

# 4 UNIT LABOR COST IN ROMANIA

Ion GHIZDEANU\*  
Veronica TUDORESCU\*\*

## Abstract

The paper is meant to lead the way in the field of economic analysis in Romania, trying to evaluate by data the capacity of the Romanian economy to face the competition pressures from the Single European Market.

Within the paper, the unit labor cost is approached as an indicator reflecting especially the competitiveness rather than measuring it. The methodological and calculation issues differentiate between the unit labor cost in nominal and real terms, emphasizing the conclusion that exceeding the compensation per employee (including the employer's social contribution) beyond labor productivity, in real terms leads to an increase in the unit labor cost and, finally, to a loss of competitiveness.

In addition, the paper includes the forecast of the unit labor cost in Romania, which has been developed for the first time since 2005. Subsequently, the estimates have been updated for each stage of forecasting.

In this way, having in view the expected trends for the indicators involved in the estimate, the final conclusion of the paper is to maintain competitiveness and the current account within sustainable limits, despite the disinflation process under way. The finding is all the more eloquent, as the EC autumn forecast underlines this issue.

**Key words:** Labour productivity, Compensation of employees, Employment, GDP, Unit labor cost.

**JEL Classification:** E01, E24, E64

### 1. Introduction

Labor productivity was considered useful for the studies of international competitiveness. Countries with strong productivity growth rates could sell their goods and services at lower prices. However, competitiveness is determined by both productivity and the cost of inputs in the production process. A combination between labor cost and productivity could measure labor cost per unit of output. Unit labor cost is defined as the cost of labor required to produce one unit of output in a particular industry, sector or the entire economy. Thus, unit labor cost has been widely used for international comparisons of cost competitiveness, both in terms of trends and of absolute levels.

\* President, National Commission of Prognosis.

\*\* National Commission of Prognosis, contact: [prognoz@cnp.ro](mailto:prognoz@cnp.ro).



The comparison of levels of unit labor costs allows comparisons of cost competitiveness in absolute terms. Such comparisons show that the high-wage economies are concerned about their relatively high level of labor costs in producing particular goods and services as compared to low-wage economies where lower labor costs could be the result of lower taxation, smaller social security contributions or lower expenses on high-skilled labor. Low-wage economies are concerned with protectionist tariff and non-tariff measures implemented by high-wage economies that hinder exports of goods and services from the low-income economies which have a comparative advantage.

Now, and furthermore, after the accession, competitiveness is still an essential parameter of the Romanian economy capacity to face the competitive pressures coming from the European market. Competitiveness is mainly analyzed through the correlation between wages and labor productivity, and the gains of productivity which are not cancelled by wage policies both in companies and government.

Thus, competitiveness is analyzed through the unit labor cost in nominal and real terms. The unit labor cost became one of the most important indicators for the evaluation of the progress in targeting the Lisbon Strategy objectives, and at the same time, one of the indicators forecasted by the European Commission (DG ECFIN) for all member states.

From this point of view, there are two methodological approaches: short-term and medium-term analyses. The most used are the periodical competitiveness analyses (monthly and quarterly). Because of the statistical data availability, this type of analysis is based on industrial activity and takes into account only the salary earnings.

In annual terms, and especially for forecasts, the national accounts system ensures the correct evaluation of the total economy labor cost, taking into account all the labor costs. This type of approach is as necessary, as the savings become more services savings.

## **2. Methodological aspects**

Unit Labor Cost, essentially, compares the increase in total labor force expenditures with the labor productivity increase. The standard indicator – included in the structural indicators system – is the ratio of wage earnings increase to labor productivity increase:

$$ULC = (C / N) / (Q / E)$$

C – Compensation of Employees

N – Number of Employees (average)

Q – GDP

E – Employment

Compensation of employees (part of the gross value-added) includes total compensation (gross wages), cash or in kind, that an employer pays for an employee for his work in a certain period, and also the employer's social contribution. Employees are persons that work, having a labor contract, for a resident institutional unit and receive a wage.



## **Unit Labor Cost in Romania**

Labor productivity is given by the ratio of the GDP to the employment, being included employees and private entrepreneurs. Employment is based on the concepts of the National Accounts (ESA 95) and is different from the national statistical concepts regarding labor force. The data accuracy is supervised by the Eurostat workgroup regarding National Accounts.

To insure comparability between countries regarding total employment and the number of employees, all the countries have to use the same concepts and definitions (ESA 95) and the definitions of ILO. Some comparability problems may appear, because of different structures and structural changes in their systems (for example, social contribution system), and as a consequence of different employment structures (for example, part time job, working opportunities).

Compensation of employees as a macroeconomic aggregate of the operating account (D1 in repartition operational classification) is assessed only in nominal terms in the Integrated Economic Accounts table. The assessment of this aggregate item, in real terms, induces the approximations, because without a price index statistically determined for this aggregate by convention another deflator is used. Because of that, methodologically speaking, the European Commission uses the second term, GDP, both in nominal and real terms.

