

24 April 2014

## **Economically Active Population Survey (EAPS)**

### **Revised Series 2002-2013**

## **Population base change in the EAPS estimates**

### **Methodological note**

#### **1. Introduction**

The population base change in the Economically Active Population Survey (EAPS) consists of including and updating the new population and household series derived from the 2011 Population and Housing Census, replacing those that have been used up until this time, based on the 2001 Census. This entails the revision of the survey elevation factors, which are calculated using the mentioned population, as of the first quarter of 2002.

Today, the INE is publishing the methodology for including the Census figures, and is providing notification of the differences between the previous series and the new series. Simultaneously, it is publishing, on its website, the details of the retrospective quarterly series from 2002 to 2013, as well as the corresponding anonymised microdata files. The Economically Active Population Survey for the first quarter of 2014 will be published on 29 April 2014, already with new populations, and will be comparable with the data from said retrospective series

The INE announced the population base change in the EAPS last 23 January, coinciding with the dissemination of the data from the survey for the fourth quarter of 2013, as established in the European Statistics Code of Practice. Said change has also been disseminated via the INE website<sup>1</sup>.

Throughout the year 2013, the INE has already included the new population and household series in other annual household operations, such as the Living Conditions Survey or the Household Budget Survey. Given the characteristics of the EAPS as a

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<sup>1</sup> See [http://www.ine.es/ss/Satellite?L=en\\_GB&c=Page&cid=1259942618832&p=1259942618832&pagename=MetodologiaYEstandares%2FINELayout](http://www.ine.es/ss/Satellite?L=en_GB&c=Page&cid=1259942618832&p=1259942618832&pagename=MetodologiaYEstandares%2FINELayout)

continuous quarterly survey that also offers annual measurements, the change is made in the first quarter of the year in order to coincide with the calendar year.

The updating of the population figures is a customary procedure that is mandatory to carry out in all household surveys, and therefore, it is also mandatory in the EAPS, when significant variations arise in the population figure. This updating procedure is set out in the Survey methodology itself, and it is recommended by the Statistics Office of the European Union (Eurostat). Moreover, in this case, the calibration method of the factors has been revised.

The methodological project for "The Inclusion of the new population and household series derived from the 2011 Population and Housing Census in the Economically Active Population Survey" was presented for assessment in the Permanent Commission of the High Council on Statistics last 26 November 2013, and received a positive assessment from said body on 28 February 2014<sup>2</sup>.

## **2. The results of the Population and Housing Censuses and the differences with the population and household estimates of the EAPS**

Each Population Census provides a new reference of the population resident in Spain, to which, as necessary, it will be necessary to adapt the populations used in the household surveys, in particular in the EAPS, in order to calculate the elevation factors.

Thus, in the year 2002, an adaptation was made, in order to reconcile the populations used in the EAPS with the new information available regarding population. Likewise, in accordance with Council Regulation 577/98, a calibration was included in the survey, by sex, age and Autonomous Community, also dropping to a provincial level in the case of Spain. At the same time, a new operative definition of unemployment was applied, in compliance with European Commission Regulation 1897/2000. For the purpose of having homogeneous series of EAPS results, all of the data from 1976 to 2001 was revised.

In 2004, from the evolution of the municipal register figures, it was detected that the population adaptation carried out in 2002 had been insufficient, and that it was necessary to revise the population base of the EAPS once again, due to the massive influx of foreign nationals in Spain. This fact also led to an adaptation of the survey calibration, which for the first time, included nationality as a calibration variable. Retrospective data from 1996 onward was recalculated, progressively introducing the calibration by nationality in the Autonomous Communities, as the sample so permitted. This is the population base that has been in force until now.

Referring to 30 November 2011, as required by the European Union regulations regarding this type of statistical operation, the latest census operation in Spain was carried out, which once again, revealed a discrepancy between its results and the populations used in the EAPS.

