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# Unit labour costs and monetary policy decision-making in the context of EMU (1)

## 1. INTRODUCTION

Underpinning Economic and Monetary Union (EMU) are a series of institutional characteristics differentiating it from any previous monetary policy experience. Following the onset of Stage Three and the relinquishing of monetary sovereignty by the eleven member countries to the Eurosystem (2), the single monetary policy has been applied to eleven national economies. These retain, however, full autonomy for the formulation and implementation of other economic policies, although the latter are subject to various co-ordination procedures and there are common guidelines on the medium-term fiscal policy stance.

In EMU, monetary policy decisions must be based on the analysis of economic and financial conditions for the euro zone as a whole and geared to sustaining area-wide price stability, without taking into account specific national particularities. Diagnosis of the economic and financial position of the area is a particularly arduous task. The presence of national economies with sovereignty over non-monetary spheres of economic policy means that this diagnosis must be made by appropriately integrating the behaviour of the various national economies. In recent years both the EMI (3), initially, and the ECB, subsequently, have worked towards constructing economic and financial indicators for the euro area that would provide a basis for this integrated analysis. Significant headway has been made, but further work is still required in many analytical areas. This is particularly the case for labour cost statistics, where problems of both a statistical and conceptual nature are apparent.

The aim of this article is to outline the role that unit labour costs can play in euro-area economic analysis. In this connection, it is also intended to illustrate the need for good labour cost statistics both for the area and for the member countries. To this end, the first section discusses the problems associated with the construction of uniform unit labour cost series and presents the statistical information available for EMU. Next, the potential role of labour costs statistics in diagnosing the area's inflationary situation is analysed, a key issue from

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(1) This article is based on a paper presented in the Workshop "The role of labour cost information in short-term analysis in the context of the Monetary Union", organised by the ECB on 22 June 1999.

(2) Made up of the European Central Bank (ECB) and the central banks of the eleven EU member countries that have launched EMU.

(3) European Monetary Institute, predecessor to the ECB.

the standpoint of the Eurosystem's single monetary policy. Thereafter, there is a discussion of the use of such statistics in evaluating some of the problems that may arise in the new situation, as a result of the lack of synchrony among the area's national economies. Lastly, reference is made to the importance of developing a sectoral analysis of labour costs so as to obtain knowledge of the price formation process and, therefore, of the source of the potential inflationary pressures that may build up in the euro area. Conclusions are drawn in the final section.

It should be stressed that the article seeks to show the usefulness of specific analytical instruments in the context of EMU. That said, the data provided in the various sections to depict situations that should typically relate to the Monetary Union refer to the period prior to the start of EMU and are purely for illustrative purposes. These data have been constructed drawing on national series, prepared with different methodologies and aggregated using different criteria. They should be employed with caution, especially when conclusions are drawn for the EU-11 (4).

## **2. THE CONSTRUCTION OF UNIFORM UNIT LABOUR COST SERIES AND THE STATISTICAL INFORMATION AVAILABLE FOR THE EU-11**

The institutional characteristics of EMU have clear statistical repercussions that affect the quality of the underlying information on which basis monetary policy decisions have to be taken. The most relevant characteristic is that EMU, as an integrated monetary area, is an entirely new and unprecedented entity. This means, strictly, that the statistical series for the area date back only to January 1999. Consequently, the statistical arrangements for the euro area are, except as far as monetary statistics are concerned, largely based on the aggregation of a set of fragmented reporting systems, and statistics are frequently available only at a delay. At the same time, backward extrapolations, which can be constructed through the aggregation of the participating countries' non-harmonised national statistics, are generally rather unreliable approximations. And this factor, adding to the fact there was no monetary union in that period, hampers knowledge of the relationships between the area-wide variables on

(4) EU-11 denotes the group of eleven EU countries in EMU. The name "euro area" is also used.

which monetary policy decisions have to be based.

