



PRESS RELEASE

LABOUR FORCE SURVEY: September 2018

The Hellenic Statistical Authority (ELSTAT) announces the seasonally adjusted unemployment rate for September 2018.

- The **seasonally adjusted unemployment rate** in September 2018 was **18.6%** compared to 20.8% in September 2017 and 18.9% in August 2018. The number of employed in September 2018 amounted to 3,879,461 persons. The number of unemployed amounted to 887,009 while the number of inactive to 3,199,929. The corresponding figures for September 2013 to 2018 are presented in Table 1.
- The **number of employed persons** increased by 88,205 persons compared with September 2017 (a 2.3% rate of increase) and by 18,240 persons compared with August 2018 (a 0.5% rate of increase).
- The **number of unemployed persons** decreased by 111,221 persons compared with September 2017 (a 11.1% rate of decrease) and by 10,154 persons compared with August 2018 (a 1.1% rate of decrease).
- The **number of inactive persons**, i.e., persons that neither work nor look for a job, decreased by 15,571 persons compared with September 2017 (a 0.5% rate of decrease) and by 11,448 persons compared with August 2018 (a 0.4% rate of decrease).

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.

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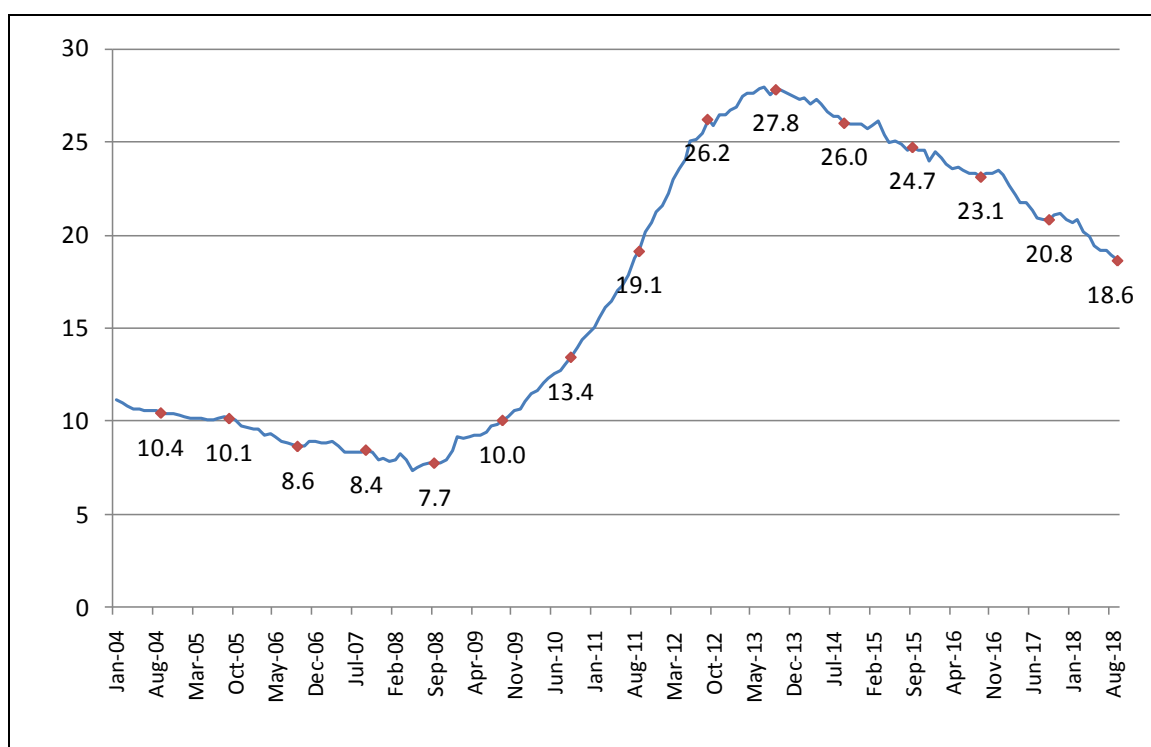
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Table 1: Employed, unemployed, economically non-active persons and unemployment rate, September 2013 – 2018

	September					
	2013	2014	2015	2016	2017	2018
Employed	3,490,841	3,551,069	3,626,755	3,702,270	3,791,256	3,879,461
Unemployed	1,347,296	1,249,831	1,189,544	1,112,259	998,230	887,009
Inactive	3,336,120	3,322,864	3,261,007	3,224,767	3,215,500	3,199,929
Unemployment Rate	27.8	26.0	24.7	23.1	20.8	18.6

Graph 1: Unemployment rate by month, September 2004 – 2018



The values of the curve refer to September of every year

Tables 2 and 3 illustrate unemployment rate by gender and age groups from September 2013 to 2018. Table 4 presents the evolution of unemployment rate during last 15 months by Decentralized Administrations. The complete time series for employed, unemployed, inactive and unemployment rate are available on ELSTAT's website.

