
THE EFFECT OF UNEMPLOYMENT ON ECONOMIC GROWTH

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Abstract

Unemployment is a macroeconomic indicator that reflects the inability of an economy to make full use of labor resources. The phenomenon itself is based on the concentration of socio-economic activity, the improvement of high productivity means of production, the higher supply of people able to occupy the available places in the economy than the real number of them or the non-synchronization of the labor supply and the available places at the regional level Or national. Of course, the lack of adequate conversion of the labor force leads to an increase in the number of unemployed and thus the unemployment rate. The number of unemployed, somewhat rising in Romania, has two negative effects through the economic effort of paying unemployment benefit, on the one hand, and the existence of a percentage of the labor resource that can not be used to increase the production of goods and services, on the other part. The analysis of the unemployment figures set in the BIM or AMIGO system reveals the availability of the labor market and the inability to assimilate the national economy. The inflation rate has a direct correlation with the evolution of the Gross Domestic Product, which we analyzed using some appropriate econometric models.

Keywords: *unemployment, economic growth, inflation rate, productivity, labor market*

JEL Classification: *E23, J64*

Introduction

Unemployment reflects the impossibility of a country's economy to make full use of labor resources. Lack of labor force conversion increases the number of unemployed and, as a consequence, the unemployment rate. Increasing the number of unemployed in Romania has two negative effects on the financial effort to pay for unemployment benefits, with some of the labor resources that can not be used to increase the production of goods and services. Interpreting the ILO or AMIGO unemployment data series expresses

the capacity of the labor market and the inability to assimilate the national economy. Clearly, the inflation rate is in direct correlation with the evolution of GDP, which can be achieved using appropriate econometric models. Unemployed people, according to the International Definition (ILO *), are 15-74 year olds who simultaneously meet the following three conditions: (i) they have no job; (ii) are available to start work in the next two weeks; (iii) 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 economically active population includes all persons supplying the available workforce for the production of goods and services during the reference period, including the employed population and the unemployed. Registered unemployed persons are the persons registered in the National Employment Agency (ANOFM), which benefit from the legislation on the social protection of the unemployed. The two sets of statistical indicators (monthly unemployment according to international definition and registered unemployment) are not comparable as data sources, measurement methods, concepts, definitions and scope are different. The analysis of the data in both series, however, provides a complete and real picture of the Romanian labor market.

Literature review

Aaronson, Mazumder and Schechter (2010) analyze the factors that have generated the increase of long-term unemployment and the implication for future economic evolution, Couch et.al. (2013) develop on a similar topic, they focus on the economic and health related consequences, namely earnings, benefits related to disability, and mortality. Michailat (2012) is preoccupied with the role of matching frictions in influencing and, thus, explaining unemployment, he proposes a search-and-matching model, Daly et.al. (2012) develop on a close topic, their research question is focused on the increase of natural rate of unemployment. Anghelache and Manole (2015) develop on the correlation between inflation and unemployment. Lalive (2007) provides evidence on the correlation between unemployment benefits, unemployment duration, based on the idea that benefits tend to lead to the growth of unemployment duration, his study pursues the Austrian system, while Le Barbanchon (2016) studies, on a similar approach, the French case. Anghel, Anghelache and Manole (2016) were preoccupied with the evolution of the inflation in the recent period. Shimer and Werning (2007) have tested the optimal character of unemployment insurance based on the responsiveness of reservation wages to unemployment benefits. Nekoei and Weber (2017) discuss on the potential positive influence of unemployment benefits on job quality. Åslund, Østh and Zenou (2010) provide a modern approach