The construction of unit labour cost series (5) for the euro area is likewise affected by these problems. The quality depends on the degree of harmonisation attained in the construction of the variables in the various countries and on the soundness of the aggregation system followed. These two aspects firstly compound the problems traditionally raised at the national level when constructing labour cost statistics. Such problems are of a practical nature, resulting from the delay and provisionality with which National Accounts are usually available and from the difficulty of suitably approximating non-wage-earner labour costs. There are also methodological problems, given the difficulty of approximating hours worked or of measuring labour productivity appropriately. This latter aspect is of particular importance from the standpoint of assessing correctly the course of unit labour costs, given that it is only possible to estimate apparent labour productivity, which is defined as the ratio of real output to actual employment. This measure includes active increases in labour productivity brought about by the incorporation of technical progress into the productive process along with passive increases therein resulting from labour adjustments. In both cases, the increase in apparent productivity entails a reduction in the cost of the labour factor, but the economic implications in terms of employment generation and output for the two situations differ substantially.

Secondly, the difficulties of harmonising the different labour cost definitions at the EU or euro-area level are well known. It is necessary to improve and homogenise the coverage of services activities, part-time employment and certain components of total earnings, such as overtime or redundancy payments. Quarterly information is also needed for a large number of countries.

That said, both Eurostat and the ECB have made significant headway in harmonising national labour cost statistics and have begun to publish data for the euro area. In April Eurostat published, for the first time, quarterly series of economy-wide monthly earnings and hourly labour costs, along with gross hourly earnings for industry. Of this new information, Eurostat considers that the labour cost series displays, in

(5) As is known, the unit labour cost is defined as the ratio of the labour cost per person (including wages, social security contributions and redundancy and contract-severance payments) to average labour productivity (obtained as the relationship between real GDP and the employed labour force).

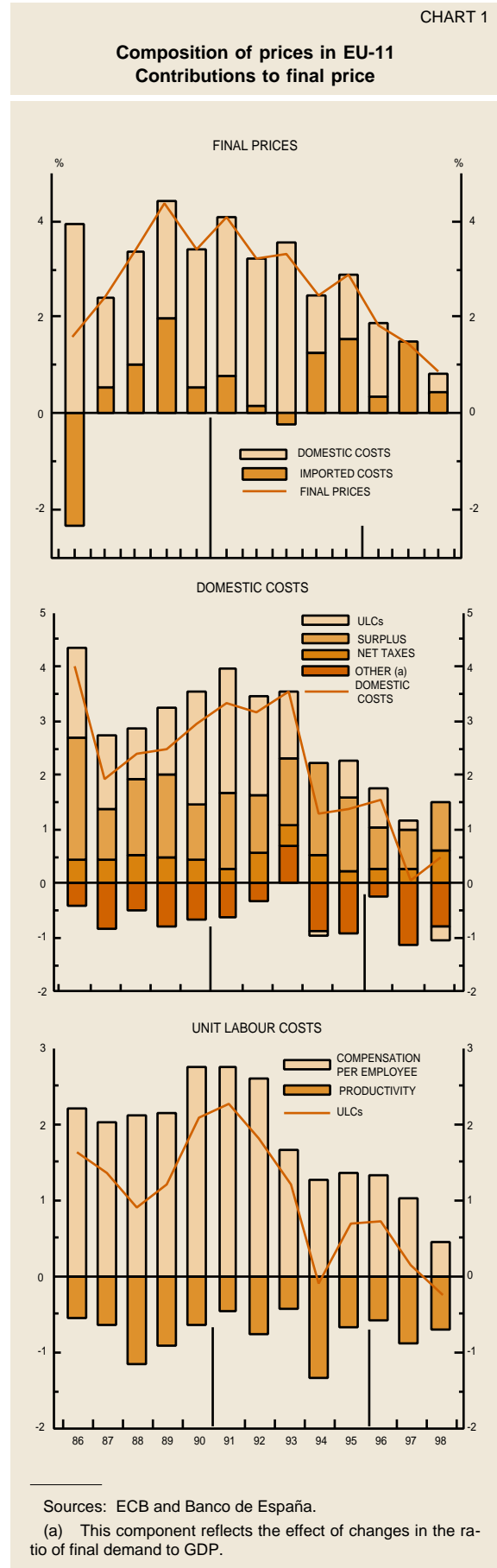
principle, sufficient conditions of harmonisation and comparability, although it does not resolve the problems associated with the delays with which the series becomes available (two and a half to four months as from the close of the quarter). The series includes gross wages and salaries, social security contributions and taxes net of subsidies. It is being compiled on the basis of the disaggregated information from six countries, taking as its basis data consistent with National Accounts. The recent adoption of ESA 95 by the countries making up the EU should make this task easier as it will allow the labour cost series in terms of National Accounts to be constructed on the basis of greater methodological harmonisation. Indeed, national series on employee compensation, gross wages and salaries and the number of employed will be available. Nonetheless, progress remains to be made in the construction of harmonised statistics with quarterly data on hours worked or on equivalent employment.

