



PRESS RELEASE

LABOUR FORCE SURVEY: December 2019

The Hellenic Statistical Authority (ELSTAT) announces the seasonally adjusted unemployment rate for December 2019.

- The **seasonally adjusted unemployment rate** in December 2019 was **16.3%** compared to 18.5% in December 2018 and to 16.5% in November 2019. The number of employed in December 2019 amounted to 3,898,007 persons. The number of unemployed amounted to 758,886 while the number of inactive to 3,252,811. The corresponding figures for December 2014 to 2019 are presented in Table 1.
- The **number of employed persons** increased by 53,160 persons compared with December 2018 (a 1.4% rate of increase) and decreased by 6,340 persons compared with November 2019 (a 0.2% rate of decrease).
- The **number of unemployed persons** decreased by 114,584 persons compared with December 2018 (a 13.1% rate of decrease) and by 12,274 persons compared with November 2019 (a 1.6% rate of decrease).
- The **number of inactive persons**, i.e., persons that neither work nor look for a job, increased by 14,796 persons compared with December 2018 (a 0.5% rate of increase) and by 14,778 persons compared with November 2019 (a 0.5% rate of increase).

Seasonal adjustment is a statistical technique that removes the seasonal component of a time series, making more visible the underlying trend in the change of a characteristic. Users should take into account the fact that seasonal adjustment procedure requires data for many months in order to remove the seasonal component from a time series. As a result, several “observations” (that is a sufficient number of monthly results) are necessary so that the time series reflect a significant change in the trend of employment and unemployment.

The monthly estimates for the number of employed, unemployed and unemployment rate can be subject to revisions in the following months caused by updates to the seasonally adjusted series whenever new monthly data are added, inclusion of the most recent quarterly Labour Force Survey (LFS) data and update of seasonal adjustment model with complete annual data.

Users should also take into account that the first estimates of the most recent monthly unemployment rates are likely to be revised as they are produced with the collected and processed at the time of the press release survey data, which do not coincide with the finally collected and processed sample of the survey. For that reason monthly estimates are revised when the final quarterly estimates are known.

Information on methodological issues

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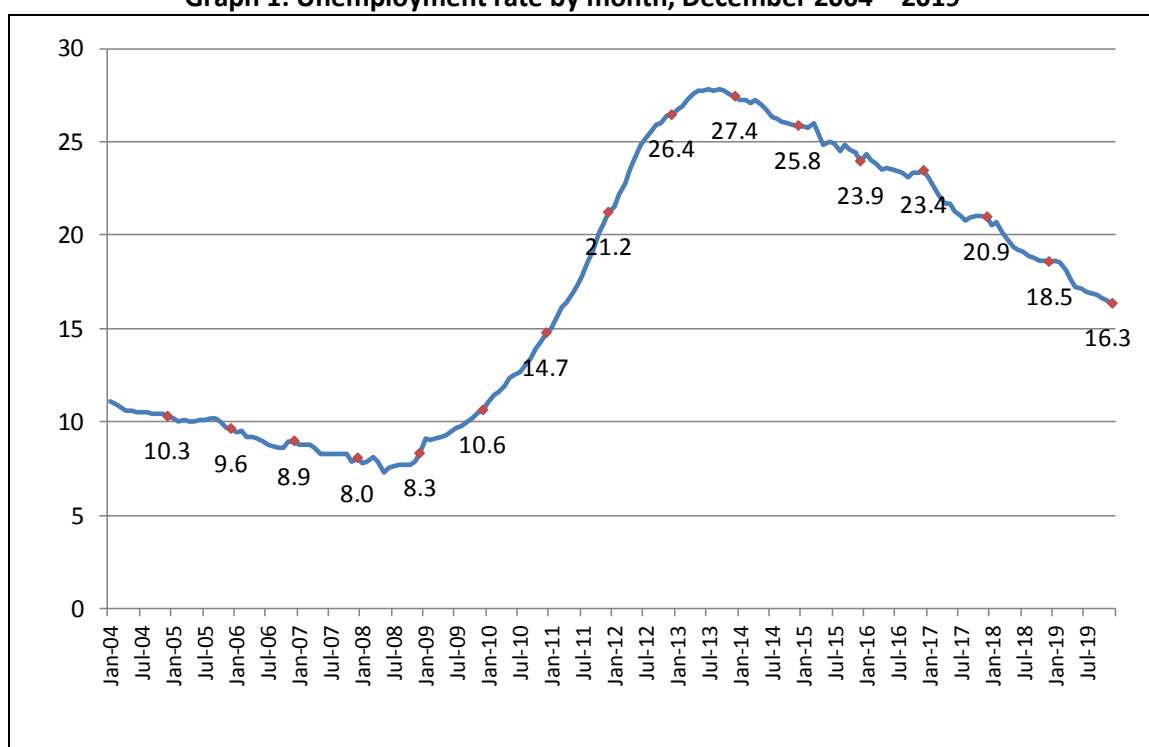
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Table 1: Employed, unemployed, economically non-active persons and unemployment rate, December 2014 – 2019

