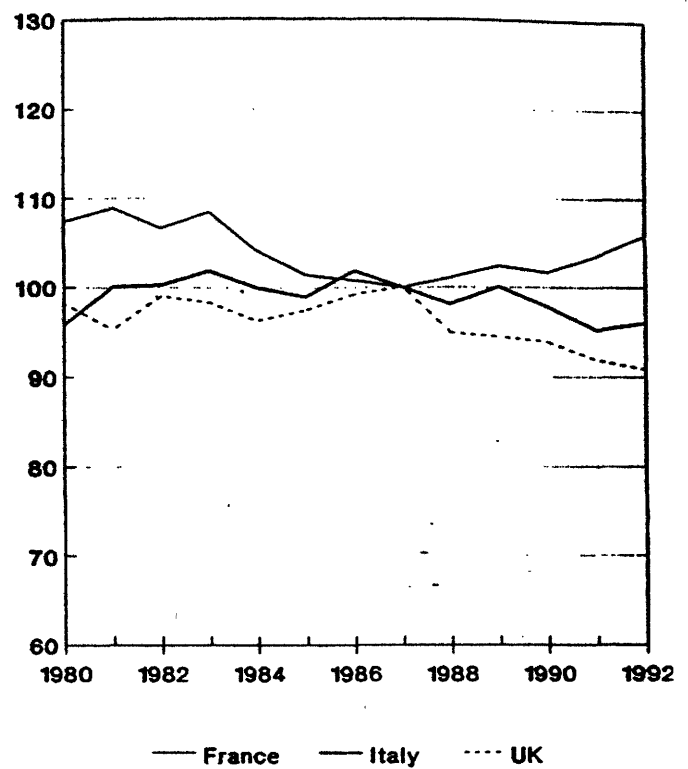
The combination of indicators presented in the inserted table, suggests that the competitiveness factor should at the most explain only that part of the trade performances which cannot be accounted for by income effects. So, the dramatic recovery of market shares by the US exporters cannot be imputed solely to competitiveness, since the cyclical gap will also have played a major role. The same is true in explaining a part of the corresponding deterioration in trade performance for Japan, the Community and Germany. Intuitively, however, it seems that the deterioration of current balances and market shares in Japan are rather modest relative to the importance of the income effects, indicating a possible partial counter-action by the other factors.

For Community countries, possible losers of competitiveness - other than Germany - would be the UK, Italy, and Greece. The possible winners would be, at this stage of the analysis, Portugal, Ireland, Spain, France, and the Netherlands.

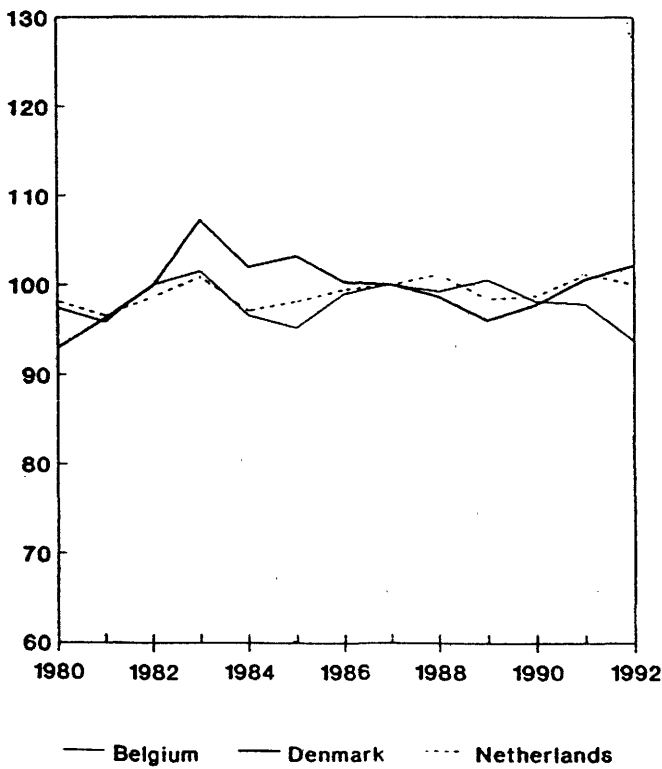
Export Performance (1)



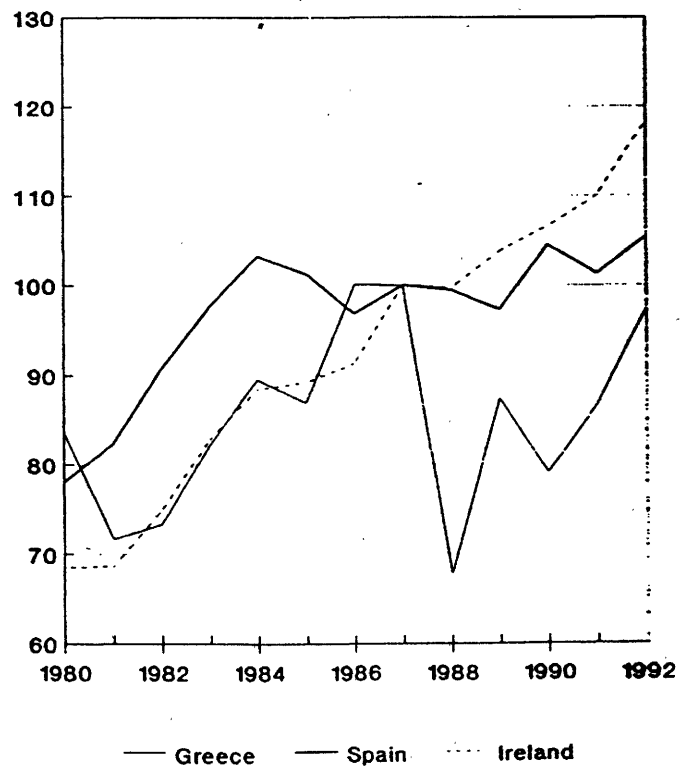
Export Performance (1)



Export Performance (1)



Export Performance (1)



(1) ratio of the export volume of a country to the export volume of industrial countries

Before comparing the components of relative trade performance unexplained by income-effects with the possible effects of specific competitiveness indicators, it is worth mentioning some additional features of the Community's external trade, drawing on a previous publication⁽¹⁾ of the Commission Services.

Between 1987 and 1990, extra-Community imports of manufactures, in volume terms, have grown more rapidly (32.4 %) than intra-Community imports (21.4 %). In particular, this phenomena is also true for high-tech products: EC imports from the rest of the world have increased more (39.1 %) than the intra-EC imports of the same products (32 %). On the export side during the same period, total growth of extra-EC export of manufactures, in volume, has been rather modest (5.9 %), well below the expansion of intra-EC exports (23.3 %). Also in the field of high-tech products, the total progression in volume terms of extra-EC exports (13.2 %) is less than half of the progression of intra-EC exports (31.2 %). These elements are an additional information pointing towards a weakening of competitiveness of the Community as a whole vis-à-vis the Rest of the World.

3. DESCRIPTION OF RELEVANT TRENDS IN RELATIVE MANUFACTURING UNIT LABOUR COSTS.

In this section, the trend in relative manufacturing unit labour costs in the three main industrial countries and in the Community as a bloc is examined. This examination is based on the nominal effective exchange rates of each of their respective currencies (or group of currencies) vis-à-vis the other industrialized countries, deflated by unit labour costs in manufacturing. Intra-Community developments are then addressed using the same indicator for each Member State, but calculated against the (other) ERM currencies.

3.1. Relative unit labour cost in the manufacturing sector of the United States, Japan, Germany and the Community (Charts 2 and 3).

According to the relative unit labour costs indices, the competitive position of the US manufacturing sector has substantially improved since the time of the Louvre accord (first quarter of 1987). The last quarter of 1992 registers a relative cost improvement of 18.8 % (estimated) in comparison to the first quarter of 1987. Such real exchange rate depreciation results from the combination of an 11.5 % nominal depreciation of the effective exchange rate of the dollar - despite the upsurge in the nominal exchange rate of the dollar at the end of 1992⁽²⁾ - and a 6.5 % reduction in the US unit labour costs vis-à-vis the 19 other countries unit labour costs measured in national currencies.

