
ANALYSIS OF EMPLOYMENT RATE AND MONTHLY COST OF LABOR FORCE

Prof. Constantin ANGHELACHE PhD (actincon@yahoo.com)

Bucharest University of Economic Studies / „Artifex” University of Bucharest

Assoc. prof. Mădălina-Gabriela ANGHEL PhD (madalinagabriela_anghel@yahoo.com)

„Artifex” University of Bucharest

Andreea - Ioana MARINESCU PhD Student (marinescu.andreea.ioana@gmail.com)

Bucharest University of Economic Studies

Abstract

In this article, the authors analyze the population occupancy rate and how it evolved in 2017. Compared to earlier periods, the average monthly labor cost, labor, or labor is an important factor in the evolution of a country's economy. Starting from the concept of Cobb-Douglas, which states that the production function is also based on labor, the main factor of economic growth, we must consider that work must be paid. At the national economy level, the net average or average gross salary in the economy is different from one activity to another. However, we find that they are economic in which the labor cost is high, but also the activity with a low labor cost. The problem is the interpretation of the average cost of labor and the fact that tax obligations have now passed from the employer to the employee. On this background there is a certain evolution in the national economy. The net average cost and the gross average cost are two variables that show a correlated evolution. The article presents graphs and series of data that highlight the above aspects.

Keywords: *employed population, labor force, average wage, unemployment rate, number of employees*

JEL Classification: J21, J31

Introduction

Through this study, the authors analyze the evolution of employment and how labor cost has evolved. This shows on the one hand the level of salary increases, but also the extent to which it ensures an increase in the standard of living, the quality of life. In the income category, salary is a basic element and should be paid due attention. In this article, salary earnings, staff turnover and its correlation with unemployment, gross average salary in economy, and net average wage per economy are analyzed. By using graphs and tables, the cost of production is highlighted on one hand, and on the other hand, it is the basic element of the income level of the population and, hence, in cascade, by analysis, the effect of the quality of life (living standard)..

Literature review

Agrawala and Matsab (2013) analyzed the risk of unemployment in connection with business financing decisions. Anghelache, Dumbravă and Ene (2018) studied the impact of the natural movement of the population in Romania on the development of households and households. Anghelache, Anghel, and Burea (2017) analyzed the pay system and labor cost in the European Union. Anghel and Anghelache (2017) conducted a labor market analysis in the Member States of the European Union. Anghelache (2017) made a detailed radiography of Romania's economic condition after a decade after its accession to the European Union. Hili, Lahmandi-Ayed and Lasram (2016) studied the links between separation, the labor market and globalization. Klein and Ventura (2009) showed the levels of labor productivity as well as the dynamic effects in line with the labor force movement. Sheiner (2014) determined the macroeconomic implications of aging populations. Silva and Toledo (2009) analyzed the link between the rate of labor expenditure and the cyclical behavior of vacancies and unemployment.

Methodology, data, results, discussions

It is necessary to clarify some aspects regarding the methodology, which statistically obtains the indicators and variables used. Population employment data are obtained from the Quarterly Statistical Survey on Household Workforce (AMIGO), in accordance with Council and European Parliament Regulation no. 577/1998 on the organization of a selective labor force survey in the European Community. The economically active population includes all persons supplying the available workforce for the production of goods and services during the reference period, including employed and unemployed people. The activity rate represents the share of the active population in the age group x in the total population of the same age group x . The working age of the working age population is the share of the active population aged 15-64 years in the total population aged 15-64. The occupied population includes all persons aged 15 and over who have carried out an economic activity producing goods or services for at least one hour during the reference period (one week), in order to obtain income in the form of salaries, in kind payments or other benefits.

Starting 2011, self-employed and unpaid family workers working in agriculture are considered to be employed only if they own the agricultural production (not necessarily the land) obtained and meet one of the following conditions: agricultural production is intended, even at least in part, sale or exchange in kind (troc); agricultural production is exclusively devoted to its own consumption if it is a substantial part of the total consumption of the household.