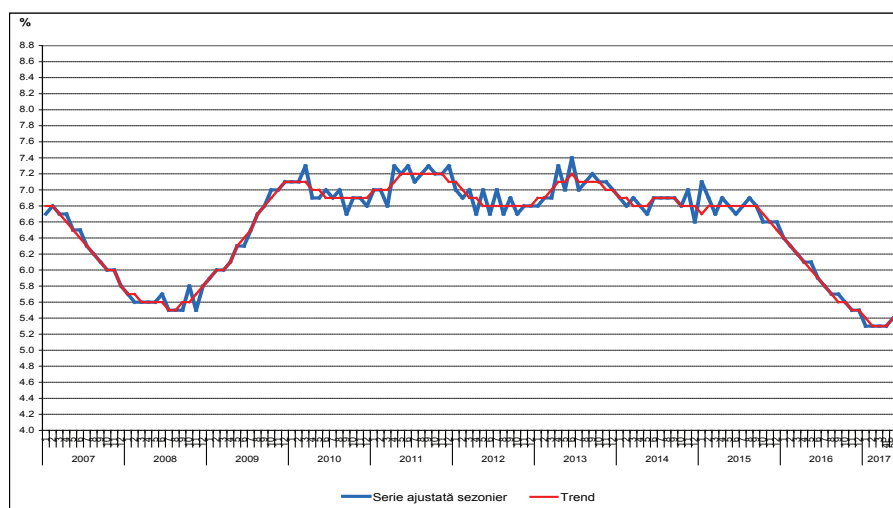
on the importance of access towards jobs. Anghelache (2008), Anghelache et.al. (2007) are reference works in macroeconomic statistics, the authors treat extensively the unemployment phenomenon. Kroft and Notowidigdo (2016) evaluate the connection between unemployment insurance and unemployment rate. van Ours and Vodopivec (2008) analyze the influence of reduced unemployment insurance on the quality of employees who were hired following an unemployment period. Krueger and Mueller (2010) give new evidence on the job search intensity measured for unemployed people in the United States, through the time dedicated for this activity. Schmieder, von Wachter and Bender (2012) measure the effects of unemployment insurance over an extended time on the business cycle, their study is based on a comprehensive dataset. Moscarini and Postei-Vinay (2012) evaluate the role of employers in creating jobs during positive and negative peaks, the employers are grouped depending on their size. Inderbitzin, Staubli and Zweimüller (2016) measure the impact of extended unemployment benefits on the behavior of older workers towards retirement, especially early retirement. Agrawala and Matsab (2013) consider the effect of unemployment risk on the decisional process in corporate financing. Silva and Toledo (2009) provide a model that extends the DMP matching model with endogenous job destruction, their model reaches close to the downward-sloping Beveridge curve. Chetty (2008) demonstrates that benefits derived from unemployment insurance affect job search behavior. Amaral and Ice (2014) provide a contemporary evaluation of extended unemployment insurance benefits. Card, Chetty, and Weber (2007) study the behavior of unemployed people towards the full extent of the benefits related time interval.

Research methodology and data. Results and discussions

In the following, we will analyze how the unemployment rate evolved in Romania during 2007-2017.

Evolution of the unemployment rate during 2007-2017

Chart no. 1



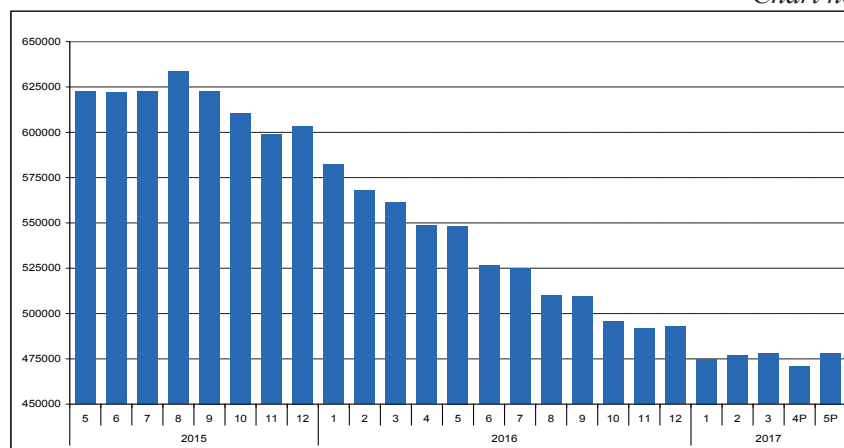
P Provisional data.

