



Deseasonalised data

The dissemination of the following deseasonalisation series of the Economically Active Population Survey (adjusted for seasonal and calendar effects), from the 1st quarter of 1990, took place in 2013:

- Total number of Employed persons
- Total number of Unemployed persons

Said series have been obtained in accordance with the INE standard for adjusting seasonal and calendar effects in short-term series, available from INEbase (http://www.ine.es/ss/Satellite?L=en_GB&c=Page&cid=1254735839296&p=1254735839296&pagename=MetodologiaYEstandares%2FINELayout).

Deseasonalisation has also been carried out using Reg-ARIMA. Identification of each model has been performed manually, following the Box-Jenkins methodology, and mainly using Gretl software, with the series information at the end of 2012 (4th quarter). The selected models were as follows:

- For the Total number of Employed persons: ARIMA(1,1,0)x(0,1,1), with the series in logarithms.
- For the Total number of Unemployed persons: ARIMA(1,1,0)x(0,1,1), with the series in levels.

In both cases, four calendar effect regressors were initially introduced into the model⁽¹⁾ (working days, Easter break, Easter week working days and leap year), although in the end none of them had any significant effect, therefore they were removed and are not shown in the final model.

With regard to the analysis of atypical data, the following interventions have been incorporated into the models:

- For the Total number of Employed persons: three negative knock-on effects, in the periods 1-2009, 4-2008 and 1-1993, and a positive boost in the period 2-2011.
- For the Total number of Unemployed persons: a negative knock-on effect in the period 1-2001, which models the change in definition of unemployment that occurred in the Survey in said period, initially incorporated as a regressor together with calendar effect variables; additionally, two positive knock-on effects in the periods 1-2009 and 4-2008 and a negative effect boost in the period 2-2011.

Estimation of the model, breakdown of the series and its deseasonalisation have been performed automatically via the Tramo-Seats Plus program.

These models have already been used for the deseasonalisation of the series obtained in the first, second and third quarter of 2013. Estimation of parameters of the model is carried out each quarter for the complete series. For the deseasonalisation of the series in the four quarters of 2014 models will be re-identified.

⁽¹⁾ Since 1990 official calendars for all Autonomous Communities have been published in the BOE, this being the reason why said date was taken as the start of the series for deseasonalisation

SEASONALLY ADJUSTED SERIES
QUARTER-ON-QUARTER VARIATION RATES (PERCENTAGES)

PERIOD	EMPLOYMENT	UNEMPLOYMENT	PERIOD	EMPLOYMENT	UNEMPLOYMENT
Q1-1990	12,894.0	2,551.1	Q1-2002	16,423.3	2,074.6
Q2-1990	12,915.3	2,529.6	Q2-2002	16,576.3	2,129.4
Q3-1990	12,968.0	2,485.4	Q3-2002	16,689.8	2,204.9
Q4-1990	13,044.8	2,474.4	Q4-2002	16,831.5	2,211.8
Q1-1991	13,083.1	2,468.9	Q1-2003	17,016.2	2,239.6
Q2-1991	13,072.2	2,495.3	Q2-2003	17,218.1	2,223.3
Q3-1991	13,052.0	2,591.8	Q3-2003	17,384.1	2,256.8
Q4-1991	13,022.8	2,625.8	Q4-2003	17,564.1	2,249.8
Q1-1992	12,970.8	2,681.7	Q1-2004	17,695.4	2,229.3
Q2-1992	12,892.8	2,804.8	Q2-2004	17,843.1	2,249.1
Q3-1992	12,799.0	2,917.2	Q3-2004	18,053.4	2,225.3
Q4-1992	12,626.8	3,138.3	Q4-2004	18,293.4	2,153.5
Q1-1993	12,389.7	3,368.8	Q1-2005	18,591.7	2,033.9
Q2-1993	12,320.8	3,535.1	Q2-2005	18,869.4	1,958.4
Q3-1993	12,254.0	3,693.2	Q3-2005	19,110.3	1,827.7
Q4-1993	12,212.8	3,797.3	Q4-2005	19,318.9	1,840.7
Q1-1994	12,148.3	3,889.8	Q1-2006	19,505.4	1,862.3
Q2-1994	12,182.3	3,922.1	Q2-2006	19,667.6	1,843.5
Q3-1994	12,214.9	3,866.8	Q3-2006	19,811.4	1,828.7
Q4-1994	12,289.2	3,835.3	Q4-2006	20,005.3	1,815.0
Q1-1995	12,416.3	3,758.1	Q1-2007	20,180.9	1,782.0
Q2-1995	12,490.1	3,701.1	Q2-2007	20,342.8	1,763.3
Q3-1995	12,540.7	3,714.0	Q3-2007	20,418.3	1,856.0
Q4-1995	12,601.5	3,686.8	Q4-2007	20,477.5	1,940.1
Q1-1996	12,683.0	3,704.4	Q1-2008	20,522.5	2,097.8
Q2-1996	12,785.0	3,675.4	Q2-2008	20,405.3	2,376.0
Q3-1996	12,944.7	3,625.8	Q3-2008	20,244.8	2,672.4
Q4-1996	13,074.1	3,572.3	Q4-2008	19,852.1	3,226.9
Q1-1997	13,181.6	3,532.5	Q1-2009	19,214.7	3,918.6
Q2-1997	13,272.9	3,507.9	Q2-2009	18,930.3	4,121.3
Q3-1997	13,384.7	3,436.2	Q3-2009	18,765.9	4,213.4
Q4-1997	13,546.7	3,369.5	Q4-2009	18,638.7	4,355.8
Q1-1998	13,688.6	3,269.3	Q1-2010	18,527.9	4,507.3
Q2-1998	13,805.8	3,228.3	Q2-2010	18,459.4	4,629.2
Q3-1998	13,985.6	3,155.4	Q3-2010	18,433.1	4,668.3
Q4-1998	14,138.8	3,050.3	Q4-2010	18,401.9	4,724.4
Q1-1999	14,386.2	2,866.4	Q1-2011	18,297.9	4,794.1
Q2-1999	14,610.8	2,724.8	Q2-2011	18,278.8	4,834.5
Q3-1999	14,782.4	2,672.8	Q3-2011	18,035.1	5,074.3
Q4-1999	14,976.6	2,639.4	Q4-2011	17,804.9	5,297.5
Q1-2000	15,191.4	2,583.8	Q1-2012	17,585.9	5,508.4
Q2-2000	15,422.2	2,515.3	Q2-2012	17,388.0	5,708.9
Q3-2000	15,611.0	2,476.0	Q3-2012	17,199.3	5,871.4
Q4-2000	15,793.6	2,425.1	Q4-2012	16,955.2	5,988.6
Q1-2001	15,947.7	1,893.7	Q1-2013	16,786.7	6,061.3
Q2-2001	16,058.2	1,900.7	Q2-2013	16,752.9	6,004.0
Q3-2001	16,221.3	1,894.6	Q3-2013	16,706.8	5,994.9
Q4-2001	16,355.3	1,940.2	Q4-2013	16,755.1	5,922.0