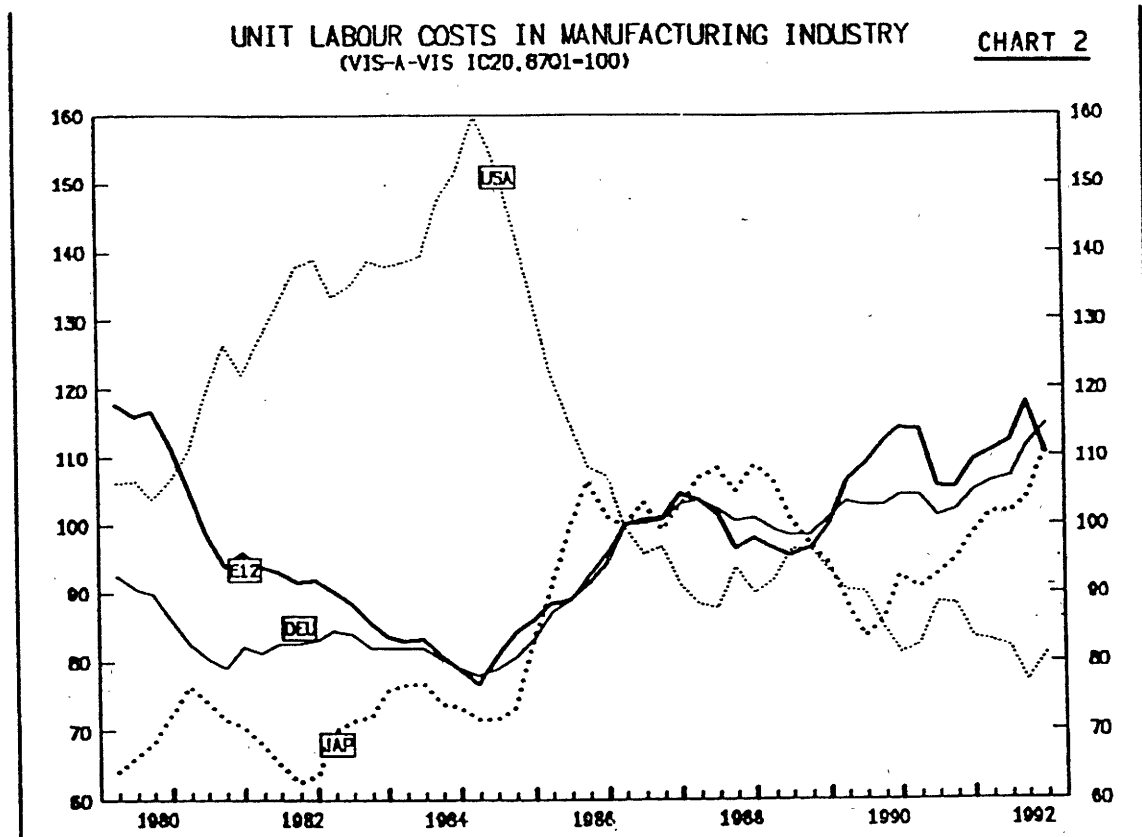
(1) Main Features of Community Trade. Study N°4, European Economy, n° 50, December 1991.

(2) It is only with the level reached during the first half of January 1993 that the nominal effective exchange rate of the dollar has recovered its level of mid-1991.

Since 1987, the competitive positions of Japanese manufacturing sector registered mainly two contrasted periods : first a strong improvement until the second quarter of 1990, and since then a steady deterioration, which put the Japanese relative ULCM 11 % higher than at the time of the Louvre agreement.

During the first period, the sharp drop in relative ULCM for Japan, was the combined result of a fall in the nominal exchange rate of the yen (- 6,1 % fom the Louvre level) and a reduction in the relative unit labour costs measured in national currencies (- 9,9 %). During the second period, the increase of ULCM in common currency amounted to 33 %, as a result of both a nominal appreciation of the yen against the 19 other currencies (26,2 %) and an increase in the relative unit labour costs measured in national currencies (5,4 %). In a longer term perspective, the yen shows a trend of real appreciation⁽³⁾.

The German manufacturing sector has lost competitiveness since 1987 : the relative unit labour costs for the fourth quarter of 1992 show an increase of 14.6 %, the bulk of which is due to the nominal appreciation of the DM. However, the strengthening of the real exchange rate of the DM is entirely due to developments which occurred after the collapse of the centrally-planned economies of Eastern Europe. Between the trough of the third quarter of 1989 and the fourth quarter of 1992, the real appreciation of the DM amounts to 16.5 %, of which 12.2 % relates to a nominal appreciation. A comparison of the position of the last available data with its corresponding value along the long-run trend would point to the real overvaluation of the DM. As will be explained in section 7, such an overshooting is the ineluctable result of relative macro-economic developments.

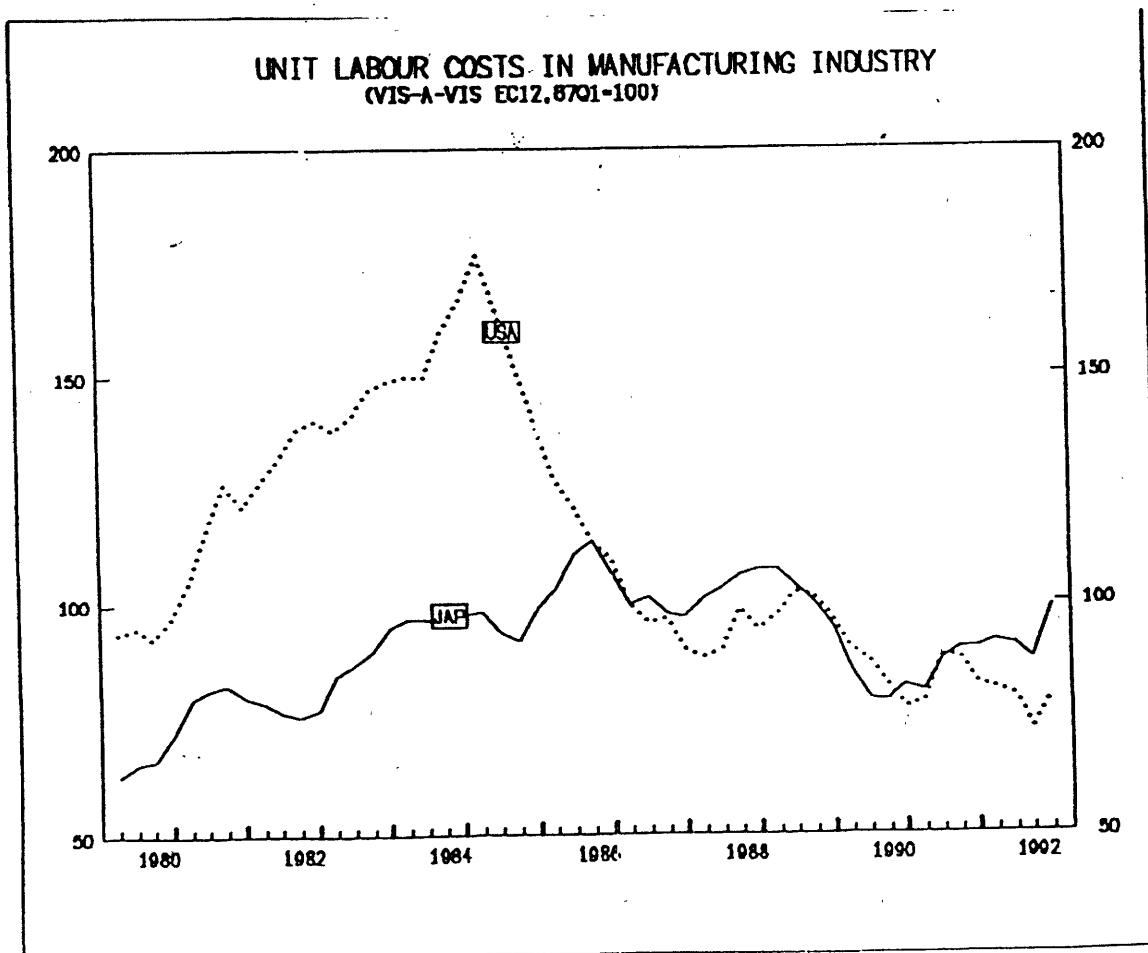


(3) The 1980-1991 trend of the real exchange rate of the yen, estimated by linear regression, shows an average growth rate of 4.3 % per year. If the structural factors underlying this rising trend were to be still operating, the yen would still be under its extrapolated value.

For the Community currencies taken as a group vis-à-vis third currencies, the real appreciation in the fourth quarter of 1992 compared to the first quarter of 1987 amounts to 10.4 %, after a peak of 17.8 % in the third quarter of 1992. This 6.3 % drop of the Community's unit labour costs in the fourth quarter is due to the appreciation of the dollar combined with the impact of the depreciations of the pound, the lira and the peseta. However, in contrast to the German position, the Community's competitiveness losses of 10.4 % with respect to the Louvre period comes more from a rise in relative costs in national currencies (7.5 %) than from nominal exchange rate appreciation (2.7 %). No significant trend can be detected for the whole period starting from the early eighties.

The weakening in the competitive position of the Community's manufacturing sector can be examined bilaterally with respect to the United States and Japan. Chart 3 shows the relative developments (in common currency) of US and Japanese unit labour costs with respect to those of the Community. The cumulative Community losses in the fourth quarter of 1992 relative to the "Louvre quarter", are around 20 % against the United States and 1.3 % against the yen. In the third quarter of 1992, these losses reached 27 % against the US and 12 % against the yen.