Data source: National Institute of Statistics, press release no. 165/3 July 2017

The number of unemployed (aged 15-74), estimated for May 2017, was 478 thousand people, up from the previous month (471 thousand persons), but decreasing compared to the same month of the previous year (548 Thousands of people). In May 2017, the seasonally adjusted unemployment rate was 5.3%. The unemployment rate in March 2017 decreased by 0.1 percentage points compared to the previous month (5.4%). The unemployment rate for men was 1.2 percentage points higher than for women. The number of unemployed (aged 15-74 years) estimated for May in 2017 was 478 thousand people, up from the previous month (471 thousand persons), but also compared to the same month of the previous year (548 thousand people).

Number of unemployed in March 2015 - May 2017

Chart no. 2



^P Provisional data.

Data source: National Institute of Statistics, press release no. 165/3 July 2017

By gender, the unemployment rate in males exceeded by 1.2 percentage points that of women (the respective figures being 5.9% for males and 4.7% for females).

Unemployment rate by sex%

Table no. 1

Age category (ani)	2016								2017				
	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Ian.	Feb.	Mar.	Apr. ^P	May ^P
Total													
15-74	6,1	5,9	5,8	5,7	5,7	5,6	5,5	5,5	5,3	5,3	5,3	5,3	5,4
15-24	20,8	20,8	20,3	20,3	20,3	20,4	20,4	20,4	19,9	19,9	19,9
25-74	5,0	4,8	4,8	4,6	4,6	4,5	4,4	4,4	4,2	4,3	4,2	4,2	4,3
Male													
15-74	6,7	6,6	6,5	6,4	6,4	6,2	6,0	6,0	6,0	5,9	5,9	5,9	5,9
15-24	19,7	19,7	19,4	19,4	19,4	19,6	19,6	19,6	19,7	19,7	19,7
25-74	5,7	5,6	5,5	5,3	5,3	5,1	5,0	4,9	4,9	4,9	4,9	4,8	4,8
Female													
15-74	5,2	4,9	4,9	4,8	4,8	4,8	4,7	4,9	4,4	4,6	4,5	4,6	4,7
15-24	22,7	22,7	21,8	21,8	21,8	21,6	21,6	21,6	20,3	20,3	20,3
25-74	4,1	3,8	3,8	3,7	3,7	3,7	3,6	3,8	3,3	3,5	3,4	3,5	3,6

^P Provisional data.

.. - Data unavailable.

Data source: National Institute of Statistics, press release no. 165/3 July 2017

For adults (25-74 years), the unemployment rate was estimated at 4.3% for May 2017 (4.8% for men and 3.6% for women).

The number of unemployed aged 25-74 represented 74.4% of the total number of unemployed estimated for May 2017.

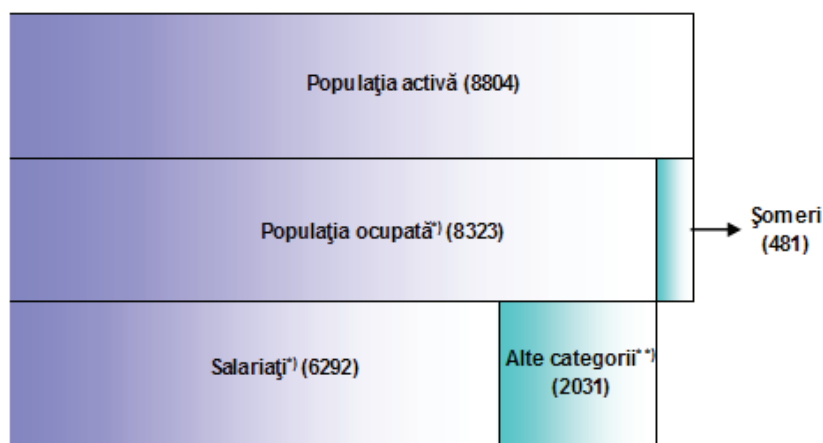
In the first quarter of 2017, the employment rate of the working age population (15-64 years) was 61.2%, down from the previous quarter.