Table 2: Unemployment rate by gender, September 2013-2018

Gender	September					
	2013	2014	2015	2016	2017	2018
Males	24.7	23.1	21.2	19.5	17.1	14.8
Females	31.9	29.7	29.0	27.5	25.6	23.4
Total	27.8	26.0	24.7	23.1	20.8	18.6

Table 3: Unemployment rate by age groups¹, September 2013-2018

Age Group	September					
	2013	2014	2015	2016	2017	2018
15-24	56.1	50.9	49.6	45.2	40.5	36.6
25-34	37.1	35.6	31.5	30.5	25.2	24.3
35-44	24.5	22.8	22.8	19.7	19.1	16.7
45-54	21.1	20.0	19.8	19.1	16.9	15.6
55-64	16.0	16.3	16.5	18.5	17.7	14.1
65-74	9.5	10.9	10.1	13.0	12.8	9.9
Total	27.8	26.0	24.7	23.1	20.8	18.6

Table 4: Unemployment rate during July 2017 - September 2018, by Decentralized Administration²

Decentralized Administration	7th th 2017	8th st 2017	9th nd 2017	10th 2017	11th 2017	12th 2017	1st 2018	2nd 2018	3d 2018	4th 2018	5th 2018	6th 2018	7th 2018	8th 2018	9th 2018
Macedonia-Thrace	21.9	21.5	21.5	21.5	21.0	20.8	20.3	20.4	20.1	20.0	19.8	19.6	19.6	19.6	19.5
Epirus-Western Macedonia	27.0	26.1	26.0	25.9	26.0	25.9	25.3	25.3	24.3	24.7	23.5	23.8	23.5	23.6	23.4
Thessaly – Sterea Ellas	20.4	19.8	19.6	19.7	19.3	19.3	18.8	18.9	18.8	18.8	18.9	19.3	18.8	18.5	18.3
Peloponnese, Western Greece & Ionian Islands	20.8	21.1	21.8	21.8	21.7	21.4	20.9	20.6	19.8	19.4	18.6	18.5	18.5	18.7	18.5
Attica	21.3	21.3	21.4	21.5	21.4	21.3	21.1	21.7	21.0	20.5	20.0	19.8	19.7	19.4	19.0
Aegean Islands	16.8	17.6	17.1	18.3	21.6	20.3	19.3	19.4	18.5	18.9	18.2	16.3	17.6	17.9	18.6
Crete	16.5	15.9	15.9	15.2	18.5	16.7	16.7	16.5	16.7	11.9	13.5	12.4	12.4	12.8	12.2
Greece, Total	20.9	20.8	20.8	21.0	21.1	20.8	20.6	20.8	20.1	19.9	19.4	19.1	19.1	18.9	18.6

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 (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