In addition to the persons who have a job and worked during the reference week, regardless of their professional status, they are considered as employed persons and those belonging to the following categories: persons who during the reference week did any paid work or income generators, even if they were in compulsory schooling, retired or retired, were enrolled in the National Employment Agency (ANOFM), receiving or not receiving unemployment benefit; apprentices and paid trainees who work on a full or part-time basis; members of the armed forces.

Occupied population is classified by occupational status as: Employee - it is considered to be the person who performs his / her activity on the basis of a contract of employment in an economic or social unit - irrespective of his / her form of ownership - or to private persons, for a remuneration below form of salary, in cash or in kind, in the form of a commission, etc. „Work contract” means any other type of employment agreement (concluded in written or verbal form); patron - is the person who carries out his / her occupation in his / her own unit (enterprise, agency, workshop, shop, office, farm, etc.) for whose activity one or more employees are employed; self-employed - is the person who carries out his / her activity in his / her own unit or in an individual business, without employing any employee, whether or not helped by the members of the unpaid family; unpaid family worker - is the person who is working in a family economic unit run by a family member or a relative for whom he does not receive remuneration in the form of a salary or payment in kind. The peasant farm (agricultural) is considered such a unit; member of an agricultural company or a non-agricultural cooperative - is considered a person who either worked as a farmer in an agricultural company constituted under Law 36/1991 or as a member of a craft, consumer or credit cooperative.

The employment rate is the share of the employed population in the same age group x in the total population. The employment rate of the working age population is the share of the employed population aged 15-64 in the total population aged 15-64.

Unemployed people, according to the International Definition (ILO), are 15-74 year olds who simultaneously meet the following three conditions: they do not have a job; are available to start work in the next two weeks; have been actively seeking a job, at any time during the last four weeks. Unemployment rate is the share of the unemployed in the active population. The data are estimated based on the resident population.

The data source is the Selective Labor Cost Survey (S3), which is carried out annually in accordance with European Union recommendations and standards set out in Council and European Parliament Regulation no. 530/1999 on structural statistics on earnings and labor costs, European Com-

mission Regulation no. 1726/1999 implementing the Council and European Parliament Regulation no. 530/1999 concerning the definition and transmission of information on the labor cost and the European Commission Regulation no. 1737/2005 amending the European Commission's Regulation no. 1726/1999 on the definition and transmission of information on labor costs.

The research is carried out on a representative sample of the national economy and of the economic activities (division level - two digits) according to CANE Rev.2 and in a territorial profile at the macroregion, development region and county level. Economic units with 50 employees and over have been exhaustively included in research. Budgetary units are included in the research, except for the local public administration units for which the data at the level of the municipal councils were collected on the basis of representative sample at county level (approximately 820 units).

The volume of the sample covered about 27,500 economic agents and public institutions from all activities of the national economy. The response rate was 92.29% and the rejection rate was 3.38%. In order to improve the quality of the results and increase the total response rate, estimation methods were applied by imputing units without data in the statistical survey and reporting data in administrative sources for the reference year 2017, reaching a share of data units 97.82%. The imputation rate was 5.53%.

In 2017, to improve the reliability of data at county level (NUTS3) and CAEN Rev.2 division (2 digits), the sample of the survey was extended by 18100 economic agents belonging to the size class below 50 employees, for which methods of estimating statistical indicators from administrative sources have been applied.

Employees at the end of the year are the number of employees (including seasonal workers, manager or administrator) employed on a fixed-term or indefinite individual employment contract (including those with an employment contract / suspended service report). Employees posted to work abroad and those who accumulate several functions and do not have the basic function of the reporting unit and the following categories are not included: employers who work in their own unit and for which the source of income is only the dividends and profit of unity; family workers are the persons who carry out their activity in an economic unit belonging to the family or a relative, whom they help and for which they do not receive remuneration in the form of salary; the payment is made in kind (food, clothes, dwelling) or occasionally, exceptionally and in cash, without being shown on the salary state; members of county and local councils.