In the first quarter of 2017, the occupancy rate of the 20-64 year-old population was 66.2% at a distance of 3.8 percentage points compared to the national target of 70% set in the context of the Europe 2020 strategy.

In the first quarter of 2017, Romania's active population was 8804 thousand people, out of which 8323 thousand were occupied and 481 thousand were unemployed.

Main categories of population in Q1 2017 (thousands of people)

Chart no. 3



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

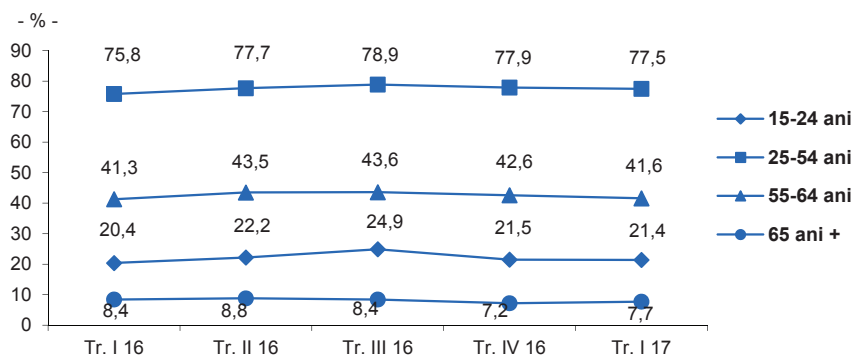
** Other categories: employers, self-employed workers, unpaid family workers and members of an agricultural or non-agricultural cooperative.

Data source: National Institute of Statistics, press release no. 156/27 June 2017

The employment rate of the working age population (15-64 years) was 61.2% in the first quarter of 2017, down from 0.4 percentage points on the previous quarter. The employment rate was higher for males (68.9% compared to 53.5% for women) and for urban people (63.7% vs. 58.1% for rural areas). The employment rate of young people (15-24 years) was 21.4%.

Evolution of the occupancy rate of the population aged 15 years and over, by age group

Chart no. 4

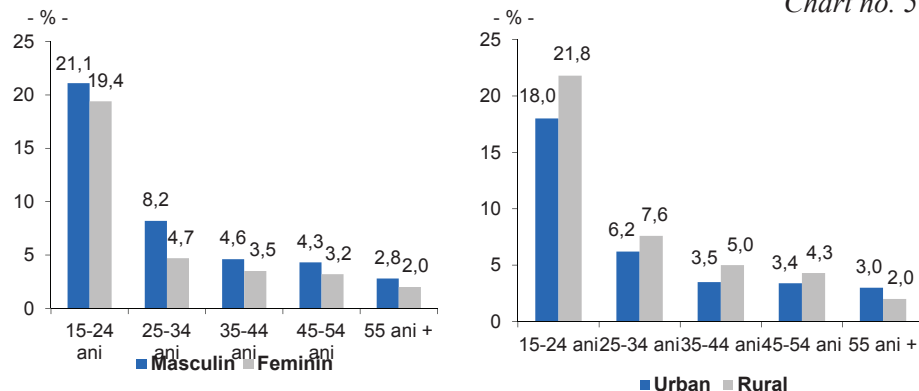


Data source: National Institute of Statistics, press release no. 156/27 June 2017

The unemployment rate in the first quarter of 2017 was 5.5%, the same as in the previous quarter.

Unemployment rate by age group, sex and average, in the first quarter of 2017

Chart no. 5



Data source: National Institute of Statistics, press release no. 156/27 June 2017

By gender, the gap between the two unemployment rates was 1.9 percentage points (6.3% for men versus 4.4% for women) and 1.7% for residential areas (6.4% for men) % In rural areas compared to 4.7% in urban areas). The unemployment rate reached the highest level (20.4%) among young people (15-24 years).