C H A R T 3



3.2 Developments in intra-Community competitiveness (Charts 4 and 5).

In the developments of the relative unit labour costs for each Member State against the other ERM participants⁽⁵⁾, for the period under review two sub-periods may be distinguished : 1987 to mid-1992, and after mid-1992. The ERM members themselves may be grouped in two categories ; the seven countries which have participated in the narrow band of the ERM since the beginning, and the five others. Each sub-group is presented on the same chart, since they generally present common developments throughout the whole period.

The seven countries of the initial narrow band show stable or declining relative unit labour costs until mid-1992; during the second sub-period their competitiveness is reduced by the upward movement in their relative unit labour costs essentially due to the ERM realignments and floatings of September and November 1992. The five other countries show mostly divergent unit labour costs developments with, in most cases, important losses of competitiveness, followed by some adjustments in four of them, first by labour cost moderation in national currency and, finally for three of them by significant parity realignments.

Amongst the seven countries, some divergences are to be highlighted. In both sub-periods, German relative unit labour costs rose significantly against the six other countries of the first sub-group. At the end of 1992, the cumulative losses of competitiveness of German manufacturing sector, measured bilaterally against these partners, reached 7.8 % against Danish manufacturing sector, 11 % against Belgium, 13.2 % against France, 16.3 % against the Netherlands, and 23.7 % against Ireland⁽⁶⁾. As such an evolution is not due to parity realignments, it results essentially from wage slippage in Germany throughout the whole period and very good performances in the six other countries (wages moderation and increase of productivity).

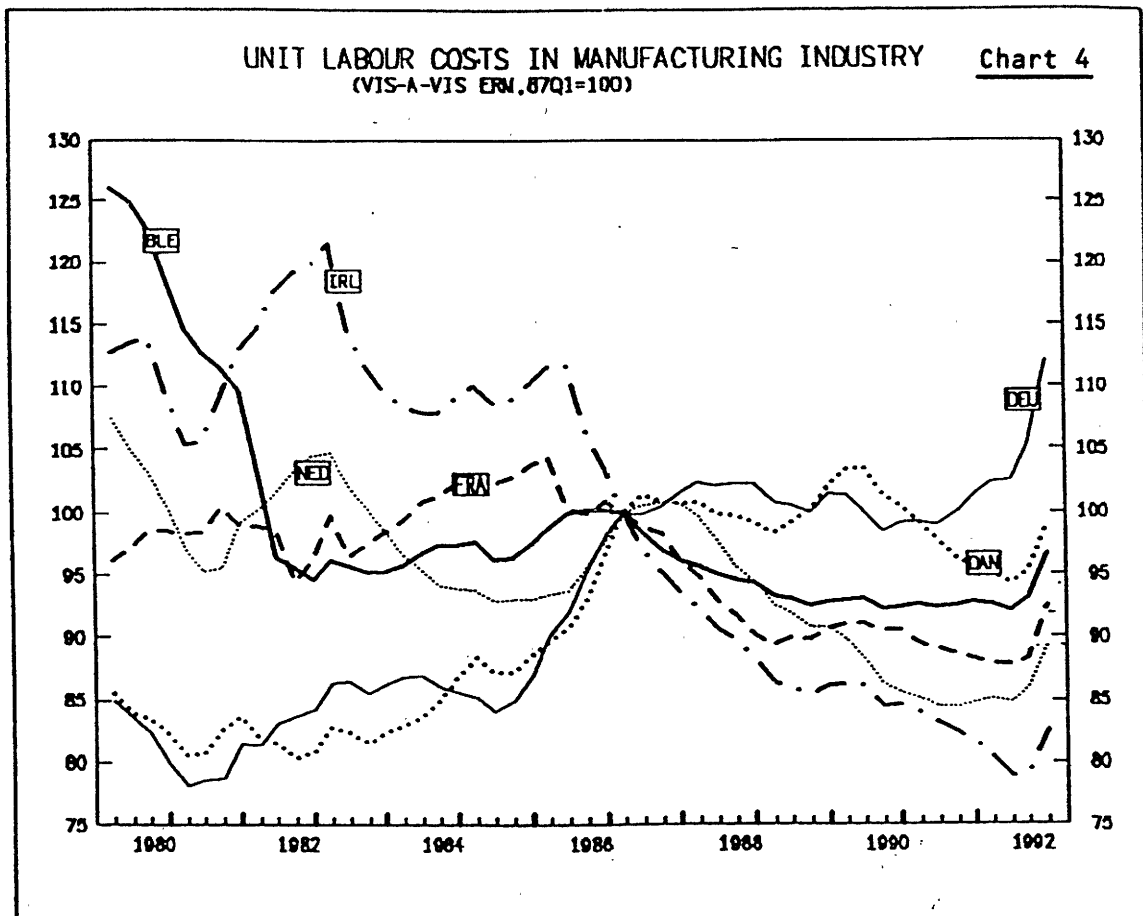
Considering the increases of unit labour costs of all the ERM members, at mid-1992, the competitiveness gains of the partners of Germany in the first group reached 6.7 % for Denmark, 8 % for Belgium, 12.2 % for France, 15.2 % for the Netherlands, and 21.1 % for Ireland. The successive realignments of the second half of 1992 reduced these cumulative gains to only 1.1 % for Denmark, 3.5 % for Belgium, 7.6 % for France, 10.6 % for the Netherlands, and 17.4 % for Ireland.

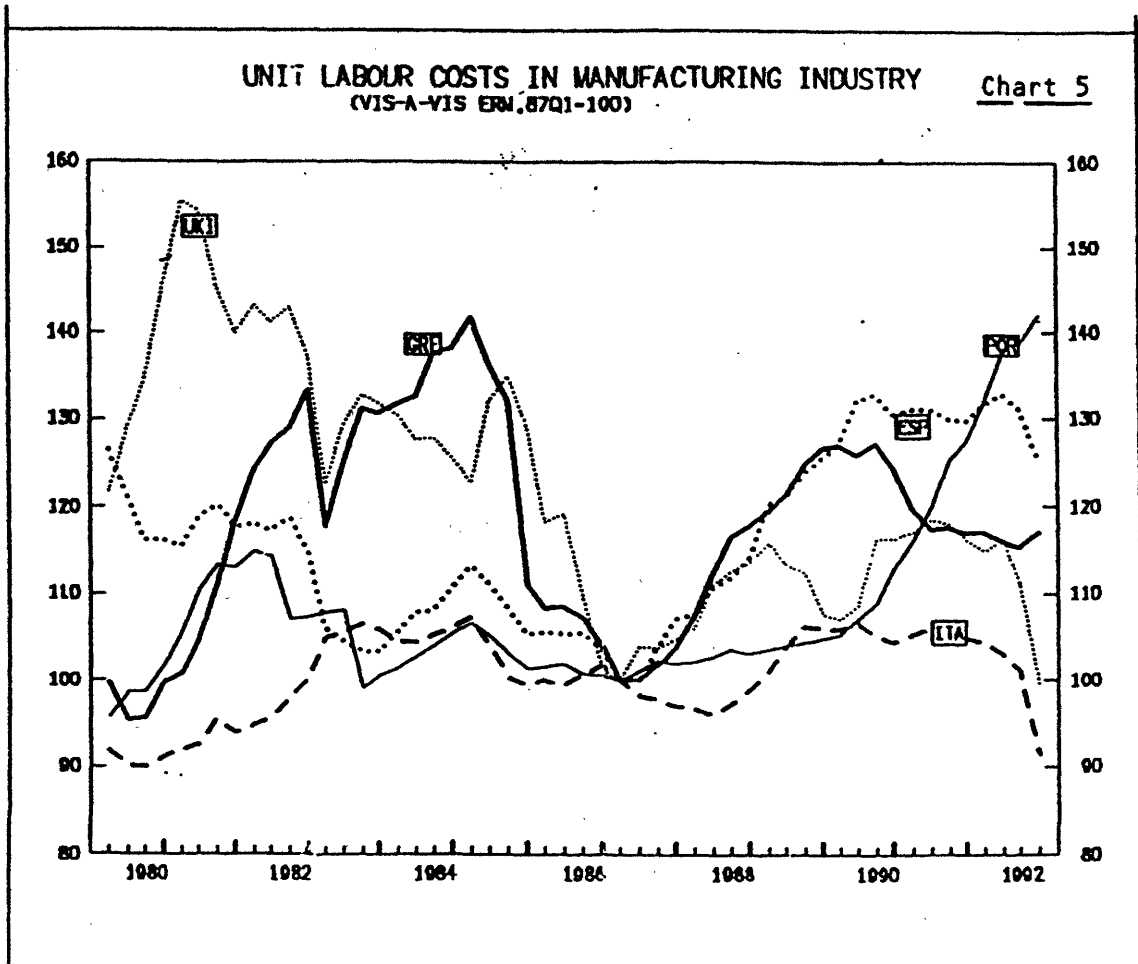
Amongst the five other Community members, that have not been within the narrow band from the beginning, all witnessed a period of weakening of their cost-competitiveness but there are large differences amongst them concerning the intensity and the duration of such a period, as well as the parameters used to absorb the cost differentials. Only Portugal

(5) The definition of the ERM members is the same throughout the whole period and includes eleven countries.