The average number of employees is a simple arithmetic mean resulting from the total number of daily employees (excluding those whose

contract of employment / service relationship has been suspended) throughout the year, including weekly rest, public holidays and other non-working days to the total number of calendar days (365 days), as well as to employees whose individual employment contract / service report was suspended at the employer's initiative (in case of temporary discontinuation of work) and received an allowance from the basic salary corresponding to the place work, according to the legislation in force.

In the daily number of employees taken into account the average number includes employees who are temporarily unable to work (sick leave) while they are paid from the salary fund.

The daily number of employees taken into account in the average number does not include: employees on unpaid leave, on strike, detached to work abroad, patrons, family workers, county and local council members.

On weekly rest, legal holidays and other non-working days, the number of employees of the previous day is calculated on a daily basis, except for those whose contract of employment / service report has ceased on that day.

Employees not employed full-time shall be included in the average proportion of the working time provided for in the employment contract. The number of employees taken into account for the average number includes only persons who have been paid.

Exceptionally, in cases where sums corresponding to previous periods are paid (sums paid retrospectively as a result of earning money in court for previous years), the number of beneficiaries (former employees or employees with an employment contract / suspended service report) is included in the average number of employees in proportion to the periods for which the payments are made, so that there is a direct correspondence between the gross amounts paid and the average number of employees.

Gross average monthly earnings were determined by reporting the gross amounts paid out of the wage fund, net profit and other funds plus the gross amounts of previous years, average number of employees and number of months of the year.

Monthly net average monthly earnings resulted from the deduction from the gross monthly payments of the employees' contribution to the unemployment insurance budget, the individual state social insurance contribution, the contribution of the employees for the health insurance and the corresponding tax, the result being divided by the average number of employees and the number of months of the year.

The average monthly cost per employee was obtained by reporting the unit labor cost of the employee to the average number of employees and the

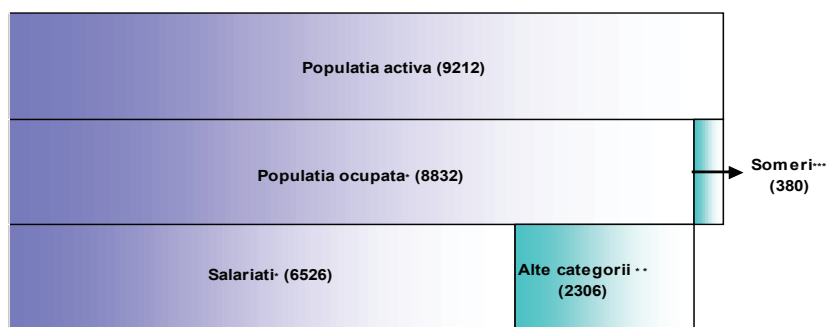
number of months of the year. Unemployment expenditures did not include transfers from the state budget to the employer to stimulate employment.

• **Analysis of employment rate of the working age population**

In the second quarter of 2018, the employment rate of the 20-64 year-old population was 70.7%, exceeding by 0.7% the national target of 70% set in the context of the Europe 2020 strategy. In the second quarter of 2018, Romania's active population was 9212 thousand people, of which 8832 thousand were occupied and 380 thousand were unemployed. In figure no. 1 shows the situation of population occupation.

Population categories in Q2 2018

*Figure no. 1
- Thousands of people -*



* Including armed and assimilated forces and people working in the informal and black sectors.

** Other categories: employers, self-employed workers, unpaid family workers and members of agricultural or non-agricultural cooperatives.