Eurostat is considering the possibility of constructing a Labour Price Index following similar methodology to that used by the United States Labour Statistics Bureau. Analysis of this index, which would be constructed for a fixed basket of employment, would provide for the decoupling of the price effect (arising from the higher price of the direct determinants of labour costs) from composition effects (caused by changes in the sectoral breakdown of employment or the quality thereof). In principle, this index would allow for a better diagnosis of labour cost developments in the euro area. However, from the standpoint of the analysis of the inflationary process, it could not replace the more complete information provided by unit labour costs.

The ECB, through its Working Group on General Economic Statistics, has launched an initiative for the harmonisation of national unit labour cost series on which the quarterly data published in its *Monthly Bulletin* on economy-wide unit labour costs and employee compensation and on average earnings in manufacturing are based. The series are, however, accompanied by a note of caution owing to the inadequate harmonisation of national data. The adoption of the new System of National Accounts should also be of assistance here.

### 3. AGGREGATE ANALYSIS OF UNIT LABOUR COSTS. THE CONSTRUCTION OF A COST INDICATOR FOR THE EURO AREA

So as to monitor the medium-term price stability objective, the ECB has defined two basic information pillars. The first focuses on changes



in the money stock and, to this end, the ECB has established a reference value for the growth rate of the monetary aggregate M3. The second pillar involves making an overall diagnosis of the inflationary situation using the information provided by a broad set of macroeconomic indicators. The second pillar has proven particularly important under the exceptional circumstances surrounding the start of EMU, since the tools for the analysis of monetary aggregates are still being developed.

The wide range of potentially informative indicators on the trend of prices means the most relevant such indicators must be carefully selected. Also, analytical instruments providing for an integrated and consistent interpretation of this information must be designed. In this respect, the Banco de España's experience during the period in which its monetary policy was geared to attaining a direct inflation target (a period in which it regularly published an inflation report) indicates that the analysis of price formation via the costs incurred in the productive process (including most notably labour costs) is a cornerstone of the diagnosis of the inflationary situation, along with the output gap, the inflation expectations built into the yield curve and the price forecasts resulting from the application of various econometric techniques.

Among this range of analytical instruments it is worth highlighting here the aggregate cost indicator. This provides an all-encompassing view of the price formation process, which combines the trend of production costs, demand-side conditions in the economy and the more structural elements characterising the product and factor markets. To ensure the maximum explanatory power of this indicator, it is advisable to define it within the National Accounts framework, where a closed and consistent set of information on the economy is offered. Here, the final demand (national demand plus exports) deflator is the key variable that reflects the behaviour of prices and the inflation rate, and its course should be explained through the above-mentioned elements.

Chart 1 gives an estimation of this indicator for the euro area, drawing on a database constructed for a different end than that intended here. As a consequence, the results obtained may not be sufficiently refined, but the current exercise is merely for illustrative purposes.