Taking into account the evaluation of labor productivity – based on the nominal value of GDP or on its growth – there are two indicators which explain the labor unit cost:

- Nominal unit labor cost – Compensation of employees/real GDP on employed person.
- Real unit labor cost – Compensation of employees/nominal GDP on employed person.

Taking into account – especially for countries like Romania, with higher inflation and gaps between price categories – that prices can modify the real image of the labor cost evolution, the real value is more expressive and more often used in the analysis.

A labor real unit cost increase as a consequence of a compensation of employees growth exceeding the productivity growth might indicate, besides difficulties in competitiveness maintenance, also pressures from the demand on the inflation rate.

### **3. Unit Labor Cost in the EU**

From the nominal unit labor cost perspective, we observe a decline for 2006-2007, both at the EU level and also for the main commercial partners of Romania, according to DG ECFIN estimations.

The exception is Poland, which from 2005 is on an upward trend that determines a competitiveness loss towards the EU countries average. The only country that registered superior earnings even in nominal terms is Germany; its positive evolution started in 2004 and will continue according to the European Commission forecasts until 2007.



### Nominal unit labor cost

*- annual percentage changes -*

	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006f</b>	<b>2007f</b>
France	1.7	0.5	1.9	1.9	1.8
Germany	0.9	-0.8	-0.7	-0.6	-0.8
Italy	4.4	2.4	2.5	1.4	1.7
Poland	-4.0	-2.0	2.1	2.3	2.4
Czech Republic	4.7	1.5	0.1	0.2	0.9
Hungary	7.2	4.3	5.0	0.9	0.4
EU 14 <sup>1</sup>	2.0	0.6	1.3	1.0	0.9
EU 24 <sup>2</sup>	2.1	0.8	1.5	1.1	1.1
Romania	21.3	13.0	12.3	8.1	5.7

f – DG ECFIN forecast, Romania inclusively.

1) EU 15 excluding Luxembourg.

2) EU 25 excluding Luxembourg.

Source: Statistical Annex of European Economy, DG ECFIN, Spring 2006.

Unit labor cost positive dynamics in the EU due to the moderate increases in the wages can be explained by certain factors, such as the increasing credibility of the monetary policy, structural changes in the labor market and also structural changes brought by globalization.

In real terms, unit labor cost, both at the EU level and for the 14 states had negative values and the most important fact is that the annual swings are not meaningful.

### Real unit labor cost

*- annual percentage changes -*

	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006f</b>	<b>2007f</b>
France	0.1	-1.0	0.6	0.4	-0.1
Germany	-0.1	-1.5	-1.2	-0.9	-1.9
Italy	1.3	-0.5	0.4	-0.5	-0.4
Poland	-4.5	-5.7	0.4	2.0	0.9
Czech Republic	2.1	-1.9	0.1	-1.1	-1.1
Hungary	0.5	-0.3	2.5	-1.4	-2.3
EU 14 <sup>1</sup>	0.1	-1.0	-0.1	-0.5	-0.9
EU 24 <sup>2</sup>	0.1	-1.0	-0.1	-0.4	-0.8
Romania	-2.1	-1.7	0.3	-0.6	-0.7

f – DG ECFIN forecast, Romania inclusively.

1) EU 15 excluding Luxembourg.

2) EU 25 excluding Luxembourg.

Source: Statistical Annex of European Economy, DG ECFIN, Spring 2006.



## **Unit Labor Cost in Romania**

According to the recent analyses of the European Commission ("Quarterly Report for Euro Area" DG ECFIN), wages and unit labor cost show a small sensibility to the fluctuation cycles: neither the expansion from 1998-2001 nor the latest slowdown affected the wage increase trend.

Regarding the real labor unit cost, it is important to comment Romania's evolution as it is anticipated by European specialists.

If in nominal terms, unit labor cost, situated on a declining trend, still keeps its high value because of higher price indexes, in real terms competitiveness earnings come closer to the EU 24 level, surpassing countries like France and Italy.

### **4. Unit labor cost forecast in Romania**

The assessment of the Romanian economy perspectives, starting with the Autumn Forecast 2005, has the same status as the member states ones. This new status induced new requirements, especially from the point of view of the macroeconomic forecast coverage degree. Here unit labor cost forecast can be included. NCP made the first estimations in 2005, and the first forecast was published in 2006, the spring forecast.

In this context, short term industrial unit labor cost forecast is done for many years and it is published in quarterly conjuncture investigations.

The difficulty of unit labor cost forecast based on a standard methodology comes mainly from statistical information of compensation of employees, data that are available with a 2 years gap towards the forecast period.

Currently, the last year of the data series is 2003 (see Annex). As a consequence, in the first stage a transitory method was used. Taking into account that gross wages (D11) corresponding to "gross wage earnings" indicator represents 82% of the compensation of employees, the first forecast of the unit labor cost used this component's forecast.

In the spring forecast, the Romanian economy was estimated to have the capacity to improve its competitiveness constantly. The unit labor cost, at that moment, was expected to reduce its amplitude until 2010. The real unit labor cost growth was expected to decrease from 6.6% in 2006 to less than 3% in 2010. If we take into account the forecasted price evolution, on the whole period a wage growth lower than the labor productivity was expected.