*** In accordance with the International Labor Office (ILO) standards.

Source: National Institute of Statistics, Press release no. 243/26 September 2018

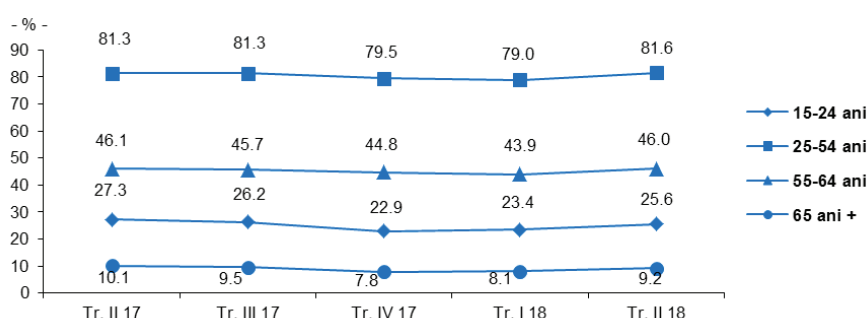
The employment rate of the working age population (15-64 years) was 65.5% in the second quarter of 2018, up 2.4% compared to the previous quarter. The employment rate was higher for males (74.1% compared to 56.7% for women) and for urban people (65.9% vs. 65.0% in rural areas).

The employment rate of young people (15-24 years) was 25.6%.

In figure no. 2 presents data on employment of the population aged 15 years and over, by age group.

The evolution of the occupancy rate of the population aged 15 years and over by age group

Figure no. 2

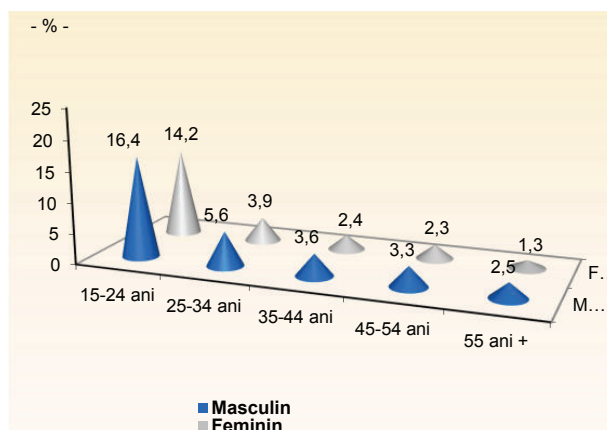


Source: National Institute of Statistics, Press release no. 243/26 September 2018

The unemployment rate in the second quarter of 2018 was 4.1%, down 0.6% from the previous quarter, as shown in figures no. 3 and no. 4.

Unemployment rate by age group and sex, in the second quarter of 2018

Figure no. 3

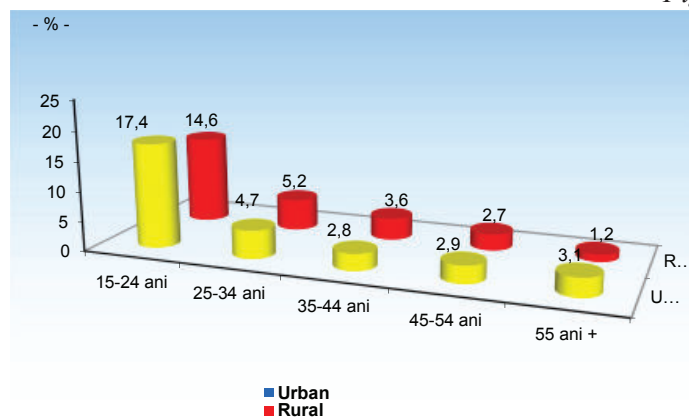


By gender, the gap between the two unemployment rates was 1.4 percentage points (4.7% for men versus 3.3% for women), and for residential areas 0.3 percentage points (4.3 % in rural areas compared to 4.0% in urban areas).

By age group, the unemployment rate reached the highest level (15.5%) among young people (15-24 years).