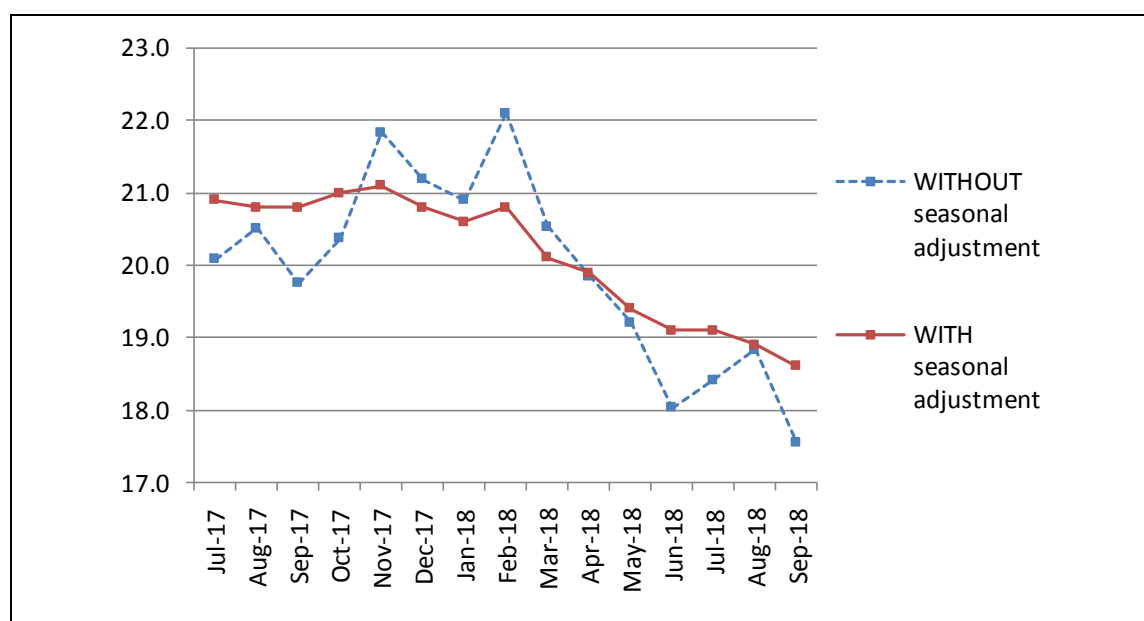
The characteristics surveyed by Labour Force Survey (number of employed, unemployed, etc.) have large seasonal variation. For example, in Greece, employment increases during summer months because of tourism (if there are no other countervailing factors).

Table 5 presents the change in monthly estimates of employed and unemployed because of seasonal adjustment for the period July 2017 – September 2018 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.

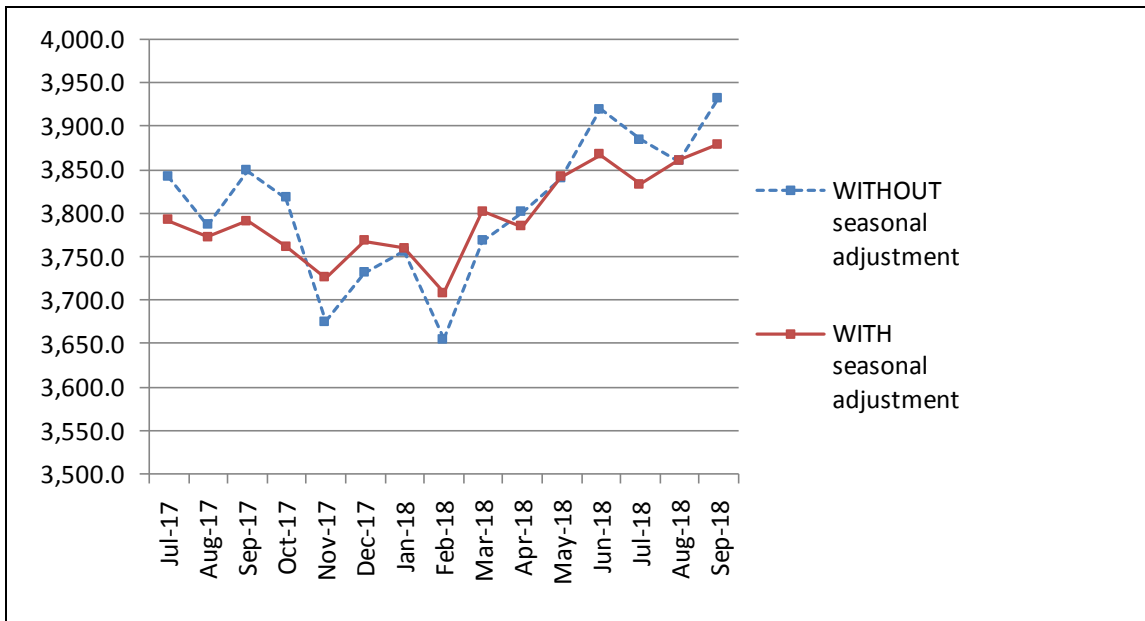
Table 5: Change in monthly estimates of employed and unemployed persons due to seasonal adjustment