	December					
	2014	2015	2016	2017	2018	2019
Employed	3,546,745	3,686,332	3,661,091	3,754,400	3,844,847	3,898,007
Unemployed	1,232,207	1,159,181	1,117,970	990,299	873,470	758,886
Inactive	3,331,602	3,221,092	3,250,350	3,252,388	3,238,015	3,252,811
Unemployment Rate	25.8	23.9	23.4	20.9	18.5	16.3

Graph 1: Unemployment rate by month, December 2004 – 2019



The values of the curve refer to December of each year

Tables 2 and 3 illustrate the unemployment rate by gender and age group from December 2014 to 2019. Table 4 presents the evolution of unemployment rate during the last 15 months, by Decentralized Administration. The complete time series for employed, unemployed and inactive persons as well as the unemployment rate are available on ELSTAT's website.

Table 2: Unemployment rate by gender, December 2014-2019

Gender	December					
	2014	2015	2016	2017	2018	2019
Males	22.8	20.8	19.8	16.8	14.6	13.2
Females	29.5	27.7	27.9	25.9	23.5	20.2
Total	25.8	23.9	23.4	20.9	18.5	16.3

Table 3: Unemployment rate by age group¹, December 2014-2019

Age Group	December					
	2014	2015	2016	2017	2018	2019
15-24	50.8	49.3	46.4	43.2	39.4	34.7
25-34	34.4	30.0	29.8	25.6	24.4	22.2
35-44	22.3	20.1	20.4	19.1	16.3	15.0
45-54	20.3	19.8	18.7	16.6	15.1	12.9
55-64	16.7	19.0	20.0	17.3	14.4	12.3
65-74	9.5	11.0	14.5	12.2	9.8	8.7
Total	25.8	23.9	23.4	20.9	18.5	16.3

Table 4: Unemployment rate for the period October 2018 - December 2019, by Decentralized Administration²

Decentralized Administration	10th 2018	11th 2018	12th 2018	1st 2019	2nd 2019	3d 2019	4th 2019	5th 2019	6th 2019	7th 2019	8th 2019	9th 2019	10th 2019	11th 2019	12th 2019
Macedonia-Thrace	19.1	19.3	18.9	19.1	18.9	19.0	18.9	19.1	18.7	18.7	18.4	18.6	18.6	18.6	18.4
Epirus-Western Macedonia	21.8	21.2	21.2	21.4	21.3	20.9	20.3	20.1	20.1	20.3	19.8	19.2	19.5	19.9	19.8
Thessaly – Sterea Ellas	18.2	17.9	19.0	18.5	18.6	17.7	17.5	17.0	17.0	16.8	20.6	18.8	18.2	17.5	17.3
Peloponnese, Western Greece & Ionian Islands	18.7	18.4	18.6	18.6	18.8	18.6	18.4	18.0	17.6	17.3	17.0	17.1	16.5	16.4	16.1
Attica	19.1	19.0	18.8	18.7	18.3	17.9	17.6	17.2	16.8	16.8	16.2	16.0	15.6	15.5	16.1
Aegean Islands	19.6	19.6	20.6	20.1	19.0	18.5	10.7	12.0	13.6	14.0	14.2	14.7	14.8	16.1	13.7
Crete	11.2	14.2	9.7	11.6	15.3	12.5	11.7	9.2	10.0	10.0	11.5	11.9	11.9	12.7	11.3
Greece, Total	18.6	18.6	18.5	18.6	18.5	18.1	17.6	17.2	17.1	17.0	16.9	16.8	16.6	16.5	16.3

¹ Estimates of “rare” characteristics, that is estimates of characteristics that refer to 10,000 persons or less are accompanied by large sampling errors, as for example in the case of unemployment rate in the age group of 65 – 74 years old.

² Decentralized Administrations are the lowest geographical areas for which the Labour Force Survey (LFS) publishes estimates. LFS results are not published at lower level (i.e. NUTS 2 or NUTS 3) because, due to small population and sample size, estimates in these areas have large sampling errors. It should be noted that the same problem of small populations and sample sizes exist also in certain Decentralized Administrations and as a result, estimates in these areas have large sampling errors.