(6) Due to the lack of value added for the Irish manufacturing sector, Irish data for manufacturing productivity are not fully comparable with the other country data, and the proxy used (output index) could lead to an exaggerated measure of productivity growth.

did not display any real depreciation of its currency in the fourth quarter of 1992, as the November devaluation of the escudo in the ERM amounted to only 1 % in effective terms. Its cumulative losses amounted to 42 % in comparison to the base period (first quarter of 1987). As a result of two devaluations Spain reduced the real exchange rate appreciation registered since the beginning of 1987 (whose level at that time was an all-time low of the peseta's real exchange rate), from 33 % in mid-1992 to 25 % for the fourth quarter of 1992 (i.e. a real depreciation of only 5.8 %). Thus, Spain and Portugal show clear losses of competitiveness according to developments in their relative-price effects. However, as it was mentioned in section 2 above, these two countries have registered significant market share progress (see Table 1) in spite of adverse income effects (differential in domestic demand growth). Therefore, the third category of factors, the supply effects, have certainly played a major role in these cases: the catching-up process implies a fast development of new output capacity, which is not properly taken into account in conventional competitiveness indicators.





Italy joined the narrow band ERM after a 8 % loss of competitiveness during the year 1989. During its stay in this mechanism the real exchange rate was also stable. The devaluation of the lira, followed by its withdrawal from the ERM, amounted to a nominal depreciation of 10.8 % (measured as the gap between the average of the second quarter of 1992 and the fourth quarter of 1992). The real depreciation, which amounted to 11.3 %, corresponds to an improvement of 8 % for the Italian manufacturing competitiveness with respect to the base period.

The UK joined the wide band of the ERM during the fourth quarter of 1990, after a period of nominal appreciation and wage slippage, whose combined effects since the base period amounted to 16 % of competitiveness losses. During its two years of participation to the ERM, its real exchange rate was stable. Since mid-1992, the real depreciation absorbed entirely the previous losses of competitiveness. Such real depreciation amounted to 14.4 %, of which 13.6 % came from the nominal depreciations allowed, first, by the use of the wide margin of fluctuation and, next, by the withdrawal of the pound from the ERM.

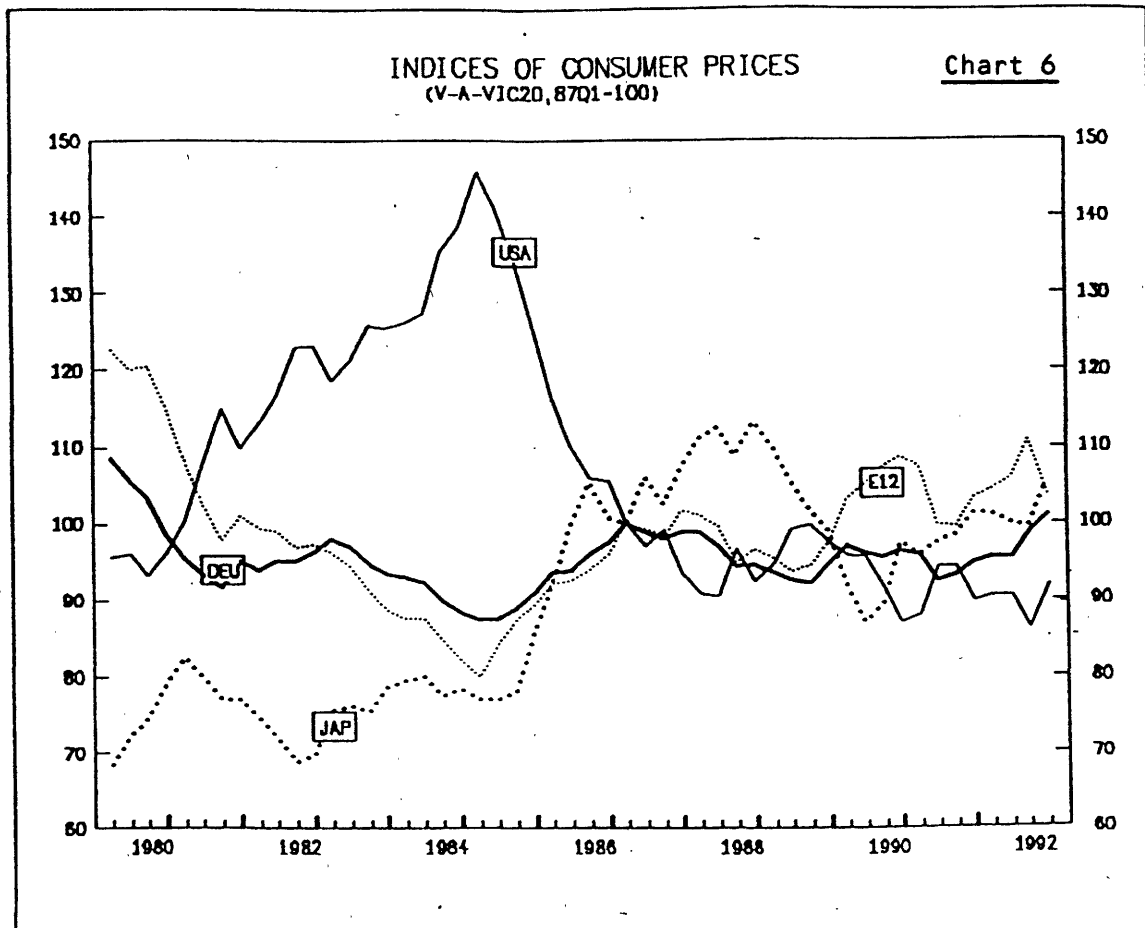
From 1987 to the third quarter of 1990, Greece, which is the only country whose currency has never belonged to the ERM, experienced a 27 % real appreciation, in spite of a 25 % nominal depreciation. A continuation of nominal depreciation, combined with some wage moderation permitted to register a 8 % real depreciation at the end of 1992 in comparison to the first quarter of 1990, reducing the cumulative losses of competitiveness to 16.9 %.

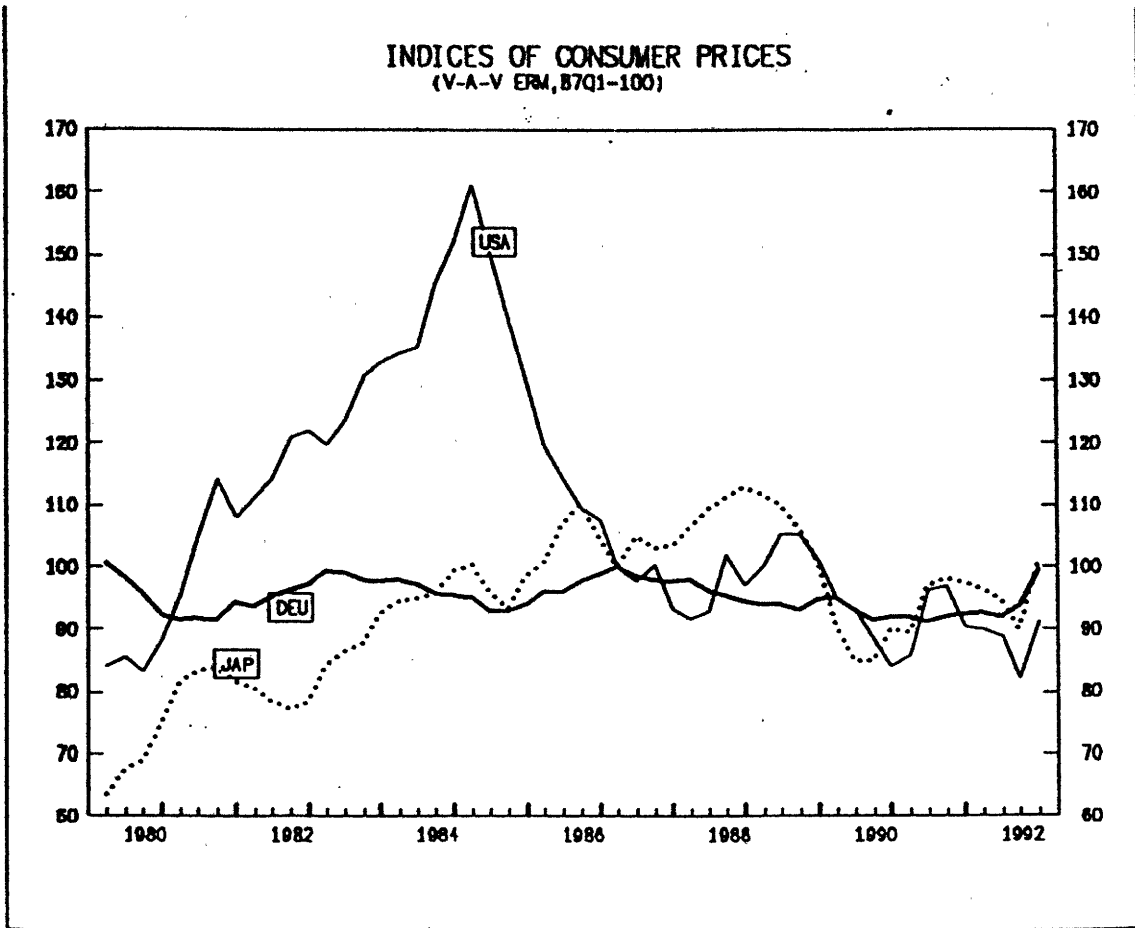
4. DESCRIPTION OF RELEVANT TRENDS IN PURCHASING POWER OF EACH CURRENCY (CHARTS 6 TO 9).

