Box 4

A comparison of the available labour cost indicators in the euro area: conceptual differences and their behaviour in the period 1999-2002

This box discusses some of the key characteristics of the available labour cost indicators for the euro area. In so doing, it attempts to provide a thorough assessment of the way in which these indicators have developed, in particular in the period 1999-2002.

Available nominal labour cost indicators for the euro area

As part of the regular monitoring of indicators of (future) inflationary pressures, the ECB Monthly Bulletin reports on recent developments in the four available indicators of nominal labour costs in the euro area: compensation per employee, gross monthly earnings, the index of negotiated wages compiled by the ECB, and hourly labour costs. These indicators provide a measure of the growth in nominal labour costs. It is important to bear in mind that while the first three indicators refer to the cost of labour measured by person employed, the latter refers to the labour cost measured per hour worked. In addition, another widely-used indicator is unit labour costs, which are calculated as the ratio of compensation per employee to labour productivity (i.e. output per employed person), thus providing a measure of the labour cost of producing a standard unit of product. However, this indicator is not considered here. An overview of the main characteristics of the current set of euro area nominal labour cost indicators is presented in Table A below.

As described in Table A, the available indicators differ in terms of sectoral coverage and in the concept of labour costs that they measure. It is important to be aware of these differences in definition and coverage among labour cost indicators because they can help identify the causes behind divergent developments.

The chart below summarises the key conceptual differences among the four labour cost indicators. The difference between growth rates in compensation per employee and gross monthly earnings may reflect changes in employers' social security contributions. In addition, the difference between compensation per employee and hourly labour cost growth may reflect changes in the number of hours worked.

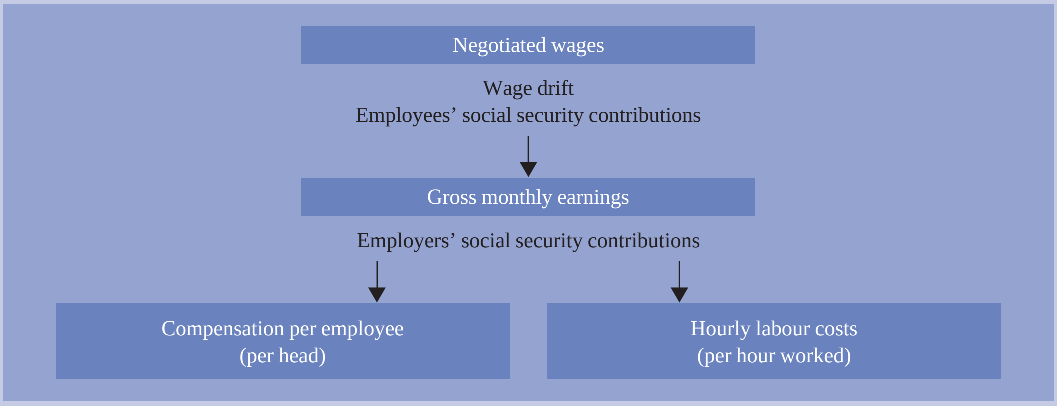
Table A: Euro area labour cost indicators

	Conceptual definition and availability	Coverage
Compensation per employee ***(ECB calculations on the basis of Eurostat national accounts)***	Total compensation [1] divided by the total number of employees. Includes employees' direct earnings (wages, salaries and bonuses of any kind) and all indirect compensation (employers' social security contributions). Currently available around 100 days after the reference quarter. However, improvements in timeliness are planned, eventually reducing the lag to around 70 days.	Covers all sectors of the economy as well as all euro area countries (quarterly estimates used for missing countries).
Gross monthly earnings ***(Eurostat)***	Total earnings divided by all employees. Earnings includes all payments made to the employee (wages, salaries and bonuses of any kind), but not employers' social security contributions. Available around 80 days after the reference quarter.	Mainly covers the non-agricultural business sector (i.e. the public sector is not covered) and all countries except Greece and Portugal. There are, however, differences in sector coverage between countries.
Index of negotiated wages ***(ECB calculations)***	Refers to collectively agreed wage increases (i.e. excluding wage drift). Suffers from lack of harmonisation in terms of coverage and definition [2] (bonuses not always included), but is both available at monthly frequency and very timely. Available around 70 days after the reference quarter.	Constructed by the ECB as a (weighted) average of national indices. Mainly covers the non-agricultural business sector (although the public sector is covered in some countries).
Hourly labour costs (Labour cost index) ***(Eurostat)***	Total labour costs (i.e. total compensation) for all employees divided by all hours worked by these employees (including overtime). Currently suffers from a lack of harmonisation and some statistical problems, but should be improved significantly by the gradual implementation of Regulation EC No. 450/2003 of 27 February 2003. Available around 80 days after the reference quarter.	Primarily covers the non-agricultural business sector and all countries except Greece (although there are differences in sector coverage between countries).