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<sup>2</sup> The High Council on Statistics is an advisory body of the state statistical services and social involvement of informants, producers and users of official statistics. The INE would like to thank the Ministry of Employment and Social Security, the Bank of Spain and the General Workers Union for providing the reports that have been the foundation of the judgment.

In fact, the data presented by the 2011 Census, using the reference date of the EAPS (15 November 2011), and for the population resident in family dwellings, elevated the estimate of the population resident in Spain by more than 400,000 persons, with regard to the population estimates that had been used in the survey.

## Population in family dwellings, in thousands.

Fourth quarter of 2011 (15-11-2011)

	Census base		
	Census 2011	Census 2001	Difference
<b>Total population</b>	46,375.6	45,943.5	432.1
<b>Minors under 16 years of age</b>	7,493.7	7,435.3	58.4
<b>Population aged 16 years old and over</b>	38,881.9	38,508.2	373.7
<b>Spaniards</b>	34,453.1	33,867.4	585.7
<b>Foreign nationals</b>	4,428.7	4,640.8	-212.1

Considering the population aged 16 years old and over, which is the fundamental reference of the EAPS, the population in the 2011 Census exceeded that used in the EAPS in the last quarter of 2011 to elevate its sample by 373,700 persons.

In addition, this difference is the result of an uneven redistribution of the population by nationality, as, according the 2011 Census, the population resident in Spain and aged 16 years old and over was underestimated by 585,700 Spaniards in the EAPS, while the number of foreign nationals was overestimated there by 212,100 persons.

This demographic change is large enough to affect the employment estimates of the EAPS significantly, these being the estimates that are taken as a reference in order to assess the population base change as necessary. In fact, applying the variation coefficient estimated for the total employed persons for the fourth quarter of 2011 (0.34%), the confidence interval of 95% for the estimate of employed persons is [17,688,800 - 17,926,200]. Given that the estimate calculated with the new population base this quarter (18,153,000) is outside of said interval based on the estimate from the previous base, it is considered compulsory to apply the new base.

## Population base changes made in 2005 and currently

(absolute values in thousands)

	Amount of the population base change made in 2005, data referring to Q4-2004				Amount of the current population base change, data referring to Q4-2011			
	Previous series	Revised series	Difference	%	Data from base 2001	Data from base 2011	Difference	%
	<b>Population aged 16 years old and</b>	34,474.3	36,038.3	1,564.0	4.54	38,508.2	38,881.9	373.7
<b>Spaniards</b>	33,262.6	33,310.6	48.0	0.14	33,867.4	34,453.1	585.7	1.73
<b>Foreign nationals</b>	1,211.7	2,727.7	1,515.9	125.1	4,640.8	4,428.7	-212.1	-4.57

## Impact of the population changes on the main magnitudes

(absolute values in thousands)

	Amount of the population base change made in 2005, data referring to Q4-2004				Amount of the current population base change, data referring to Q4-2011			
	Previous series	Revised series	Difference	%	Data from base 2001	Data from base 2011	Difference	%
	<b>Employed persons</b>	17,323.3	18,288.1	964.7	5.57	17,807.5	18,153.0	345.5
<b>Unemployed persons</b>	2,007.1	2,159.2	152.2	7.58	5,273.6	5,287.3	13.7	0.26
<b>Economically inactive persons</b>	15,143.9	15,591.0	447.0	2.95	15,427.0	15,441.5	14.5	0.09
<b>Economic activity rate</b>	56.1	56.7	0.7	-	59.9	60.3	0.3	-
<b>Unemployment rate</b>	10.4	10.6	0.2	-	22.9	22.6	-0.3	-

Aside from the differences in the estimates of the population resident in Spain, another phenomenon that has occurred systematically, at least in the last three Population and Housing Censuses, is that the household figures obtained from the surveys (in general and from the EAPS in particular) are considerably lower than those deduced from the Census, with the underestimation concentrated in those households with one and two persons.