Unemployment rate by age and average in the second quarter of 2018

Figure no. 4

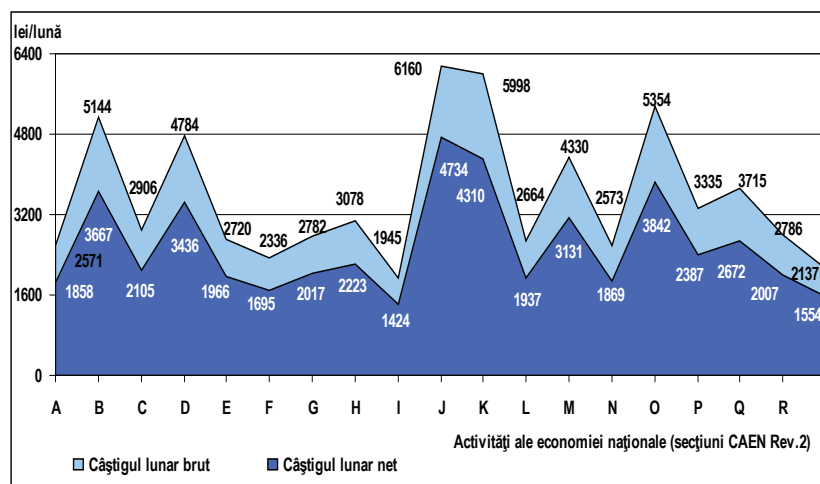


• Monthly average labor cost in 2017

The following conclusions can be drawn from the analysis of the data provided by the National Institute of Statistics: the average gross monthly earnings per total economy in 2017 (3223 lei) was 14.7% (+414 lei) higher than in 2016. The net average monthly wage in the national economy (2338 lei) registered an increase of 14.3% (+292 lei) compared to the previous year; the Employers spent an average of 4008 lei / employee on a month; the average number of employees in 2017 was 4945.9 thousand persons, increasing by 186.5 thousand persons compared to the previous year; the number of employees at 31 December 2017 was 5362.3 thousand persons, higher by 138.6 thousand persons as compared to the end of the previous year. The highest net average monthly wages in the national economy were recorded in the year 2017 in information and communications (2 times), financial intermediation and insurance (+ 84.3%), general government (+ 64.3%), mining and quarrying (+ 56.8%), heating and air conditioning (+ 47.0%), professional, scientific and technical activities (+ 33.9%), health and social work (+ 14.3%) and education (+ 1%).

Gross and net average monthly earnings per business year 2017

Figure no. 5



Source: National Institute of Statistics, Press release no. 244/26 September 2018

The net monthly average monthly wage earnings, which were at the largest distance below the average in the economy, were in hotels and restaurants (-39.1%), other service activities (-33.5%), construction (-27) , Agriculture, forestry and fishing (-20.5%), administrative and support service activities (-20.1%), real estate transactions (-17.2%), water distribution, sanitation, waste management, decontamination activities (-15.9%).

In 2017, the real earning index (expressed as a ratio between the net nominal earning index and the consumer price index of the population) was 182.3% compared to 1990, up 20.6 percentage points higher than in the previous year , respectively by 52.0 percentage points compared to 2008.

Women earned an average of about 4% less than men, earning a gross average monthly earning of 3159 lei (compared to 3280 lei for men) and an average monthly earning of 2288 lei (compared to 2383 lei for men) . In the majority of economic activities, men are earning net average monthly wages higher than women, with the largest differences (over 15.0%) being recorded in: financial intermediation and insurance (40.5%), manufacturing (21.5%) , other service activities (20.9%), information and communications (18.7%) and trade (18.4%).

In the territorial aspect, by counties, the average net monthly earnings in 2017 were below the average for the economy in 37 counties. The lowest earnings were registered in the counties of Harghita (1796 lei, 23.2% less

than the average for the economy), Vrancea (1800 lei, 23.0% less than the average for the economy), respectively Bistrița-Năsăud (1815 lei, 22.4% less than the average for the economy). On the opposite side, the monthly average monthly earnings in Bucharest (3272 lei) were 39.9% above the average for the economy.