1) Total compensation is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the accounting period. It is based on harmonised national accounts data, which are supposed to correct the results of the quarterly national wage surveys for several effects (black economy, small firms not included in the survey sample, etc.) using various administrative sources and estimates. However, as some information is only available on an annual basis, the quarterly series are often revised with the release of the annual national accounts.

2) While for some countries data refer to the stock of all contracts already signed and in place in the reference period, for others they only refer to the flow of new contracts signed in the period. Moreover, sector coverage and the treatment of bonuses differs across countries. Ireland, Greece, Luxembourg and Finland are not covered, and for France gross monthly earnings are used as a proxy. For further details, see Box 5 entitled "Monitoring wage developments: an indicator of negotiated wages" in the September 2002 issue of the ECB's Monthly Bulletin.

Theoretical linkages among labour cost indicators



In relation to sectoral coverage, for example, compensation per employee refers to developments in all sectors of the economy, whereas hourly labour costs, gross monthly earnings and negotiated wages currently cover, *in principle*, only the non-agricultural business sector (about 65% of total employees), although the precise coverage differs from country to country. This implies that public and public-related services (such as public administration, education and health) as well as agriculture are generally excluded from the latter three indicators.

Developments in labour cost indicators in the period 1999-2002

In the period 1999-2002 all four indicators moved reasonably close to one another in terms of their average growth, but there is a noticeable difference between growth in negotiated wages and compensation per employee on the one hand and gross monthly earnings and hourly labour costs on the other. Compensation per employee increased by 2.5% per year on average in this period, very much in line with the average increase in negotiated wages, at 2.4% (see Table B). However, in the same period the average rate of increase of the other two indicators, namely gross monthly earnings, at 2.8%, and hourly labour costs, at 3.1%, was higher. These divergences became more pronounced in 2002. While developments in negotiated wages and compensation per employee remained roughly in line (averaging 2.7% and 2.5% respectively), the rate of growth of gross monthly earnings and hourly labour costs was, respectively, 0.8 and 1.0 percentage point higher than that of compensation per employee.

Table B: Annual average growth rate in nominal labour cost indicators

(in percentages)

	1999	2000	2001	2002	Average 1999-2002
Negotiated wages	2.2	2.2	2.6	2.7	2.4
Gross monthly earnings	2.3	2.4	3.0	3.3	2.8
Compensation per employee	1.9	2.6	2.8	2.5	2.5
Hourly labour costs	2.3	3.2	3.4	3.5	3.1
memo item:					
HICP inflation	1.1	2.1	2.3	2.3	2.0

Accounting for the differences in labour cost indicators

These differences may in principle reflect either the differences in sectoral coverage or the conceptual differences discussed above, i.e. changes in employers' social security contributions, changes in hours worked and developments in the wage drift.

First, with regard to the sectoral coverage of the indicators, agricultural and non-market-related sectors are excluded from the calculation of gross monthly earnings. From compensation of employees data available from Eurostat, a breakdown of compensation per employee by main activity sector can now be computed.[1] These data suggest that the exclusion of these sectors from gross monthly earnings cannot explain the higher growth rates in this indicator as compared with compensation per employee, other things being equal, as wage growth in the agricultural and non-market related sectors (2.6% on average for both sectors between 1999-2002) was broadly similar to that in the non-agricultural business sectors.