Thus, the number of households obtained from the 2011 Census exceeds the number of households estimated by the EAPS by more than 600,000. In particular, single-person households reach 4,158,500, or 22.24% more (756,600 in absolute terms) than the number provided in the EAPS estimate for the fourth quarter of 2011. In turn, the EAPS estimates 7.39% more households with five or more members.

The nature of the household surveys themselves is in the origin of this discrepancy, as non-response is relatively higher among small households, given that they are more difficult to contact, because it is more likely that all of their members are absent.

### 3. The application of the new population base and the improvement of the calibration process

The population base is involved in the two phases at the time of compiling the results of the EAPS. Firstly, it is used to calculate the elevation factors deduced from the sample design. The data for each person interviewed is weighted by the elevation factor, which is the number of persons in the population represented by each individual in the sample.

During a second phase, the so-called calibration of the factors is carried out to exogenous population variables. To this end, using a mathematical model, the initial factors are transformed into other final factors, in such a way that the results of the

survey exactly reproduce such variables<sup>3</sup>.

There are fundamental requirements for introducing calibration variables in the EAPS, on having quality and updated exogenous data each quarter for them: that such variables exist in the survey questionnaire, and that they are correlated with the magnitudes that are fundamental results of the EAPS.

The main objective of the calibration is to decrease the bias derived from the selective non-response.

The most common exogenous variables are sex and age groups, which meet the aforementioned requirements. However, most of the countries in our environment have progressively introduced additional variables (nationality, household-related variables, variables from administrative registers, etc.), depending on the availability of information, the type of non-response and the technical characteristics of the surveys.

In the case of Spain, the exogenous variables considered in the calibration initially introduced in 2002 were population by sex and five-year age group in each Autonomous Community, and population by age in each province (minors under 16 years of age and the rest). These were complemented in the 2005 calibration with the population by nationality (Spanish, foreign) in each Autonomous Community.

With the application of the new 2011 census base, another two variables were added: the population by sex and age (16-29 years old, 30-49 years old, 50 years old and over) in each province, and the households according to size (single-person, two, three, four, five or more persons) in each Autonomous Community.

The first additional variable is nothing other than perfecting the practice followed for the Autonomous Communities. Its objective is to bear in mind the specifics for each province in its Autonomous Community.

In the application of the second additional variable, this has considered the convenience of correcting the sampling representativeness bias of those households that, as mentioned above, concentrate a greater differential non-response in smaller households. In fact, the household size variable is correlated with the main variables of interest in the EAPS (employment, unemployment and economic inactivity) and with non-response. Its introduction in the calibration implies decreasing the response bias. These calibration techniques, which include information from households, are also applied in other European countries (Italy, France, the Netherlands, Germany).

In turn, in order for the sampled weighting to be efficient, that is, to reduce the variance of the estimates without introducing appreciable biases, it is necessary for the sample size in the different calibration groups to be large enough, given that otherwise, increases can occur in the variability, considerably reducing the reliability of the estimates. In introducing the household size as a calibration variable in the EAPS, this requirements is met.

Finally, coherence is achieved among the information from the INE household surveys, given that the household size as a variable in the calibration is involved in all of them. Thus, currently, the following INE surveys already use some type of household calibration: Living Conditions, Continuous Household, Household Budget, Information and Communications Technologies in Households, European Health, National Health.

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<sup>3</sup> Detailed information regarding the design and calibration of the EAPS may be viewed at [http://www.ine.es/en/inebaseDYN/epa30308/docs/epa05\\_disenc\\_en.pdf](http://www.ine.es/en/inebaseDYN/epa30308/docs/epa05_disenc_en.pdf).

In any case, it can be verified that the substantial effect is that produced by the population base change, with the minimum effect being that determined by the two new calibration variables.