The effect of seasonal adjustment on the estimates of Labour Force Survey

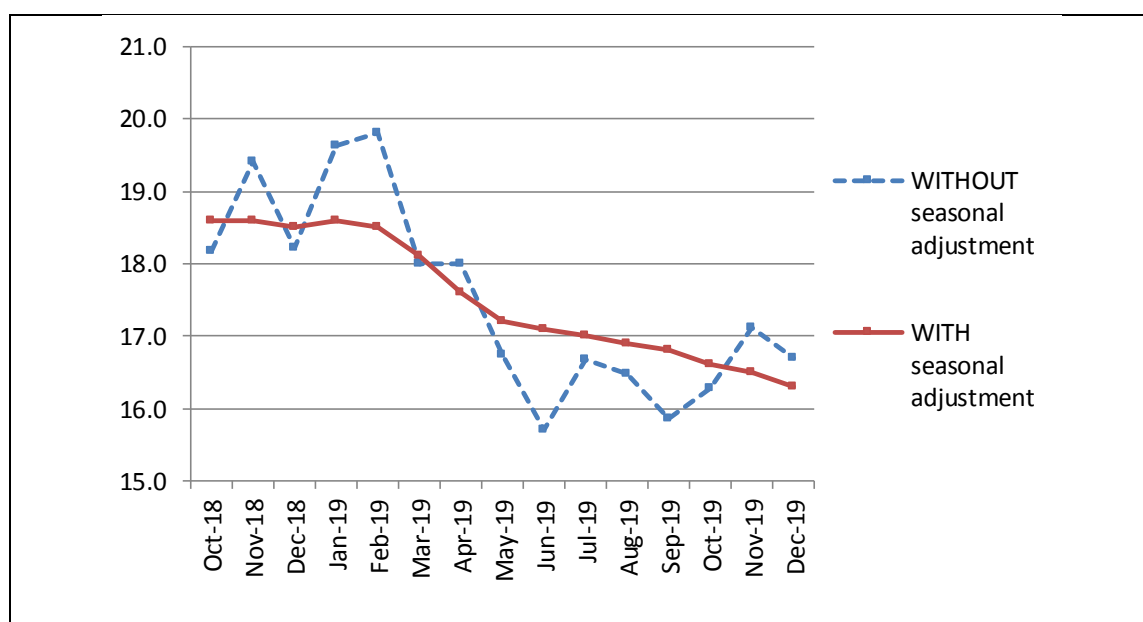
The characteristics surveyed by Labour Force Survey (number of employed, unemployed, etc.) have large seasonal variation. For example, in Greece, employment increases during summer months because of tourism (if there are no other countervailing factors).

Table 5 presents the change in monthly estimates of employed and unemployed persons because of seasonal adjustment for the period October 2018 – December 2019 while Graphs 2, 3 and 4 present adjusted and unadjusted time series for employed persons, unemployed persons and the rate of unemployment for the same period.

Table 5: Change in monthly estimates of employed and unemployed persons due to seasonal adjustment