Second, as shown in the chart above, compensation per employee includes indirect labour costs, which are mainly social security contributions paid by employers. These contributions are excluded from gross monthly earnings and negotiated wages. This could be an important factor of divergence, as many euro area countries have made substantial cuts in employers' social security contributions in the past few years, as part of their

1 *For further details, see Box 6 entitled "Developments in compensation per employee and unit labour costs in the main euro area sectors" in the March 2003 issue of the ECB's Monthly Bulletin.*

policies to improve the employment prospects of the low-skilled or low-wage earners. Indeed, on the basis of national accounts data, accounting for developments in employers' social security contributions does help bring the average growth rate of compensation per employee over the four-year period in question more into line with that of gross monthly earnings. The remaining difference between the developments in the two indicators is most probably the result of statistical discrepancies and the lack of harmonisation among the country data used for gross monthly earnings.

Third, changes in usual hours worked should help explain the difference between the rates of growth of compensation per employee and hourly labour costs in the period 1999-2002. While the former experienced an average rate of growth of 2.5%, growth for the latter was 3.1% on average.[2] The reduction in usual hours worked reflects the reduction in legal working time implemented in France from 1999-2000 and, in many euro area countries, by the gradual decline in working time embodied in collective agreements. In addition, the continuing developments in part-time employment, although at a lower pace than in the early 1990s, also contributed to the reduction in usual working time in the period under consideration.[3] Accounting for these changes in usual hours worked as measured by the EU's Labour Force Survey explains a significant part of the difference (around 0.4 of 0.6 percentage point) between the average growth in hourly labour costs and that in compensation per employee. Any remaining difference is likely to reflect some additional statistical discrepancies between hourly labour costs and compensation per employee over the period 1999-2002, which are not easy to interpret.

Finally, as indicated in the chart, accounting for differences in the indicators can also provide an estimate of the so-called "wage drift", i.e. the extent to which actual paid wages (commonly called "gross wages") differ from the increase agreed in collective (or individual) bargaining. This may occur as a result of bonuses, overtime, promotions, etc. To a lesser extent, it may also comprise some residual catch-up for unexpected inflation, insofar as this is not already included in contractual clauses for (partial) indexation of wages to ex-post inflation outcomes, which should then be part of negotiated wages. This wage drift can be either negative or positive. Measuring the wage drift in the euro area implies dealing with a number of statistical issues to ensure conceptual comparability between the negotiated wage and the actual outcome, so these results should be interpreted with some caution. The euro area indicator of negotiated wages – aside from the caveat of aggregating non-harmonised but broadly similar national data – is assumed to provide a useful statistical representation of wage settlements. Given its higher reliability, the indicator of compensation per employee is considered as a prime measure of actual wage growth. As highlighted in the chart above, part of the difference between developments in compensation per employee and negotiated wages is due to changes in employers' and employees' social security contributions. After correction for these changes on the basis of the available information from the national accounts, an estimation of the wage drift suggests that it added an average of around 0.4 percentage point to wage cost growth in the period 1999-2002. Moreover, it exhibited a very cyclical pattern in the period 1999-2002, peaking in 2000 and gradually declining towards a slightly negative value in 2002.

This box has shown that taking into account conceptual differences among the available labour cost indicators for the euro area makes it easier to understand the developments in these indicators over the period under review. However, the remaining statistical discrepancies, and the drawbacks of some indicators notably in terms of harmonisation, call for some caution when interpreting the divergences in short-term movements in the individual indicators. In this regard, improvements in the availability of compensation per employee data as well as those scheduled for hourly labour costs will allow for a closer monitoring of labour costs developments in the euro area.

2 *The presence of "calendar effects" may also have a significant effect on the annual average of hourly labour costs in a particular year, but is unlikely to affect the average difference between the two indicators over the whole period 1999-2002. In addition, these two indicators also differ in their sectoral coverage, although we have already argued that this factor does not seem to have played a substantial role.*

3 *The fact that part-time employment in the euro area is growing more rapidly than full-time employment normally implies a higher wage growth per hour than per worker.*