The following chart shoes the average elevation factors for large population groups obtained in two ways:

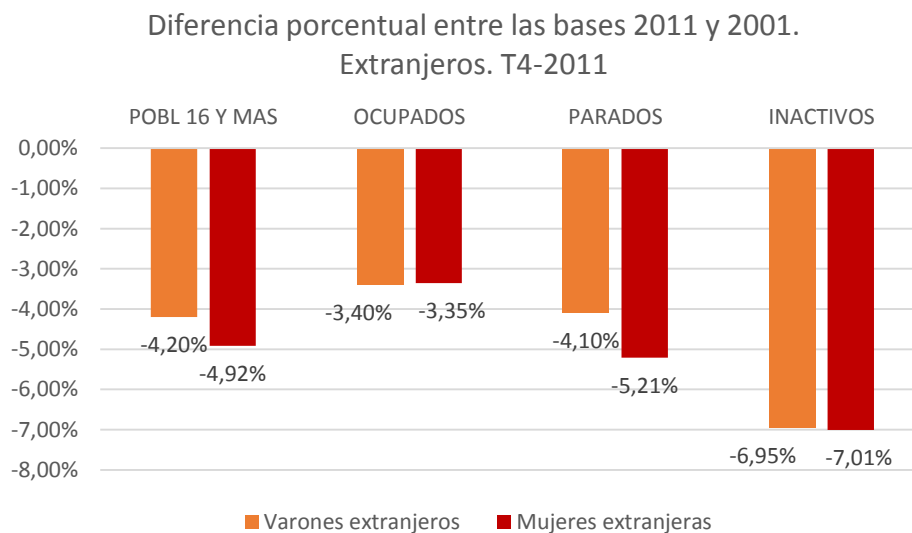
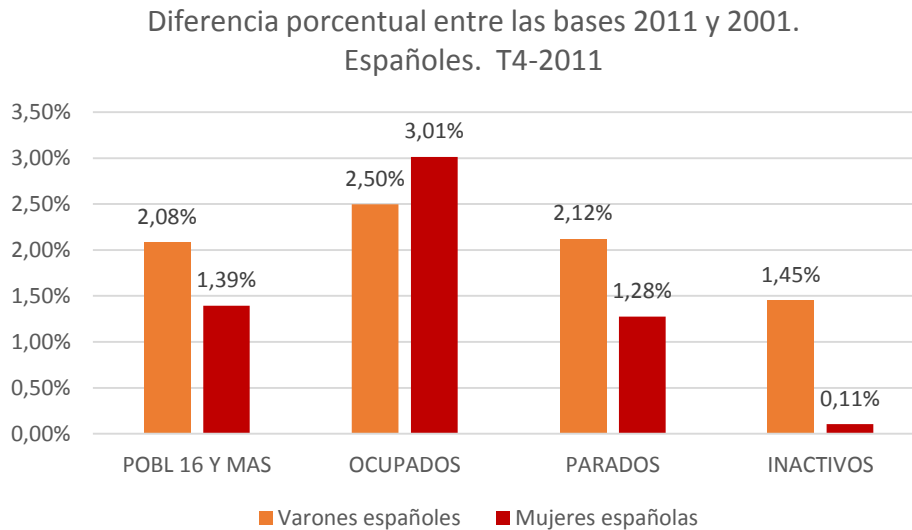
- applying solely the EAPS calibration, as calculated up until now, but with population estimates derived from the 2011 Census ("2011 Census factors + 2005 calibration" row)
- the calibration applied up until now, with populations derived from the 2011 Census, and in addition, adding the calibration by type of household and aggregated age group and sex by province ("2011 Census factors + 2014 calibration" row)

Both are also compared with the average elevation factor of the EAPS, as has been published up until now ("current factors").