The average monthly labor cost in the year 2017 was 4008 lei / employee, up 14.7% over the previous year. Compared to the average for the economy, the average monthly cost was significantly higher in the activities: information and communications (+ 89.5%), mining, financial intermediation and insurance (+ 86.0% each), energy production and supply electricity and heating, gas, hot water and air conditioning (+ 49.5%), public administration (+ 35.1%), professional, scientific and technical activities (+ 32.7%), health and social assistance ,1%). The most important values of the average monthly cost below the average in the economy were recorded in the activities of hotels and restaurants (-40.1%), other service activities (-33.9%), construction (-27.4%), agriculture, forestry and fishing, respectively administrative and support service activities (-20.4% each).

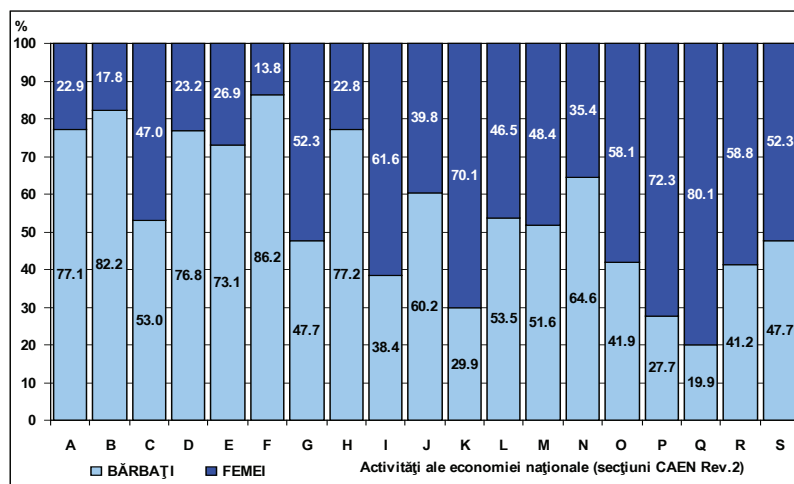
In 2017, the average number of employees was 4945.9 thousand persons, increasing compared to the previous year by 186.5 thousand persons.

Men predominate among the employees (2599.3 thousand persons, respectively 52.6% of the total number of employees). Compared to the previous year, the average number of male employees increased by 91.0 thousand people, while the number of women employed increased by 95.5 thousand persons.

The distribution of employees by economic sectors shows that most of them were in the tertiary sector (services), their share being 61.7% in 2017. In the secondary sector (industry and constructions) 35.8% of employees worked and in the primary sector (agriculture , forestry and fish farming) of only 2.5%.

Distribution of employees by sex, in each economic activity, in 2017

Figure no. 6



Source: National Institute of Statistics, Press release no. 244/26 September 2018

Construction activities and extractive industries are predominantly made up of men, accounting for 86.2%, or 82.2% of the total number of employees in these activities.

Activities characterized by a high degree of „feminisation” of the labor force are health and social assistance (80.1% of the total number of employees), education (72.3%), financial intermediation and insurance (70.1%), hotels and restaurants (61.6%).

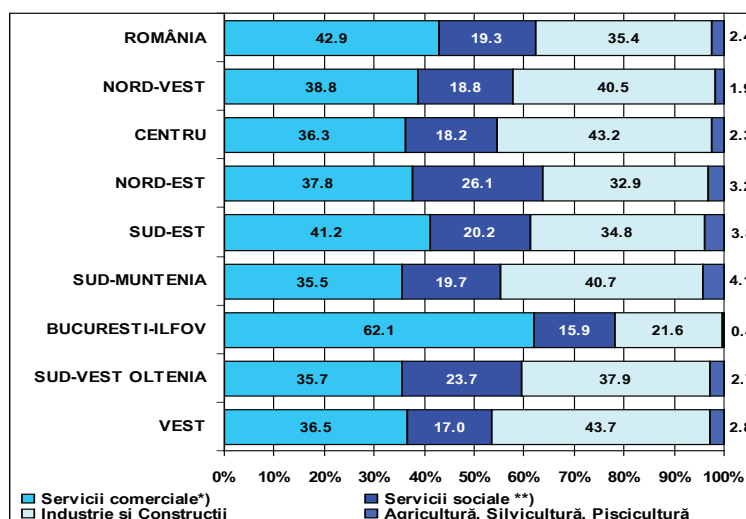
• Employee Effective on 31 December 2017