As indicated, the view of the price formation process obtained via the cost indicator provides highly useful information for diagnosing the inflationary situation. And such information should be at the root of monetary policy decision-making. At an initial level, this approach allows a

distinction to be drawn between two sets of factors that determine the course of prices: external factors, whose immediate influence on prices is channelled via the cost of imported products, and domestic factors, combining the costs attributable to productive factors and the more general demand- and supply-side conditions in the economy. Both groups of factors are depicted in the top part of Chart 1, in terms of contributions to the growth of the demand deflator. It should be borne in mind that the contribution of these external and domestic factors to the behaviour of final prices does not hinge solely on how the prices and costs they represent may trend, but also on the extent to which foreign and domestic products meet final demand: i.e. on what the associated "market share" is and how this trends, the "market" being final expenditure in the economy (6).

The breakdown of the rate of change of final demand prices into their external and domestic contributions is of great significance when characterising the nature and durability of inflationary pressures, as well as the leeway for monetary policy in confronting such pressures. The contribution of the external component may, moreover, prove informative about the impact of monetary policy on prices via the exchange rate, although it is essential here to differentiate between the role played by the behaviour of international prices and that of the exchange rate.

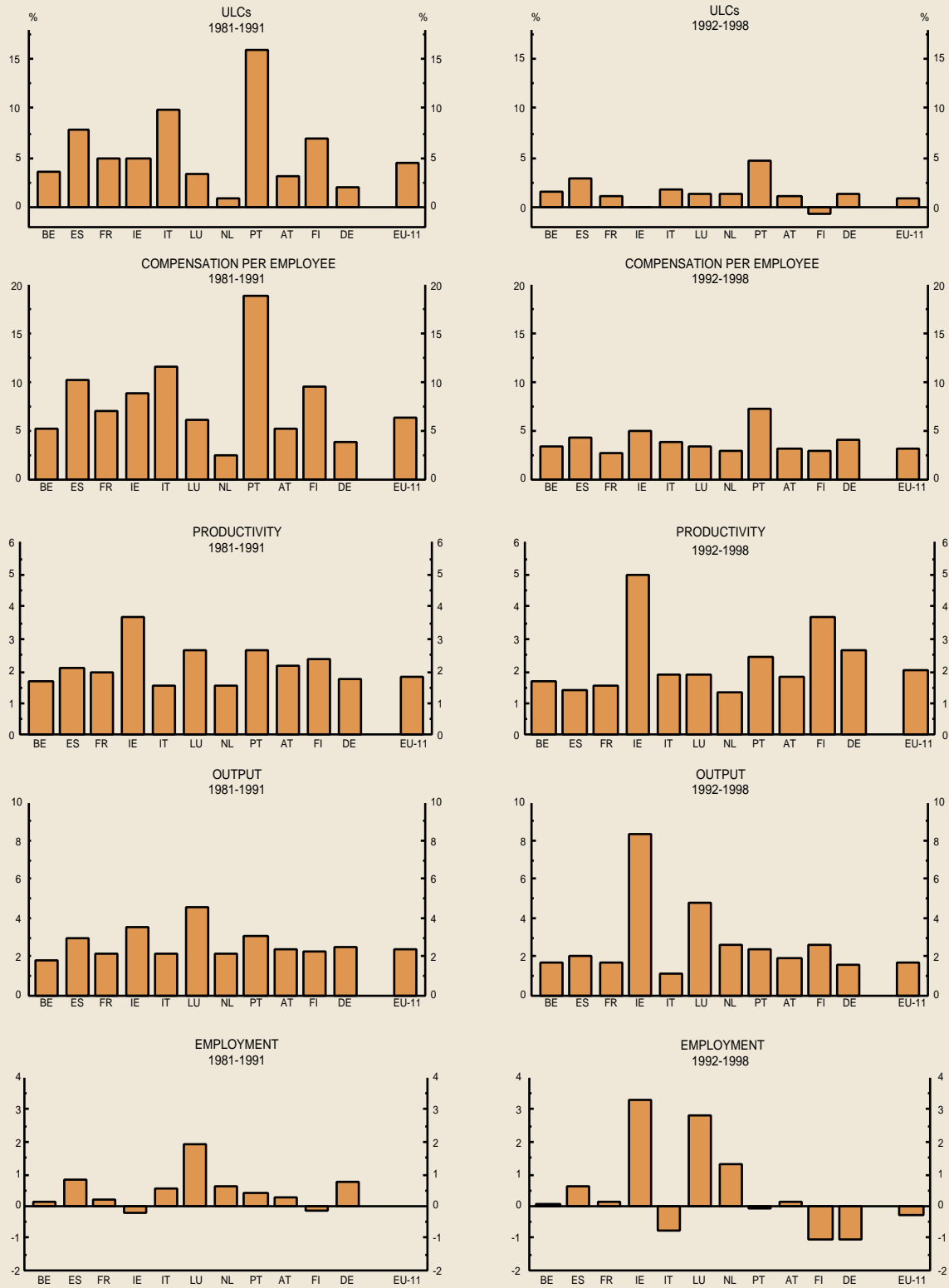
At a second level, the indicator allows for a greater depth of analysis into the factors behind the domestic component of prices: labour costs, the business margin and indirect taxation. The contributions of these factors to the course of prices reflect the decisions adopted by the agents operating in the economy (namely employees, employers and the tax authorities), in the context defined by the cyclical phase, monetary and financial conditions and the structural characteristics of the economy. The central part of Chart 1 shows the influence exerted by these factors on prices in the case of the euro-area countries.