#### Impacto del calibrado de hogares en los factores de elevación medios, por nacionalidad, sexo y grupo de edad

Españoles		16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 o más	pobl total
Varones	factores actuales	231,22	260,00	313,34	338,24	306,06	271,46	261,40	244,79	240,17	236,60	226,78	260,54
	fact Censo 2011 + calibrado 2005	237,58	264,80	316,40	345,60	315,79	280,50	269,56	252,99	245,11	240,13	228,13	266,07
	fact Censo 2011 + calibrado 2014	237,54	264,51	316,11	345,95	315,84	280,21	269,12	252,93	244,94	239,99	228,13	265,96
Mujeres	factores actuales	237,22	254,39	306,36	296,49	276,85	247,06	244,41	238,37	230,55	228,52	229,90	247,76
	fact Censo 2011 + calibrado 2005	240,46	260,94	312,04	304,29	284,84	253,63	249,80	243,14	231,71	229,02	228,80	251,11
	fact Censo 2011 + calibrado 2014	240,31	261,05	312,97	305,91	284,69	253,22	249,61	243,00	231,64	229,11	228,85	251,21
Ambos sexos	factores actuales	234,13	257,26	309,96	317,01	291,13	258,79	252,66	241,50	235,15	232,34	228,55	253,84
	fact Censo 2011 + calibrado 2005	238,98	262,92	314,29	324,60	299,98	266,54	259,39	247,94	238,12	234,27	228,51	258,23
	fact Censo 2011 + calibrado 2014	238,89	262,82	314,59	325,60	299,93	266,19	259,08	247,84	238,00	234,26	228,54	258,23
Extranjeros		16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 o más	pobl total
Varones	factores actuales	559,82	585,44	657,62	709,13	674,16	645,57	618,05	626,15	731,08	797,81	729,12	657,08
	fact Censo 2011 + calibrado 2005	531,63	557,34	633,85	687,95	649,57	620,77	593,75	589,00	671,44	734,80	655,03	627,49
	fact Censo 2011 + calibrado 2014	531,61	561,74	637,57	684,61	649,04	624,40	601,63	591,50	678,24	743,31	655,00	629,50
Mujeres	factores actuales	539,78	583,16	639,45	623,55	588,35	565,38	584,12	624,72	650,70	693,50	779,91	611,11
	fact Censo 2011 + calibrado 2005	519,75	562,24	621,85	602,96	566,31	537,65	550,87	585,13	594,85	625,80	708,34	582,80
	fact Censo 2011 + calibrado 2014	521,68	561,17	615,50	592,14	567,58	543,10	554,19	589,13	596,93	621,47	703,01	581,05
Ambos sexos	factores actuales	550,43	584,19	647,23	660,58	629,13	605,35	600,22	625,44	687,80	739,47	757,02	632,52
	fact Censo 2011 + calibrado 2005	526,06	560,02	626,99	639,73	605,88	579,08	571,21	587,08	630,20	673,83	684,32	603,61
	fact Censo 2011 + calibrado 2014	526,95	561,43	624,95	632,15	606,29	583,62	576,69	590,32	634,46	675,17	681,38	603,61

The changes in the global magnitudes (employment, unemployment and economic inactivity) are a results of the changes in the population for each demographic group. The following shows, as an example, the breakdown by sex and nationality.



Thus, for example, the 1.94% variation for employed persons in the fourth quarter of 2011 is the result of a 2.5% increase in employed Spanish men and a 3% increase in employed Spanish women, together with a 3.4% decrease in employed foreign nationals, both men and women.