The number of employees at the end of 2017 was 5362.3 thousand persons. Compared to the end of 2016, the number of employees registered an increase of 138.6 thousand people. In the regional profile, the number of employees increased compared to the end of 2016 in all development regions. The most significant increases in the number of employees at the end of the year were registered in the following regions: Center (+24.1 thousand persons), North-West (+23.3 thousand persons) and Bucharest-Ilfov (+21.8 thousand persons) people). In the Bucharest-Ilfov region almost 22% of the employees in the economy are concentrated.

The development regions where primary sector activities exceed the country average (2.4% of total economy) are: South-Muntenia (4.1%), Southeast (3.8%), North- 2%), West (2.8%) and South-West Oltenia (2.7%).

Distribution of the number of employees at the end of 2017 by sectors of activity

Figure no. 7



*) The commercial services sector includes activities according to CAEN Rev.2: trade, hotels and restaurants, transport and storage, information and communication, financial intermediation and insurance, real estate transactions, professional, scientific and technical activities, administrative service activities and service activities support, other service activities.

**) The social services sector comprises activities according to CANE Rev.2: public administration (excluding armed and assimilated forces), education (including 4.6% private sector), health and social assistance (including 12.5% private sector) entertainment, cultural and recreational activities (including 56.1% private sector).

Source: National Institute of Statistics, Press release no. 244/26 September 2018

The development regions that concentrate a significant proportion of employees in the industry and construction sector are: West, Center, South-Muntenia, North-West, South-West Oltenia (43.7%, 43.2%, 40.7%, 40%, 5%, 37.9%, compared to 35.4% the country average).

The largest share of the employees in commercial services is found in the Bucharest-Ilfov region (62.1% versus 42.9% on the total economy) and in the social services sector the highest share was registered in the North-East region (26, 1% versus 19.3% country average).

At the end of 2017, the number of employees in private equity companies was the majority (75.9%) and recorded an increase of 2.9% compared to the previous year.

The distribution of employees according to the legal form of the enterprises in which they work shows that those employed in commercial

companies accounted for 79.4% of the total number of employees, increasing by 2.7% compared to the previous year.

Conclusion

From the study it is concluded that, from the income point of view, the population is based on the salary level. Analysis of the monthly cost of labor highlights an increase in the salary and, if we would like to expand, the pensions. We do not refer to whether or not this is the life cost insurance, but we must say that through the governance programs over the past two years, this indicator, average cost or gross average wage and net average wage have increased. A second conclusion is that by transferring the tax obligations from the employer to the employee it was accomplished, on the one hand, the assurance of the more consistent collection of the revenues to the state budget and on the other hand, in the future, a higher coefficient is ensured to calculate the pension for future generations of pensioners. Evolution of the average monthly cost of labor shows that on average it is positive, although from the study by field of activity it results that in some it is small and does not provide optimal conditions, maybe even the minimum subsistence specific to the twenty-first century. Indirectly, we can conclude that salary earning (labor costs) would also be a factor in the evolution of „small corruption”, especially of giving and taking bribes. By introducing the tax transfer from the employer to the employee and the limitation to the minimum wage of labor, with all the consequences, sometimes critical, it was ensured, even partially, the removal and reduction of the evasion in the use of paid labor paid.

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