The contribution of unit labour costs (ULCs) reflects the trend in wages and salaries and in other labour costs (including social security contributions, payments in kind or redundancy payments). This contribution is also affected by productivity gains or losses arising from technological and cyclical conditions in the economy. Unit margins (or surplus per unit of output) are

(6) For an analytical explanation of this indicator see "Inflation analysis from the monetary policy standpoint", by P. L'Hotellerie-Fallois, in *Monetary policy and inflation in Spain*, Research Department of the Banco de España, Macmillan.

CHART 2

**Unit labour costs and their components**  
**Rates of change (a)**



Sources: European Commission (AMECO) and Banco de España.  
(a) Average rates of change in the period.

TABLE 1

## Unit labour costs in EU-11: some reference values

%

	Unit labour costs			Labour costs			Productivity		
	Maximum	Minimum	EU-11 average	Maximum	Minimum	EU-11 average	Maximum	Minimum	EU-11 average
1981-1991	15.9 (PT)	0.9 (NL)	4.5	19.0 (PT)	2.4 (NL)	6.4	3.7 (IE)	1.5 (IT)	1.8
1992-1998	4.7 (PT)	-0.8 (FI)	1.0	7.3 (PT)	2.7 (FR)	3.0	5.0 (IE)	1.4 (ES)	2.0
1991	18.6 (PT)	1.8 (IE)	4.9	18.1 (PT)	4.3 (FR)	6.1	2.8 (IE)	-0.4 (FI)	1.2
1998	3.2 (PT)	-2.3 (IT)	-0.7	6.8 (IE)	-1.3 (IT)	1.1	5.4 (IE)	0.5 (ES)	1.8

Source: European Commission (AMECO).

the outcome of numerous factors ranging from the degree of competition in product markets to demand pressure on the productive system. The behaviour of the unit surplus shows to what extent employers can pass through changes in costs to final prices or to what degree they can absorb them in terms of narrower margins. This greater or lesser adjustment of margins will largely depend on cyclical conditions and on the competition both in domestic and foreign markets. From this standpoint, excessive growth in labour costs will ultimately cause either greater price rises or a squeeze on business margins, thereby worsening corporate profitability.

Lastly, the disaggregated analysis of ULCs offers information on their determinants. It is not surprising that a moderation in ULCs should be induced by a marked slowdown in remuneration or by an intensification of productivity gains. Nor is it incidental that such productivity gains should originate in technological progress, which increases the economy's potential growth capacity, or that they should be the outcome, by contrast, of employment destruction processes. The lower part of Chart 1 illustrates how both elements (remuneration and productivity) have been behind the course of ULCs in the euro area since 1986.