Comparación entre las series de las principales variables EPA, según base Censo 2011 y base Censo 2001 Series nacionales 2002-2013

Valores absolutos en miles

Trim / Año	Población de 16 y más años			Activos			Ocupados			Parados			Tasa de Actividad						Tasa de empleo			Tasa de Páreo					
	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia
I 2002	34.383,1	34.470,6	87,5	18.471,8	18.635,1	163,3	16.335,6	16.482,3	146,7	2.136,3	2.152,8	16,6	53,72	54,06	0,34	47,51	47,82	0,30	11,56	11,55	-0,01	11,56	11,55	-0,01	11,56	11,55	-0,01
II 2002	34.537,4	34.639,4	102,0	18.689,8	18.870,2	180,4	16.597,2	16.766,9	169,8	2.092,6	2.103,3	10,7	54,11	54,48	0,36	48,06	48,40	0,35	11,20	11,15	-0,05	11,20	11,15	-0,05	11,20	11,15	-0,05
III 2002	34.691,7	34.804,8	113,1	18.943,7	19.115,3	171,6	16.763,1	16.919,3	156,2	2.180,6	2.196,0	15,4	54,61	54,92	0,32	48,32	48,61	0,29	11,51	11,49	-0,02	11,51	11,49	-0,02	11,51	11,49	-0,02
IV 2002	34.846,0	34.982,4	136,4	19.037,2	19.224,3	187,1	16.825,4	16.991,9	166,5	2.211,8	2.232,4	20,6	54,63	54,95	0,32	48,28	48,57	0,29	11,62	11,61	-0,01	11,62	11,61	-0,01	11,62	11,61	-0,01
I 2003	34.996,2	35.134,1	137,9	19.223,1	19.421,2	198,1	16.923,6	17.092,7	169,2	2.299,5	2.328,5	29,0	54,93	55,28	0,35	48,36	48,65	0,29	11,96	11,99	0,03	11,96	11,99	0,03	11,96	11,99	0,03
II 2003	35.142,2	35.288,6	146,4	19.432,3	19.639,2	206,9	17.241,1	17.423,2	182,1	2.191,2	2.216,0	24,8	55,30	55,65	0,36	49,06	49,37	0,31	11,28	11,28	0,00	11,28	11,28	0,00	11,28	11,28	0,00
III 2003	35.288,3	35.430,7	142,3	19.685,5	19.893,5	208,0	17.459,4	17.646,0	186,6	2.226,0	2.247,5	21,4	55,78	56,15	0,36	49,48	49,80	0,33	11,31	11,30	-0,01	11,31	11,30	-0,01	11,31	11,30	-0,01
IV 2003	35.434,3	35.582,9	148,6	19.811,7	20.017,1	205,4	17.559,7	17.740,5	180,8	2.252,1	2.277,6	24,6	55,91	56,25	0,34	49,56	49,86	0,30	11,37	11,37	0,00	11,37	11,37	0,00	11,37	11,37	0,00
I 2004	35.583,4	35.704,9	121,5	19.887,5	20.080,0	192,4	17.609,4	17.770,2	169,8	2.287,2	2.309,8	22,6	55,89	56,24	0,35	49,46	49,77	0,31	11,50	11,50	0,00	11,50	11,50	0,00	11,50	11,50	0,00
II 2004	35.735,0	35.838,4	103,4	20.093,0	20.266,5	173,5	17.865,8	18.018,9	153,1	2.227,2	2.247,6	20,4	56,23	56,55	0,32	50,00	50,28	0,28	11,08	11,09	0,01	11,08	11,09	0,01	11,08	11,09	0,01
III 2004	35.886,6	35.987,6	100,9	20.310,0	20.488,9	178,9	18.129,1	18.289,1	160,0	2.180,9	2.199,8	18,9	56,59	56,93	0,34	50,52	50,82	0,30	10,74	10,74	0,00	10,74	10,74	0,00	10,74	10,74	0,00