The number of unremunerated unemployed at the end of the period, most of them workers, especially workers. This number represents only those persons who are registered at labor offices and social protection and receive in one form or another, unemployment benefits, but in our country, the category of unemployed is much higher, including the secondary and higher education graduates, But Who have not been registered as unemployed, unemployed who have gone out of the unemployment period and are no longer employed or occasionally employed. Another group is that of people who have never been unemployed and have carried out so-called free activities and part of the part-time population employed part-time. Given that the issue of closing down or limiting the activity of a number of companies is supposed to reduce the number of employees, it will make the ranks of the unemployed or those in transit more difficult by any residency by means of redundancy. The group „other individuals” is expected to see a number of former employees.

Romania is also faced with a negative phenomenon, which is that part of the working-age population is registered as unemployed and works in the so-called „black”. Perhaps the new Labor Code, introduced in 2011, could highlight this area, but it remains to be analyzed, after a reasonable period, the effects of the new labor law framework. Given the structure of employment, as restructuring and privatization by possible „closing” and „liquidation” methods will continue, we will see that in the coming period we are likely to witness the rise in the ranks of the unemployed by accelerating the process of privatization in industry, Constructions, transport, especially in budgetary matters, at the center of austerity measures.

This fact says very much because, during the transition, broken by several turbulences, does not create jobs for people who worked in industry or research, the highly specialized work of an object disappears. In the majority of cases, specialists have been dismissed or become dissatisfied with income, and have bruised the ranks of those who left and worked abroad. We believe that the reform measures of the national economy, restructuring should consider creating these jobs for highly qualified specialists, so they will scatter in Europe. Otherwise, following the example of people who have found a better achievement, more and more will go abroad, and earlier, the economy will have to find substitutes that will cost more than the efforts of keeping the ones in place work. In other news, he stressed that the state of social security would not collect the necessary income to pay pensions and unemployment benefits to a large number of people, which necessarily requires finding the necessary resources through measures that could become effective.

It is hard to assume that the social security budget for 2016 will not be a source of income to secure the payment of unemployment benefits and

other amounts of aid, support allowances, etc. For people who will become unemployed. The situation may become complicated, given that in 2013 a significant number of employees who have been employed in the private sector have become unemployed or those who work without a contract of employment will not be employed and will at least occupy the category of the unemployed. So here is the evolution of unemployment in the last period, however, should be treated carefully. It is also important that companies, RA and other activities of national interest or useful to society, the state to make its influence felt the presence, until they create optimum conditions, the real transition to private activity. Unemployment in November 2008 is influenced by the global financial crisis, which is Romania. The financial crisis, with reflection and the banking system in our country, will increase the cost credits (price). Thus, banking products will grow and businesses, including individuals, will moderate the „call-back” policy.

The last time there has been a development of studies to analyze the link between inflation and how it affects economic development. It is known that there is a negative relationship between inflation and long-term economic growth.

In the analysis we made in this research, we considered GDP as a dependent variable and its influence on the rate of inflation (as an independent variable) on a series of data between 1991 and 2015, data were published by the National Institute of Statistics.

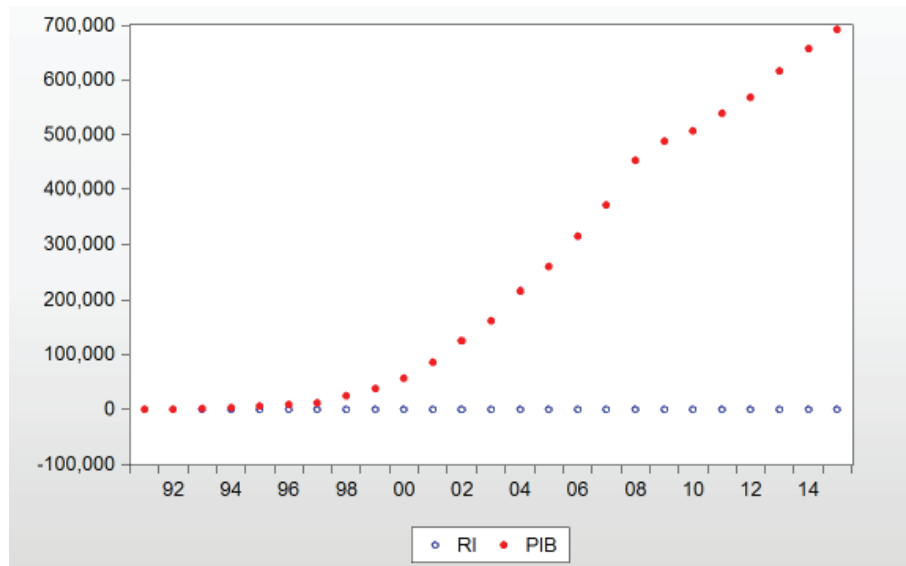
Consider the linear regression function $Y = f(X)$, where $Y = \text{GDP}$ is endogenous, dependent variable and $X = \text{inflation rate}$, an exogenous and independent variable. The regression function obtained by the substitutions in the model has the form:

$$\text{PIB} = a + b \text{RI} + \varepsilon$$

Using a dedicated program, we analyzed the evolution of GDP and inflation over the period 1991-2015 through graphics and descriptive indicators.

Corelogram of GDP and Inflation Rate (RI)

Chart no. 6



Estimation of regression parameters

Table no. 2

Dependent Variable: PIB
 Method: Least Squares (Gauss-Newton / Marquardt steps)
 Date: 09/13/16 Time: 15:14
 Sample: 1991 2015
 Included observations: 25
 PIB=C(1)+C(2)*RI

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	359432.7	48023.88	7.484458	0.0000
C(2)	-2165.133	545.0055	-3.972681	0.0006
R-squared	0.406944	Mean dependent var		247911.0
Adjusted R-squared	0.381159	S.D. dependent var		247657.7
S.E. of regression	194823.5	Akaike info criterion		27.27419
Sum squared resid	8.73E+11	Schwarz criterion		27.37170
Log likelihood	-338.9274	Hannan-Quinn criter.		27.30124
F-statistic	15.78219	Durbin-Watson stat		0.298816
Prob(F-statistic)	0.000602			

The resulting regression model:

$$\text{PIB} = 359.432,7 - 2165.133 \text{ RI}$$

The negative value of parameter b (C2) results in an inverse relationship between GDP and inflation, and if the inflation rate increases by 1 percentage point, GDP will decrease by 2165,133 million.

R-square = 0.4069 is the coefficient of determination; Thus 40.69% indicates the influence of inflation on GDP, the difference shows the influences of other factors.

Many doctors, engineers, researchers, language specialists, etc. Is now working in the Western countries, creating great difficulties in the Romanian economy, which soon will feel the lack of specialists from the above mentioned. Opening to Europe after accession will have a contradictory effect on employment and the effect on unemployment. They will be unemployed, but the national economy will face a number of professions with the necessary labor force. As a result, the number of the unemployed will increase more, people with modest training or undesired areas or on the European internal market. The government has to raise the issue of finding the levers to stimulate small and medium-sized businesses, which, in the transition to a full market economy, create new jobs and ensure. In view of the difficulties faced by the economy as a whole, it is assumed that private companies can not cope with the downturns and thus bring unemployed people into jobs.

Conclusions

From the data presented above we can conclude that in the coming period, restructuring and privatization in industry and services and the continued implementation of the Law on Amendment of the Land Law would have the effect of increasing the slowdown in the number of those who are to be registered as unemployed or becoming unemployed Unemployed. Without taking adequate measures in 2016, it could mean an increase in the number of unemployed by implementing measures to reduce the number of employees in the government sector as a strategy announced by the government. It is more difficult to predict who will take over the position of an EU country. The econometric model used to estimate the influence on GDP on inflation shows that there is a negative parameter, ie a negative influence, and for an increase in the inflation rate by one unit, the GDP will decrease by the value of the coefficient. When testing the validity of the model, statistics F are used, which are calculated by three variants: the variance explained by the model, the residual variance and the total variance. The F value of 15.78 is statistically significant for a 95% probability guarantee, because the significance F has a value (0.000602) very close to zero.

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