Chart 1 offers a succinct view of the price formation process in the euro area over the past 15 years. At first sight, it is significant that the slowdown in prices in the area in the second half of the nineties has come about against a background of decelerating domestic costs, a slowdown that has gained momentum particularly in the latter years of the period considered. Under domestic costs, the factor that has most contributed to moderating cost pressures has been the slowdown in ULCs, while margins per unit of output have run on a more or less continuous expansionary path. It is further evident that wage behaviour has been the key determinant of the lesser pressure of labour costs.

It seems clear that the use of this analytical instrument, encompassing all the information on prices and costs available for the euro area, would provide the Eurosystem with a very valuable tool for diagnosing the area's inflationary situation. This would be fully in keeping with the second pillar of the monetary policy strategy defined by the Eurosystem to smooth attainment of the price stability objective.

From a broader perspective, one aspect of the monitoring of ULCs, closely linked to their contribution to price formation, is their use for evaluating changes in the global competitiveness of the euro area on international markets. The emergence of significant and permanent shortfalls in competitiveness may be indicative of policy mix imbalances, with potential consequences for the exchange rate. And the relative trend of labour costs is a pivotal indicator in this connection, as it highlights price pressures that might arise in the short and medium term.

#### 4. DISAGGREGATED ANALYSIS OF UNIT LABOUR COSTS IN THE EURO AREA

As earlier indicated, the single monetary policy stance should be based on the conditions in the area as a whole, and it is not possible to take the requirements of the various national economies into account. Nonetheless, the monitoring of the national economies is also of great importance in ensuring the sound workings of EMU. Once uniform conditions of stability have been achieved in the area as a whole, potential discrepancies in the cyclical trend of the national economies or in the nature of the domestic policies applied, the asymmetrical disturbances that may arise or the differences that may emerge as a result of the non-uniform transmission of the common monetary conditions will all tend to become manifest in an area-wide misalignment of ULCs. And these, on feeding through to losses in competitiveness, will trigger



adjustment processes via output and employment.

The associated problems that may arise are essentially domestic-based and should be addressed by the economic policy components retained under national sovereignty. However, the lack of synchrony among the various national economies, stemming from inappropriate domestic economic policies or from a lack of flexibility in the workings of the markets for goods, services and factors, may ultimately affect stability conditions for the area as a whole. Accordingly, vigilance and analysis of potential asynchrony by the ECB will be required. From this standpoint, the monitoring of ULC differences in the euro area is probably as important as the monitoring of national fiscal policies.

Admittedly, this type of individual analysis is most relevant set against a Monetary Union that is already in place. However, Chart 2 offers information on the differential behaviour of labour costs across the euro-area countries in the periods 1981-1991 and 1992-1998, i.e. before the last exchange rate realignment of the currencies making up the ERM and the start of the third stage of EMU. This information may be used as a reference point for verifying to what extent the change entailed by the start of EMU will alter such differential behaviour or not.

As Chart 2 shows, in the years prior to EMU there was a most significant cut in the growth rate of unit labour costs in the countries which were subsequently to make up the euro area. For the area as a whole, this rate fell from 4.5 % on average in the period 1981-1991 to 1 % between 1992 and 1998. The cut was the result of a generalised decline in labour costs and widely differing behaviour in productivity, prompting certain changes in the ranking of the different countries in both periods. In this respect, mention may be made of the negative rate of change of unit labour costs in Ireland and Finland between 1992 and 1998, brought on in both cases by strong apparent labour productivity growth. At the same time, the biggest rises in the cost of the labour factor continued to occur in Spain, Italy and Portugal throughout the period. In Spain and Italy this was due to a situation involving an increase in labour costs that outpaced the area average coupled with productivity gains below said average.

At the starting point of EMU, then, great heterogeneity prevailed regarding the situation of unit labour costs and their breakdown into labour costs and productivity. As Table 1 shows, the range of growth rates of each of these variables, though far below that of prior years, remained high. Though not in all cases,

labour cost discrepancies were offset by similar discrepancies in apparent labour productivity. Naturally, this situation means that the diagnosis of EMU-wide cost conditions that may be made on the basis of the behaviour of aggregate variables for the euro area must be qualified bearing in mind regional wage and productivity discrepancies.