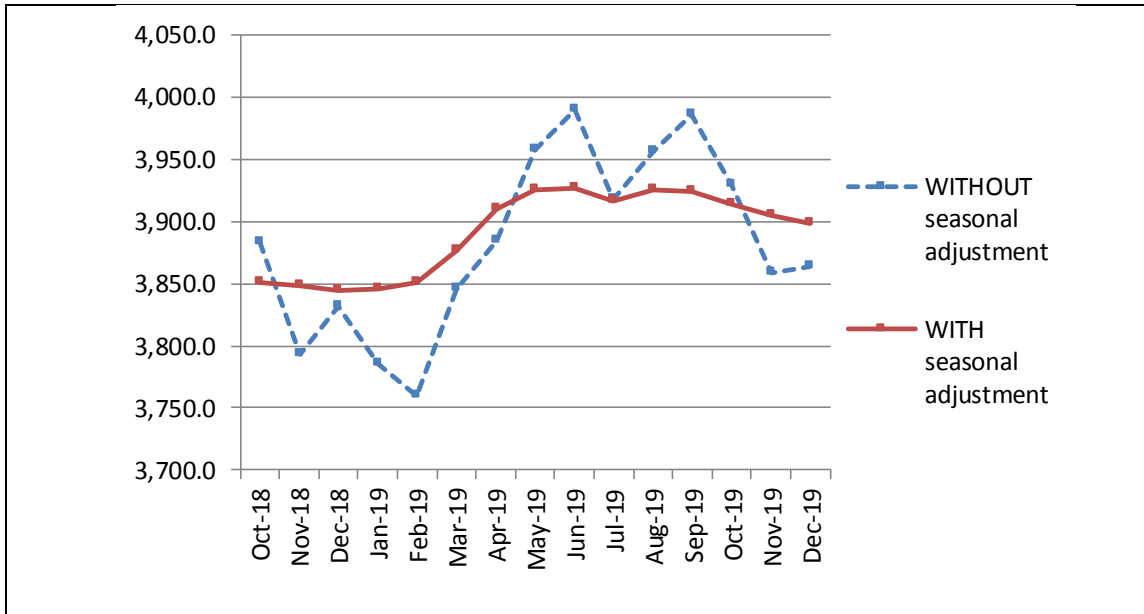
	Estimated number of employed <u>without</u> seasonal adjustment (in thousands)	Change due to seasonal adjustment (in thousands)	Change (%)	Estimated number of unemployed <u>without</u> seasonal adjustment (in thousands)	Change due to seasonal adjustment (in thousands)	Change (%)
October 2018	3,883.1	-31.8	-0.8	862.4	16.3	1.9
November 2018	3,793.6	54.5	1.4	914.3	-37.2	-4.1
December 2018	3,831.0	13.8	0.4	853.8	19.7	2.3
January 2019	3,785.5	60.3	1.6	924.9	-45.2	-4.9
February 2019	3,758.9	91.6	2.4	928.0	-55.0	-5.9
March 2019	3,846.3	30.5	0.8	844.0	13.4	1.6
April 2019	3,884.3	26.0	0.7	852.6	-20.1	-2.4
May 2019	3,957.8	-32.0	-0.8	795.7	22.5	2.8
June 2019	3,989.3	-63.0	-1.6	743.0	66.6	9.0
July 2019	3,918.1	-1.3	0.0	784.7	20.3	2.6
August 2019	3,956.6	-31.4	-0.8	780.9	16.5	2.1
September 2019	3,986.2	-61.7	-1.5	751.9	42.0	5.6
October 2019	3,928.9	-15.0	-0.4	763.6	16.5	2.2
November 2019	3,859.2	45.1	1.2	796.9	-25.7	-3.2
December 2019	3,864.2	33.8	0.9	774.8	-15.9	-2.1

Graph 2: Unemployment Rate - Adjusted and Non-adjusted Estimates



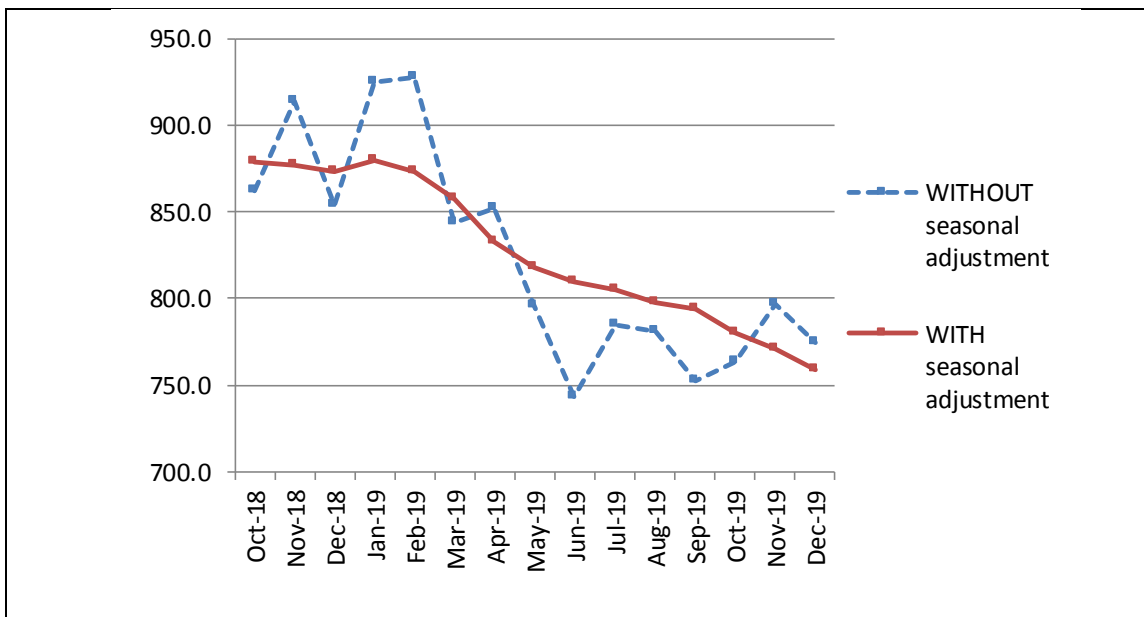
(in thousands)