These evaluations, presented in the spring forecast are unchanged, even if the expenditures are completed with labor force (using "compensation of employees") that changes the level of the indicators. That is because of the second component "employers' social contributions", which has an estimated linear decrease evolution, according to the project of a 2 percentage points annual decrease in the social contributions.



**Unit labor cost forecast**

*- annual percentage changes -*

	2005	2006	2007	2008	2009	2010
Compensation of employees - nominal	15.2	16.0	12.4	10.4	9.7	8.7
Employees –average	-1.9	0.5	0.5	0.4	0.3	0.1
Compensation/employee	17.4	15.5	11.9	9.9	9.3	8.7
Nominal GDP	16.6	17.0	13.7	11.6	10.1	9.1
Employment	-0.1	0.2	0.2	0.3	0.3	0.3
Real GDP/employment	4.2	6.5	6.3	6.0	5.6	5.3
Nominal unit labor cost	12.7	8.4	5.3	3.7	3.5	3.2
Nominal GDP/employment	16.7	16.7	13.5	11.3	9.8	8.7
Real unit labor cost	0.6	-1.1	-1.4	-1.3	-0.5	-0.1

Comparing these estimations with DG ECFIN spring forecast 2006, it results that the European experts have the same reliance in the capacity of the Romanian economy to improve the ratio of the wages increase to productivity. These experts forecast that in 2006 and 2007 the Romanian real unit labor cost will return to negative values.

As a further challenge, NCP is trying to develop unit labor cost analysis and forecasts by sectors, both industrial and institutional sectors. The existence of Input-Output and Integrated Economic Accounts tables can make such analyses possible.



## Compensation of employees in 2000–2003

	2000	2001	2002	2003
<i>- billion lei -</i>				
Gross value added - B1	71.1	104.3	135.6	175.4
Gross domestic product - B1*	80.4	116.8	151.5	197.6
Compensation of employees - D1	33.0	47.5	59.8	74.1
Gross salaries and gross pays - D11	25.4	39.2	49.4	60.7
Employers' social contributions (SSC and unemployment fund) - D12	7.6	8.3	10.4	13.4
<b>Annual nominal increases - %</b>				
Gross added value	48.0	46.6	30.0	29.3
Gross domestic product	47.3	45.3	29.7	30.4
Employees remuneration	74.4	43.7	25.9	23.9
Gross wages and salaries	78.6	54.4	25.9	22.9
Employers' social contributions (SSC and unemployment fund) - D12	61.8	8.1	26.0	28.7
<b>Structural indicators - %</b>				
GVA/GDP	88.5	89.3	89.5	88.8
Compensation of employees/GAV	46.5	45.5	44.1	42.2
Compensation of employees/GDP	41.1	40.7	39.5	37.5
Gross wages and salaries/Employees remuneration	76.9	82.6	82.6	81.9
Employers' social contributions/Compensation of employees	23.1	17.4	17.4	18.1
<b>Real increases - %</b>				
Gross value added	2.2	6.7	5.1	5.0
Gross domestic product	2.1	5.7	5.1	5.2

Source: NCP processing on the basis of the NIS data.

## Bibliography

- Ark, B. van; Wagner, K.: *International Productivity Differences: Measurement and Explanations*, Contributions to Economic Analysis (North Holland, 1996).
- Ark, B. van; Monnikhof, E.J.: "Productivity and unit labour cost comparisons: A data base", *Employment Paper*, No. 5 (Geneva, ILO, 2000).
- Ark, B. van: "Manufacturing prices, productivity and labor costs in five economies", *Monthly Labor Review* (Washington, DC, BLS), June 1995.
- Ark, B. van; Stuivenwold, Edwin; Ypma, Gerard: C. *Unit labour costs, productivity and international competitiveness*, KILM Programme, 4th Edition, Groningen Growth and Development Centre, Netherlands, 2003.
- Carnot, Nicolas; Koen, Vincent; Tissot, Bruno (2005): *Economic Forecasting*, Palgrave Macmillan.
- DG ECFIN *Economic forecasts autumn 2006*, website [www.ec.europa.eu/economy\\_finance/publications/european\\_economy/forecasts\\_en.htm](http://www.ec.europa.eu/economy_finance/publications/european_economy/forecasts_en.htm).
- Dobrescu, Emilian: "Macromodel Estimations for Romanian Preaccession Economic Programme", *Romanian Journal of Economic Forecasting*, No. 4/2003.
- Lipska, Elena; Vlnkona, Milada; Mackova, Ivana: "Unit labour costs", National Bank of Slovakia, *BIATEC*, Volume XIII, 1/2005.
- Mankiw, N. Gregory: *Macroeconomics*, Third Edition, Worth Publishers, 1997.
- National Commission for Economic Forecasting: "Realități economice: Prezent și perspective", *Quarterly Paper*, No. 3/2006.
- World Employment Report 2004-2005: *Employment, Productivity and Poverty Review* (Geneva, 2004), website [www.ilo.org/trends](http://www.ilo.org/trends).