## 5. DISAGGREGATED ANALYSIS OF UNIT LABOUR COSTS BY SECTOR: THE CASE OF SPAIN

Sectoral analysis of the behaviour of prices and their breakdown into the contributions of unit labour costs and operating margins also allows for enhanced analysis of competitiveness and of the working of goods, services and productive factor markets.

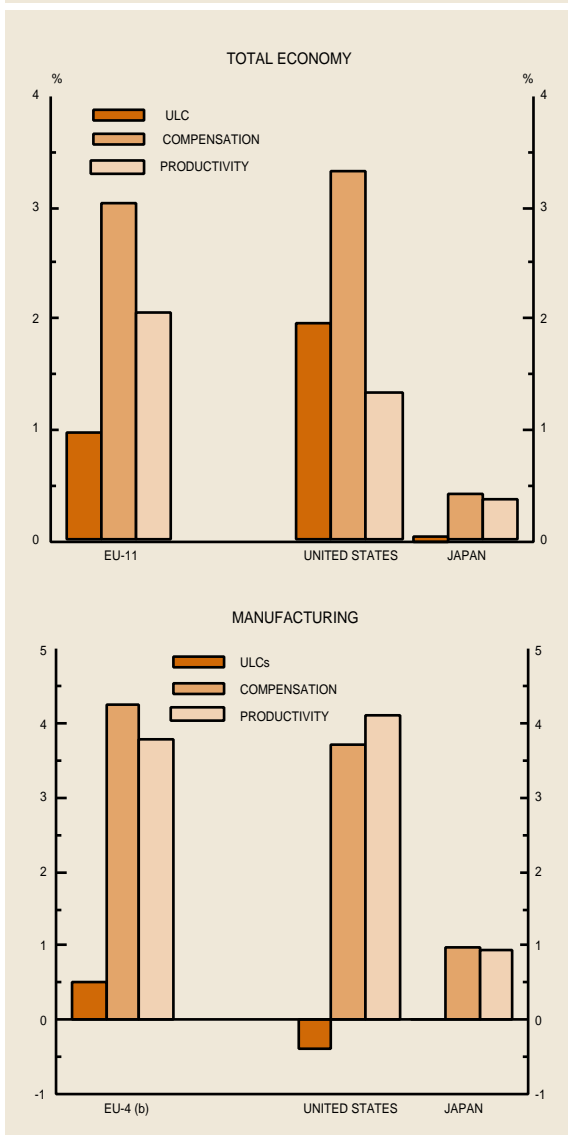
From the standpoint of evaluating the overall competitiveness of the euro area on international markets, comparing the trend of unit labour costs across the euro area with that of its main trading partners proves, as earlier discussed, to be essential information. Nonetheless, aggregate cost information may occasionally not suffice to extract a correct diagnosis of the situation. Indeed, as can be seen in the top half of Chart 3, where ULCs are compared in the euro area, the United States and Japan, aggregate analysis of the behaviour of these variables offers a relatively favourable message to the European economy, whose unit labour costs decelerated on a much greater scale than they did in the United States during the nineties. This was mainly due to sharp increases in apparent labour productivity. However, if this analysis is confined to manufacturing, albeit with the caveats required owing to the incomplete nature of the information used in the lower half of Chart 3, the results change significantly. Manufacturing productivity is seen to be less expansionary than that in the United States and the growth of unit labour costs in Europe is observed to be higher (7).

Indeed, this type of disaggregated analysis has also been and is very useful in the Spanish economy for identifying the source and scope of the problems pertaining to the lack of competitiveness. As is known, the Spanish inflation rate, though it has been substantially cut in recent years, has not managed fully to fall to the euro-area average. The fact that Spanish price

(7) A more detailed analysis of the relative situation of unit labour costs in the EU, the United States and Japan can be found in "European competitiveness in the Triad: Macroeconomic and structural aspects", *Europe an Economy*, Supplement A, Economic Trends, no. 7, July 1998.