Graph 3: Number of Employed Persons - Adjusted and Non-adjusted Estimates



(in thousands)

Graph 4: Number of Unemployed Persons - Adjusted and Non-adjusted Estimates



(in thousands)

Revisions of monthly estimates

The monthly estimates, for the number of employed and unemployed persons and unemployment rate, can be subject to revisions in the following months caused by updates to the seasonally adjusted series whenever new monthly data are added, inclusion of the most recent quarterly Labour Force Survey data and update of the seasonal adjustment model with complete annual data. In the current press release the estimation of unemployment rate for the period October 2018 – November 2019 has been revised (compared to the estimation published in the previous press-release) as follows:

Table 6: Comparison of seasonally adjusted estimates

	Estimations published in February 2019	Estimations published in the current press release
October 2018	18.5	18.6
November 2018	18.6	18.6
December 2018	18.5	18.5
January 2019	18.6	18.6
February 2019	18.5	18.5
March 2019	18.1	18.1
April 2019	17.5	17.6
May 2019	17.2	17.2
June 2019	17.1	17.1
July 2019	17.0	17
August 2019	16.9	16.9
September 2019	16.8	16.8
October 2019	16.6	16.6
November 2019	16.5	16.5
December 2019	-	16.3

EXPLANATORY NOTES

Labour Force Survey	Labour Force Survey has been conducted since 1981. Until 1997 the results were produced on an annual basis with reference to the second quarter of each year. From 1998 onwards it is a continuous quarterly survey. The main statistical objectives of the Labour Force Survey is to divide the population of working age (15 years and over) into three mutually exclusive and exhaustive groups - persons in employment, unemployed persons and inactive persons. In addition, the Labour Force Survey collects information on demographic characteristics, on main job characteristics, on the existence and characteristics of a second job, on educational attainment, on participation in education, on previous working experience and on search of job.
Legislation	The current survey is fully harmonized with European legislation. The principal legal act is the <u>Council Regulation (EC) No. 577/98</u> that stipulates the provisions on design, survey characteristics and decision-making processes.
Reference Period	The sample of Labour Force Survey is equally allocated to the 4 (or 5) weeks of the month. Every selected household is assigned to a specific week, the reference week, running from Monday to Sunday.
Coverage	For the monthly estimates, a sub-sample of the quarterly Labour Force survey's sample is used.
Definitions	<p>Employed are persons aged 15 years or older, who during the reference week worked, even for just one hour, for pay or profit or they were working in the family business, or they were not at work but had a job or business from which they were temporarily absent.</p> <p>Unemployed are persons aged 15-74 who were without work during the reference week (they were not classified as employed), were currently available for work and were either actively seeking work in the past four weeks or had already found a job to start within the next three months.</p> <p>Inactive are those persons who are neither classified as employed nor as unemployed.</p> <p>Economically active population (labour force) are persons either employed or unemployed.</p> <p>Unemployment Rate is the ratio of unemployed divided by total labour force.</p>
Seasonal adjustment	Seasonal adjustment is a statistical technique that removes the seasonal component of a time series, making more visible the underlying trend in the change of a characteristic. Hellenic Statistical Authority is using Demetra 2.0 for seasonal adjustment, Seasonally adjusted series are produced by TRAMO&SEATS algorithm. It should be noted that due to seasonal adjustment the whole series with monthly estimates is recalculated every time a new month is added in time series. As a result, estimations for the previous months are often revised.
Sampling errors	The monthly results of Labour Force Survey are estimations that are based in a relatively small sample size and have large sampling errors. An indication of the magnitude of survey's sampling errors is that estimations of characteristics that refer to 25,000 persons at the total country are accompanied by a coefficient of variation of at least 15%. More accurate estimates and detailed analysis of the changes in employment can be based on the quarterly results of the survey.
Methodology	Labour Force Survey's estimates are produced by a suitable unbiased estimator which takes in to account a) the probability of selection of every sampled household, b) the response rate in every primary sampling unit, c) the estimated population, for the corresponding month, allocated by NUTS II areas, gender and age group.
References	Analytical description of the Labour Force Survey's methodology and definitions can be found at http://www.statistics.gr/en/statistics/-/publication/SJO02/