Traditionally, another current indicator used by analysts to assess currency prospects is the relative inflation index. So, charts 6 to 9 present the relative consumer price indices measured in a common currency, i.e. they correspond to the ratio of the consumer price indice in one country to consumer price indices in its trading partners, multiplied by the indice of the nominal exchange rate of this country against its partner currencies.

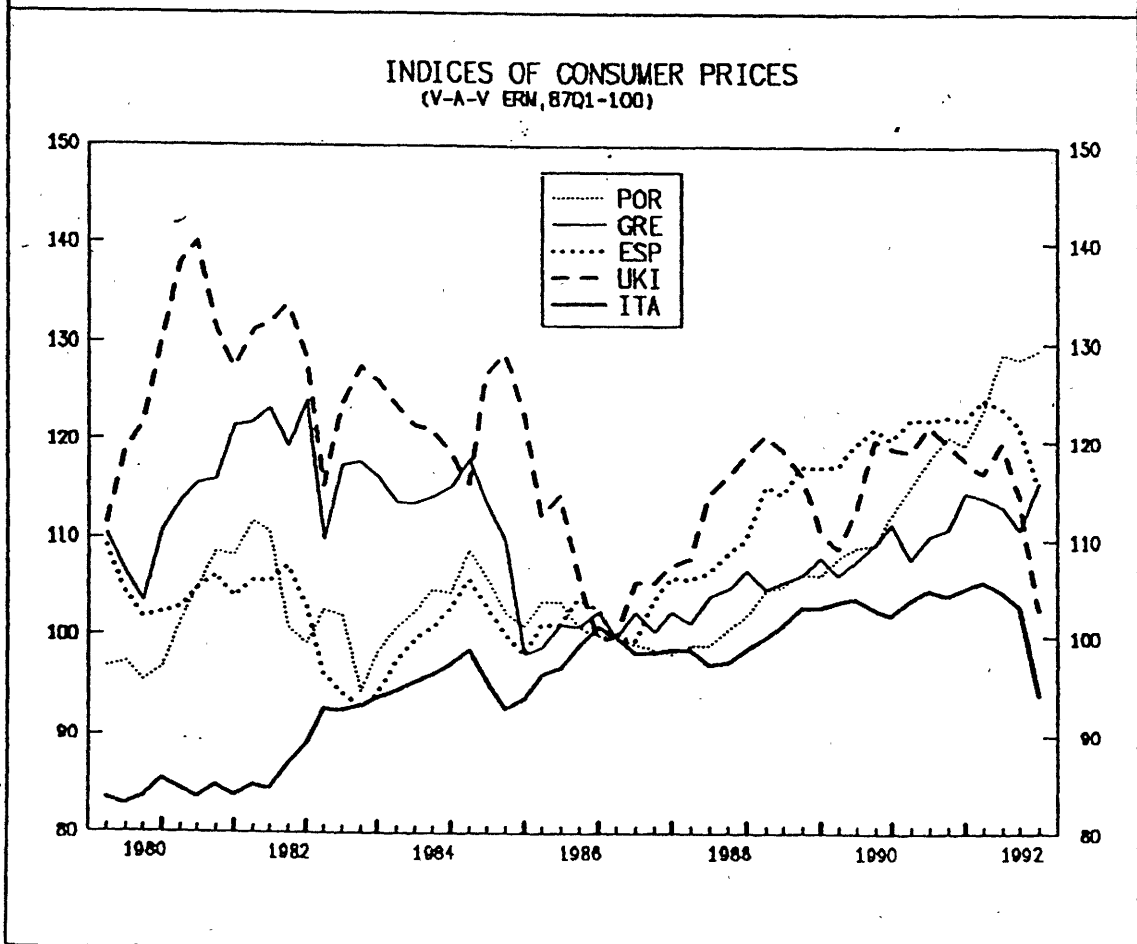
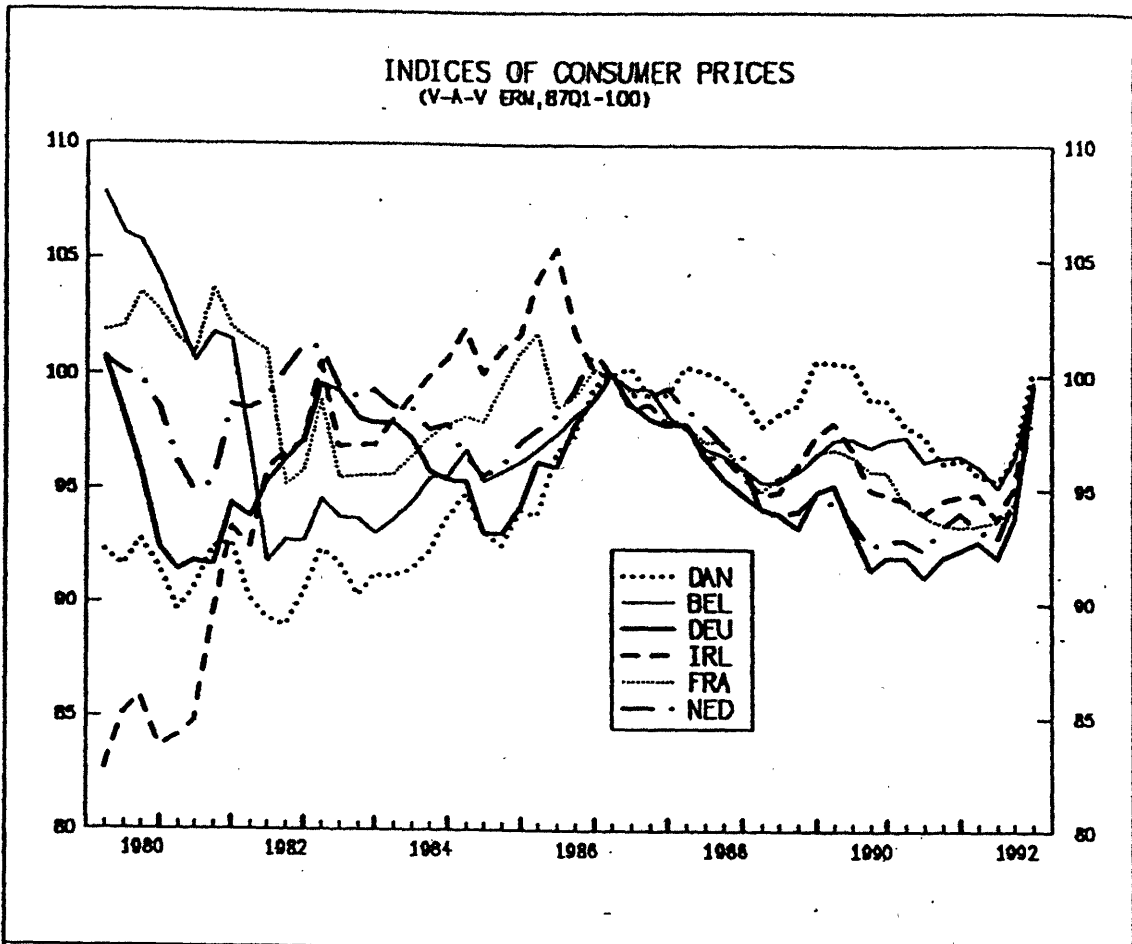
According to this indicator, the real exchange rate developments since the Louvre have been less marked : in the fourth quarter of 1992 the competitive improvement of the US economy amounts to some 8 %, while the opposite movement for the yen is limited to 5.6 %, to 3.6 % for the EC currencies, and to only 1 % for the DM. However, compared to mid-1989, real appreciations of the EC currencies and the DM reach 10.5 % and 10.9 % respectively.

Inside the ERM, the same indicator shows that at the end of 1992, the seven initial members of the narrow band of the ERM were back very close to their relative positions at the beginning of 1987, after a period of several substantial real depreciations (ranging from 8.8 % for Germany to 4.6 % for Denmark). For the five other Community members, the nominal depreciations that occurred during the second half of the year 1992 enabled some of the real appreciations previously recorded to be reduced or eradicated : in the fourth quarter of 1992, Italy had relative prices 5.9 % lower than at the beginning of 1987 and British relative prices were only 2.8 % higher, after a peak of 21.7 % in 1991. For Spain, the real appreciation was reduced from 24 % to 15.6 %, while, on the contrary, the real appreciations in Greece and Portugal continued, reaching respectively 16 % and 29.5 % respectively.