	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 (%)
July 2017	3,843.2	-50.8	-1.3	966.0	-37.1	-3.8
August 2017	3,786.4	-13.8	-0.4	977.3	-15.2	-1.6
September 2017	3,848.8	-57.5	-1.5	947.4	-50.8	-5.4
October 2017	3,818.3	-56.8	-1.5	976.5	-22.5	-2.3
November 2017	3,675.3	50.7	1.4	1,026.8	31.3	3.1
December 2017	3,731.3	36.6	1.0	1,003.2	13.5	1.3
January 2018	3,756.6	3.2	0.1	993.4	17.7	1.8
February 2018	3,655.2	53.3	1.5	1,037.0	64.9	6.3
March 2018	3,768.6	33.3	0.9	973.6	19.9	2.0
April 2018	3,801.0	-16.0	-0.4	941.3	-0.6	-0.1
May 2018	3,840.1	1.3	0.0	913.1	-9.2	-1.0
June 2018	3,919.7	-51.9	-1.3	862.5	-50.8	-5.9
July 2018	3,885.3	-51.9	-1.3	877.1	-27.1	-3.1
August 2018	3,860.7	0.50	0.0	895.9	-1.3	-0.1
September 2018	3,932.3	-52.8	-1.3	837.1	-49.9	-6.0

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

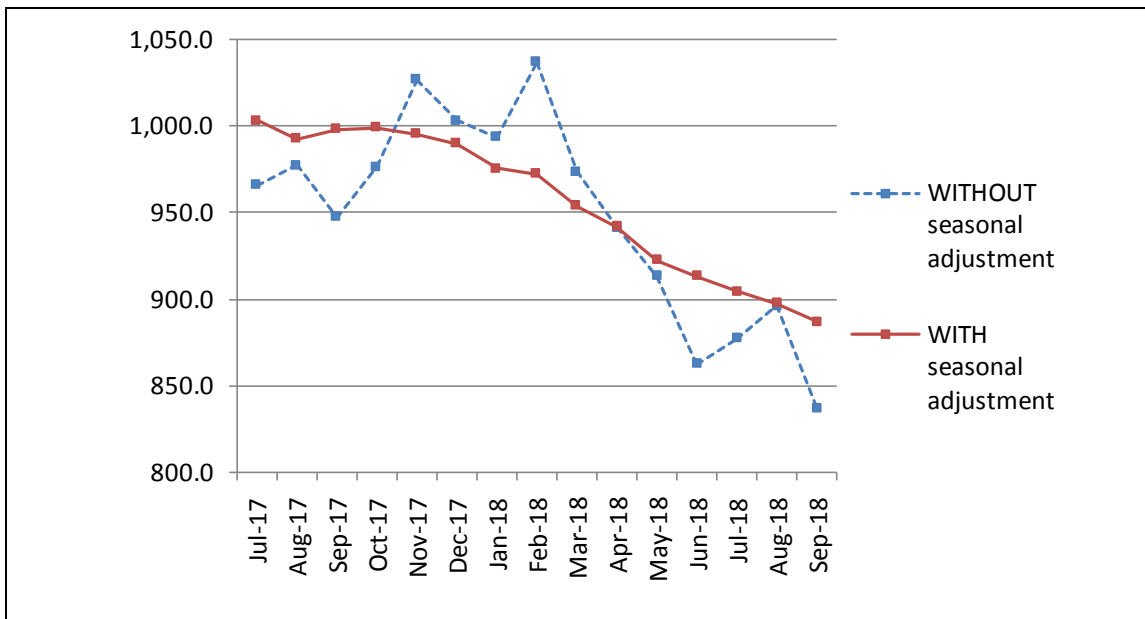


Graph 3: Number of Employed Persons - Adjusted and Non-adjusted Estimates



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, 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 data and update of seasonal adjustment model with complete annual data. In the current press release the estimation of unemployment rate for the period July 2017 – August 2018 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 November 2018	Estimations published in the current press release
July 2017	20.9	20.9
August 2017	20.8	20.8
September 2017	20.8	20.8
October 2017	21.0	21.0
November 2017	21.1	21.1
December 2017	20.8	20.8
January 2018	20.6	20.6
February 2018	20.7	20.8
March 2018	20.1	20.1
April 2018	19.9	19.9
May 2018	19.3	19.4
June 2018	19.1	19.1
July 2018	19.1	19.1
August 2018	18.9	18.9
September 2018		18.6

EXPLANATORY NOTES

Labour Force Survey	Labour Force Survey produces estimates since 1981 (second quarter of the 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 completely 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 was 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/-