CHART 3

**Unit labour costs and their components  
Rates of change (a)**



Sources: European Commission (AMECO) and Banco de España.

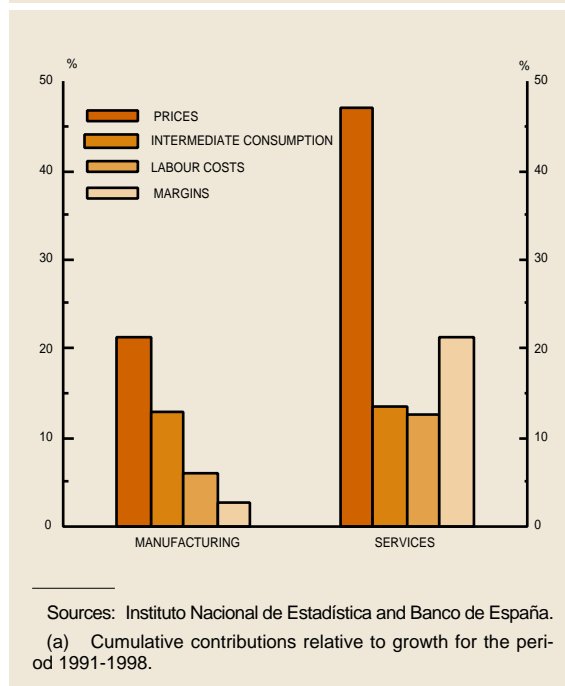
- (a) Average growth rates for the period 1992/1998.
- (b) Aggregate for Germany, Spain, France and Italy.

risers are not appropriately aligned with those of other euro-area countries is due essentially to the limited adjustment of services prices, whose growth rate to date in 1999 is almost two percentage points higher than the related rate for services across the euro area.

If the trend of final prices is compared, using information broken down by sector, with that of ULCs in both manufacturing and in services, highly illustrative conclusions are obtained on the nature of the problem posed (see Chart 4). It can thus be seen that part of the more inflationary behaviour of services is due to faster-

CHART 4

**Spain: inflation in manufacturing and services  
Contributions to growth (a)**



Sources: Instituto Nacional de Estadística and Banco de España.

(a) Cumulative contributions relative to growth for the period 1991-1998.

rising ULCs in the sector. But another likewise significant part is due to a more inflationary contribution by gross operating margins, approximated by the difference between the growth of final prices and the growth of labour costs and of intermediate costs. This is indicative of a greater presence in services of markets sheltered from competition, which allows higher margins to be sustained irrespective of market conditions, greater permissiveness in the face of cost increases and an inadequate pass-through of cost restraint.

Relatively higher ULCs in the services sector are the result of a situation of lower productivity gains than in the manufacturing sector, combined with much more uniform wage growth. The greater pace of productivity growth in manufacturing may be partly attributed to the greater buoyancy of technological innovation in a sector subject to stiff international competition. But it is also partly due to heavy labour shedding in manufacturing during the contractionary phases of the cycle, as a result of the rigidities of the Spanish labour market.

In sum, the sectoral analysis undertaken enables the problems of competitiveness prevalent in services and the inadequate flexibility of the Spanish labour market to be highlighted. These issues are pivotal for arriving at an accurate diagnosis of the appropriate economic policy solutions.



## 6. CONCLUSIONS

This article examines the importance of having good ULC statistics for the euro area (both at the aggregate level for the area as a whole and with a breakdown by country and by productive sector) to analyse the economic situation in the euro area and the conduct of the single monetary policy. The aggregate information should be one of the key indicators in the assessment of overall inflationary trends, in keeping with the second pillar of the monetary policy strategy adopted. The use of ULCs with-

in the framework of a general cost indicator can provide useful signposts not only regarding future inflationary trends but also on the source and durability of potential inflationary pressures. The disaggregated information can anticipate the lack of synchrony that may arise among the national economies of the EMU members, offering information on its causes and nature. It may thus serve as a basis for the economic policy diagnosis appropriate to each case.

17.9.1999.