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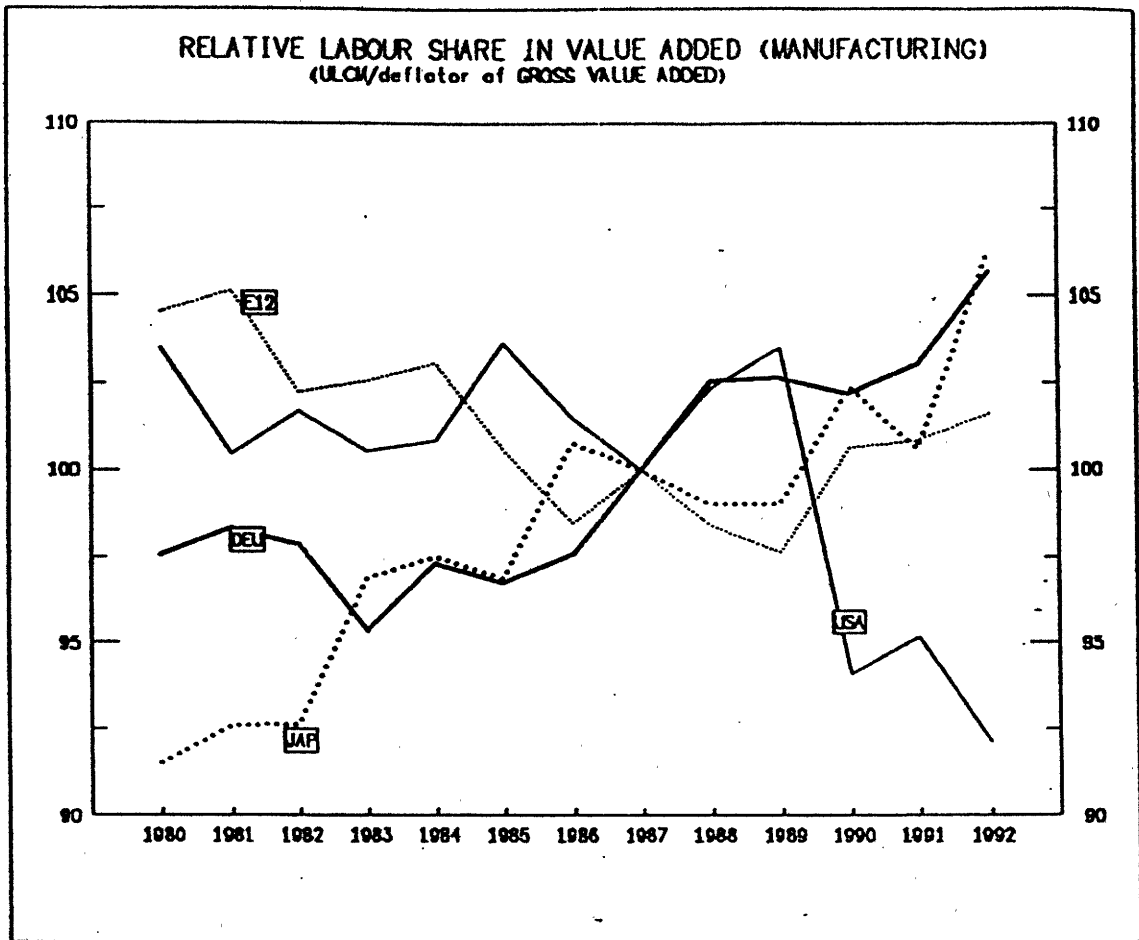


5. DEVELOPMENTS IN RELATIVE MANUFACTURING PROFITABILITY (CHARTS 10 TO 12).

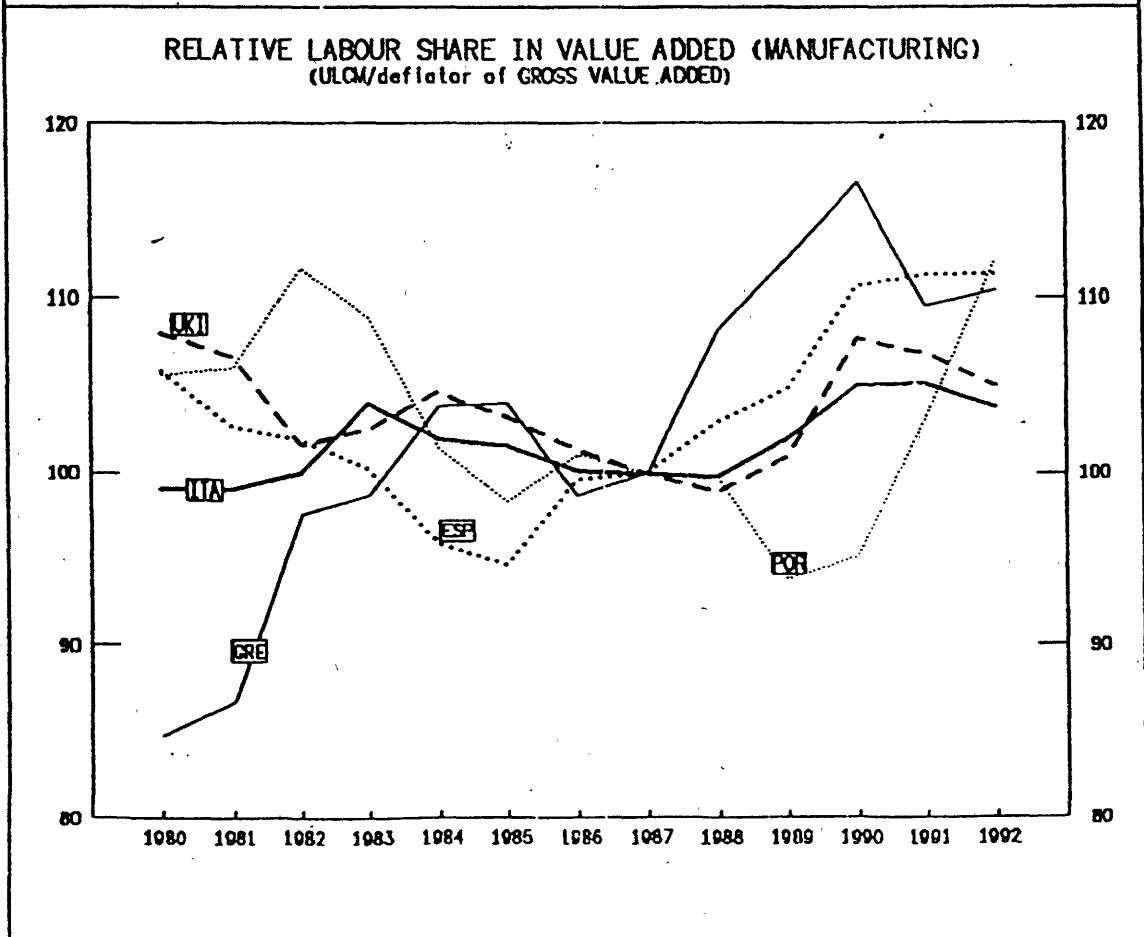
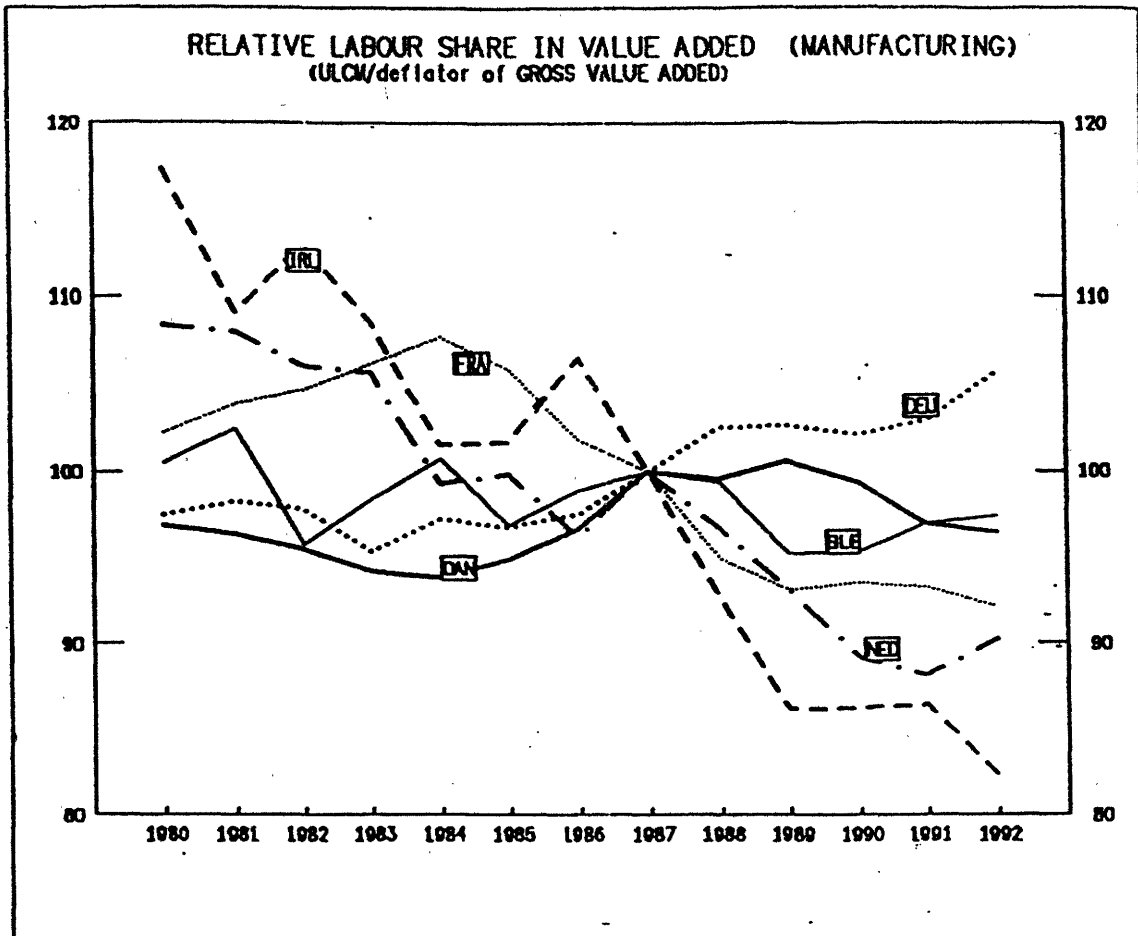
As explained in section 1, cost-competitiveness indicators alone cannot capture the complex notion of competitive position. One of the main reasons is the structural difference amongst industrialized economies, particularly relating to the specialization features of each, which may also affect competitiveness indicators. Differences in the composition of trade baskets between countries allow for differences in measured relative price without necessarily changing competitive positions : for example, even with individual export prices perfectly aligned with those of its competitors, the measured index of the relative export price average of one country could rise merely as a result of different sectoral composition in its export basket if the products benefitting from the largest international price increases have a higher weight in its basket. In this example, such a specialization effect implies an improvement in the terms of trade of this country compared to the others, i.e. an increase in the disposable income which is statistically registered as an increase in the relative value added deflator of the manufacturing sector of this country. This allows for an increase either in relative unit labour costs of this country without. This allows is without any squeeze in its profitability compared to the other countries, or in the relative profitability without any change in the relative ULCM. In more general terms, one can say that terms of trade variations across countries due to the differences in international specialization imply difference in variation of the value added deflators, opening different "warranted wage rooms" for existing output capacities, i.e. divergences in unit labour costs do not affect relative profitability insofar as they coincide with offsetting movements in relative value-added deflators.

Consequently, one can better assess the net impact of cost-competitiveness and structural competitiveness by referring to the relative evolution of the labour share in manufacturing value-added, i.e. the ratio of relative unit labour costs and relative deflators of the corresponding value-added. The trend in this indicator of relative wage share, which gives implicitly (its inverse) a relative profitability indicator, is represented in charts 10 to 12. However, some data for 1991 are still approximate, and all the data for 1992 are only estimates, both made by the Commission services (DG II).

Charts 10 and 11 present the same indicator for the other Community members, compared to their partners in the ERM. In contrast to the deterioration for Germany, the Irish and French performances are notable. Profit squeezes for the UK and Italy confirm some "overvaluation" difficulties, as well as for Portugal, Greece and Spain.



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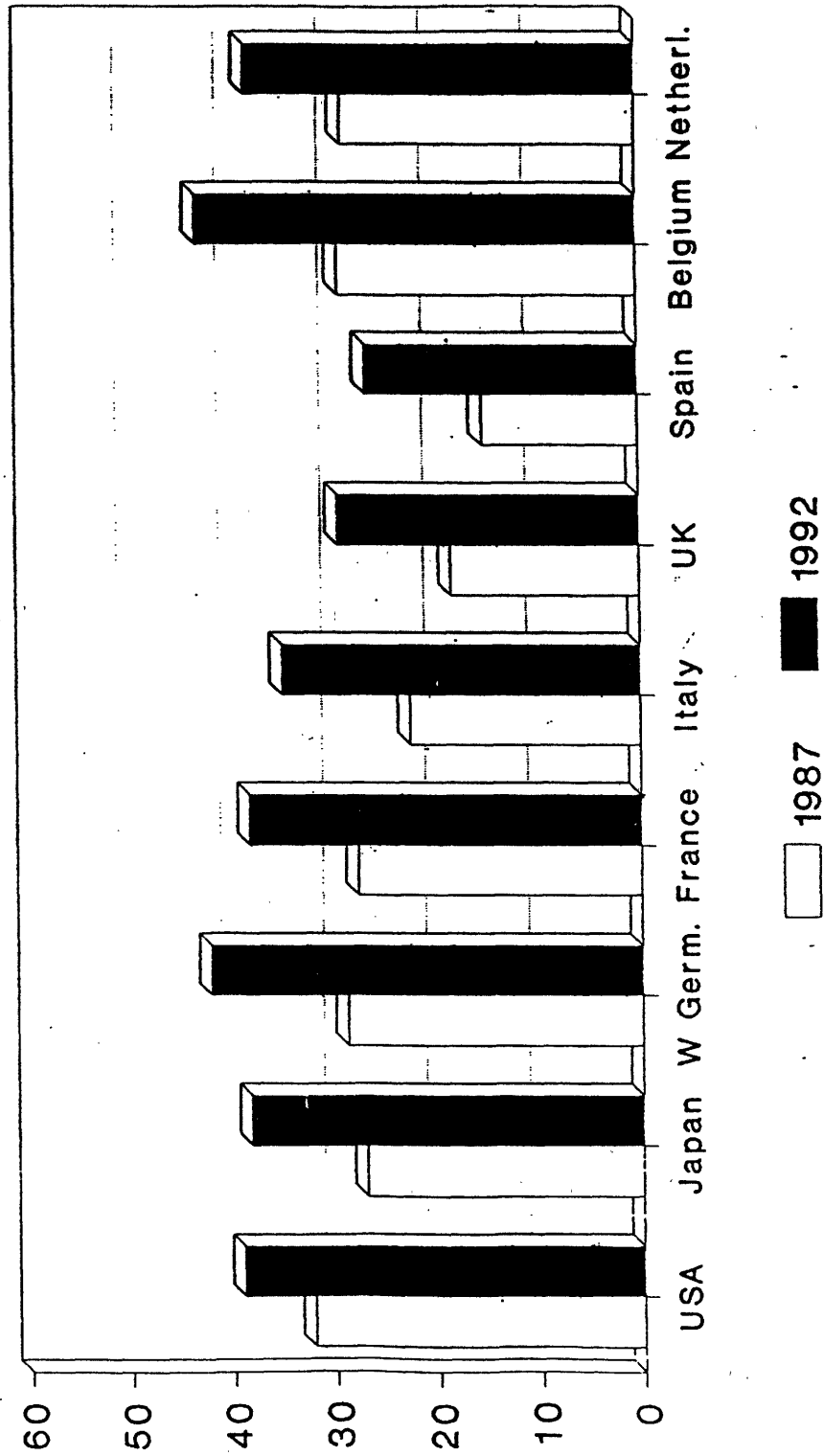
6. COMPARISONS OF ABSOLUTE LEVELS OF TOTAL WAGE COSTS AND PRODUCTIVITY (CHARTS 13 AND 14).

The above presentation gives only relative evolutions in order to assess competitiveness. However, competitiveness is also a question of level: gaps between levels in the past could justify catching up evolutions in the period considered, showing "deteriorations" which are only the paths of real convergence for some countries. The question of absolute level comparison is still open for methodological and statistical problems, and one might suggest looking at the absolute level of wage costs for easily available information on cost-levels, and comparing it simultaneously to the value added per worker.

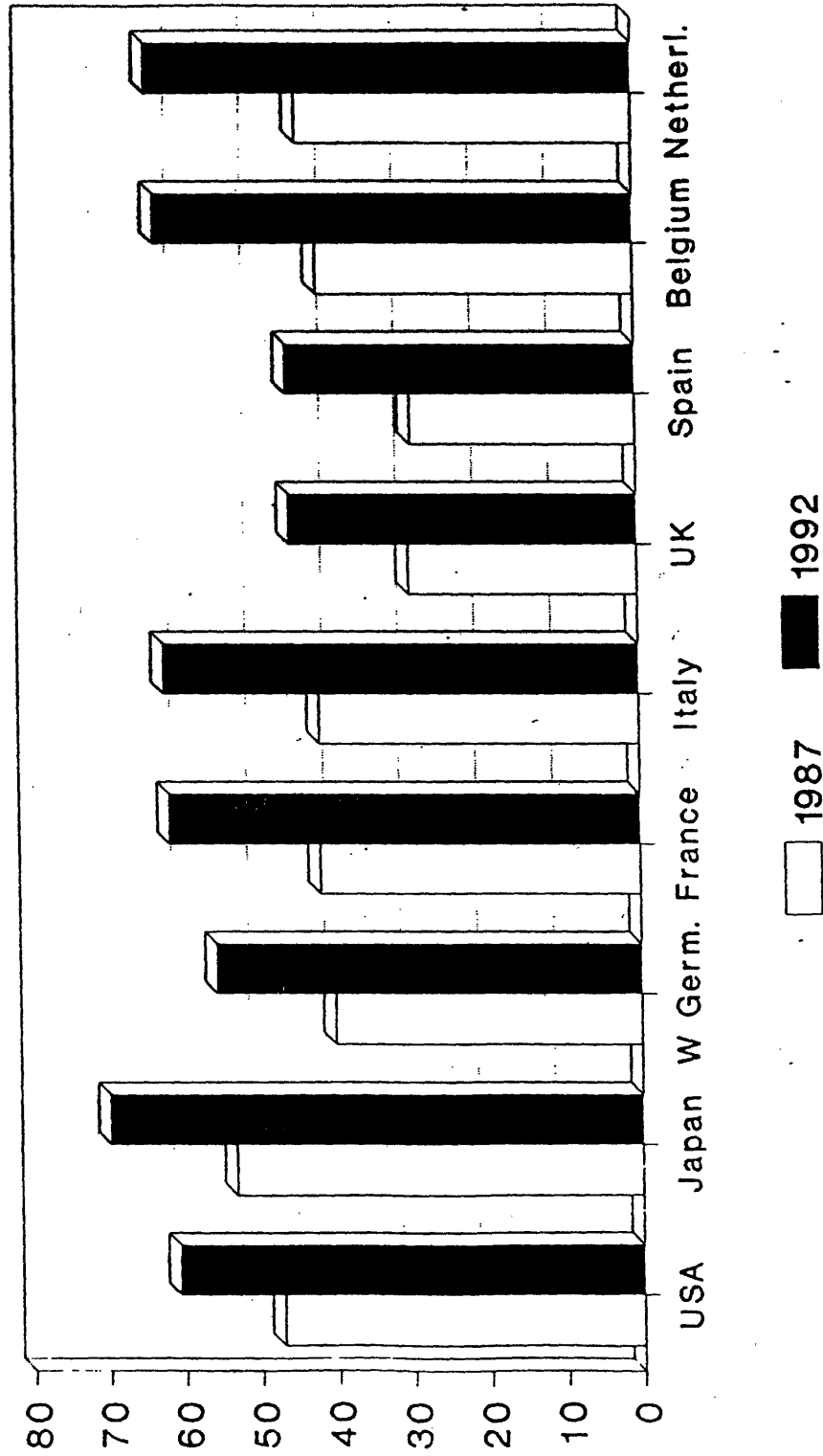
Chart 13 provides these comparisons. Until 1987, the US was the country with the highest level of total wage costs per employee. In 1992, German and Belgian workers have taken over. The ranking of Community members has not been changed since 1987. Among the G-7 countries, France maintains its rank at the third place, after the US level and just before the Japanese one. Italy is fifth and has reduced somewhat its gap with France. A partial catching up appears for Spain, also for the UK. These two countries still have some catching-up to do before they join the top levels. Of course, these wage gaps also reflect some average productivity level gaps, as the comparison with the value added (at current price and exchange rates) by employee shows (Chart 14). However, with the increase in the mobility of capital and entrepreneurship in the Community, the existing average productivity level gaps are not necessarily a constraint for new investments and activities, where there are still some opportunities to reap the benefits of the wage level gaps.

An interesting point concerning the comparison of the absolute levels of ex-post productivity expressed in value is the information that could be tentatively deducted about the level of gross profit margins, particularly for Japan and Germany. For Japan, its value added by worker is the highest although its wage costs per worker are not the highest, indicating a higher gross profitability compared to its competitors. This point could confirm the interpretation that the room for a profit squeeze in the Japanese manufacturing sector - thus for a real appreciation of the yen - could still exist. On the contrary, the fact that German wage costs are the highest while German productivity in value is not, confirms that the level of gross profitability in the German manufacturing sector does not seem excessive. In particular, a bilateral comparison with France shows that wage costs, which were already higher in Germany in 1987 have increased more in Germany than in France, while the disadvantage for Germany of having a level of value added per worker lower than in France has been getting worse from 1987 to 1992.

Wage Costs per Employee in Manufacturing Sector (Thousands USD)



Gross Value Added per Employee in Manufacturing Sector (Thousands USD)



7. CONCLUSIONS.

Keeping in mind the complexity of assessing the evolution of the relative competitive positions of a given group of countries, the examination of unit labour cost and profitability indicators would tend to point to important changes in competitiveness between the US and the EC economies : the EC currencies might presently (end of 1992) be seen as overvalued against the dollar.

Though overshooting against some so called equilibrium exchange rate does not necessarily mean that exchange rates are inappropriate or should be adjusted, one might consider that the Community currencies, viewed as a bloc, have overshoot upwards (overvaluation) while conversely the dollar has overshoot downwards. The explanation of these developments since mid-1989 lies with divergent macroeconomic conditions on both sides of the Atlantic. Real exchange rates will tend to be above or below their "equilibrium levels" to the extent that domestic demand is above or below short-run potential output. Thus if there is a boom in domestic demand in a particular country then, depending upon the stance of monetary policy in that country, either short-term interest rates will rise (or are expected to rise), tending to produce a nominal appreciation, or inflation will accelerate, or both. In either case, the real exchange rate will tend to appreciate. In the longer run, however, since domestic demand cannot exceed productive potential output indefinitely, the real exchange rate will tend to depreciate towards the equilibrium level. Thus, in effect, any view on the appropriate character of actual or expected movements in exchange rates and competitiveness depends not so much on whether the exchange rate is "overvalued" or "undervalued" as on the assessment of the balance between domestic demand and short-run potential output.

In this perspective, the "overvaluation" of the real exchange rates of the Community countries vis-à-vis other industrialized countries, which emerged in 1990 and 1991, can be viewed as the result of different (actual and anticipated) cyclical developments between the Community (and, more particularly, the economy of the ERM's anchor currency) and its industrial partners. This cyclical divergence appears to have fostered both the emergence of interest-rate differentials in favour of the European currencies and of a relatively high inflation rate in Europe. The monetary policies that were at the root of this joint development were, at least as far as ERM currencies were concerned, considered appropriate by the central banks.

In 1992, in spite of the cyclical deterioration in Europe, the postponement of the narrowing in interest rate differentials between the Community and the US was, at least partly, due to a combination of wage slippage in Germany and a frustrated recovery of the American economy. Presently, it seems that current and prospective cyclical developments in the Community and the US have led to market expectations of a narrowing of interest rate differentials, thus fuelling a strengthening of the dollar against Community currencies. This nominal depreciation of the European currencies seems to be warranted by the recent shift in the balance of risks between inflation and recession, and could help the European cyclical recovery.

As regards the yen, the strong real appreciation observed along the eighties appears to be warranted by the initial big profitability premium of the Japanese manufacturing sector. For the near future, as the technological and structural advantages of Japan seem to progress further, the yen does not seem to be overvalued, and one should expect a continued appreciation, at least against Community currencies. The ongoing real appreciation of the yen, which has been observed since mid-1990, corresponds to a correction of the prolonged decline registered from the beginning of 1989 to the second quarter of 1990. The G-7 seems to have played a role in making the markets aware of the undervaluation of the yen at a time when interest rate differentials and difficulties in the Japanese financial system were acting against an appreciation of this currency.

As for the Community currencies, taken into account, on the one hand, the results from the trade performances unexplained by income effects (section 2) and the competitiveness analysis on the other, the following assessment can be proposed :

- Germany, Greece, Italy and the UK have obviously registered a competitiveness deterioration until the third quarter of 1992. For Italy and the UK, the depreciation of their nominal exchange rates has probably offset the previous relative cost slippages. For Germany, the realignments and the suspensions of ERM participation that took place in the third and fourth quarter of 1992 have contributed to a significant increase in this country's relative prices ;
- Spain and Portugal have registered a rather important increase in their relative prices, as it is typical in any catching up process. However, two question-marks remain : whether or not the chosen base period is appropriate for these countries, and whether or not the losses of competitiveness of existing output are being incurred too fast;
- Ireland, France and Denmark enjoy a rather healthy competitiveness position, while the Netherlands and Belgium, arguably, do not face any problems in this field.

All in all, it would appear that the 1993 ERM parity grid seems more in line and with the underlying fundamentals of the Member States involved than it was the case in 1992.