IV 2004	36.038,3	36.184,3	146,0	20.447,5	20.667,7	220,2	18.288,1	18.490,8	202,7	2.159,4	2.176,9	17,5	56,74	57,12	0,38	50,75	51,10	0,36	10,56	10,56	0,00	10,56	10,56	0,00	10,56	10,56	0,00
I 2005	36.187,6	36.351,4	163,8	20.591,7	20.857,4	265,7	18.492,7	18.736,1	243,4	2.099,0	2.121,3	22,3	56,90	57,38	0,47	51,10	51,54	0,44	10,19	10,17	-0,02	10,19	10,17	-0,02	10,19	10,17	-0,02
II 2005	36.334,6	36.519,2	184,6	20.839,6	21.129,7	290,1	18.894,9	19.160,6	265,7	1.944,7	1.969,1	24,4	57,35	57,86	0,50	52,00	52,47	0,46	9,33	9,32	-0,01	9,33	9,32	-0,01	9,33	9,32	-0,01
III 2005	36.489,6	36.650,6	161,0	20.956,1	21.205,6	249,6	19.191,1	19.422,1	231,0	1.765,0	1.785,3	18,5	57,43	57,86	0,43	52,59	52,99	0,40	8,42	8,41	-0,01	8,42	8,41	-0,01	8,42	8,41	-0,01
IV 2005	36.652,1	36.796,4	144,3	21.155,5	21.369,5	214,0	19.314,3	19.509,2	195,0	1.841,3	1.860,3	19,0	57,72	58,08	0,36	52,70	53,02	0,32	8,70	8,71	0,00	8,70	8,71	0,00	8,70	8,71	0,00
I 2006	36.800,3	36.917,5	117,2	21.335,9	21.521,3	185,3	19.400,1	19.578,4	178,3	1.935,8	1.942,8	7,0	57,98	58,30	0,32	52,72	53,03	0,32	9,07	9,03	-0,05	9,07	9,03	-0,05	9,07	9,03	-0,05
II 2006	36.931,2	37.055,7	124,5	21.530,1	21.726,0	195,9	19.693,1	19.891,6	198,5	1.837,0	1.834,4	-2,6	58,30	58,63	0,33	53,32	53,68	0,36	8,53	8,44	-0,09	8,53	8,44	-0,09	8,53	8,44	-0,09
III 2006	37.064,8	37.209,5	144,7	21.660,7	21.857,8	197,1	19.895,6	20.091,0	195,3	1.765,0	1.766,9	1,8	58,44	58,74	0,30	53,68	53,99	0,32	8,15	8,08	-0,07	8,15	8,08	-0,07	8,15	8,08	-0,07
IV 2006	37.235,5	37.388,6	153,1	21.812,4	22.014,8	202,4	20.001,8	20.195,4	193,6	1.810,6	1.819,4	8,8	58,58	58,88	0,30	53,72	54,01	0,30	8,30	8,26	-0,04	8,30	8,26	-0,04	8,30	8,26	-0,04
I 2007	37.428,8	37.570,9	142,1	21.925,3	22.130,8	205,4	20.069,2	20.267,5	198,3	1.856,1	1.863,2	7,1	58,58	58,90	0,33	53,62	53,94	0,32	8,47	8,42	-0,05	8,47	8,42	-0,05	8,47	8,42	-0,05
II 2007	37.591,9	37.743,9	152,0	22.127,3	22.354,1	226,8	20.367,3	20.580,9	213,6	1.760,0	1.773,2	13,2	58,86	59,23	0,36	54,36	54,53	0,35	7,95	7,93	-0,02	7,95	7,93	-0,02	7,95	7,93	-0,02
III 2007	37.753,9	37.916,4	162,5	22.302,5	22.559,6	257,1	20.510,6	20.753,4	242,8	1.791,9	1.806,2	14,3	59,10	59,50	0,39	54,36	54,73	0,38	8,03	8,03	0,00	8,03	8,03	0,00	8,03	8,03	0,00
IV 2007	37.896,9	38.101,1	204,3	22.404,5	22.659,9	255,4	20.476,9	20.717,9	241,0	1.927,6	1.942,0	14,4	59,12	59,47	0,35	54,03	54,38	0,34	8,60	8,57	-0,03	8,60	8,57	-0,03	8,60	8,57	-0,03
I 2008	38.042,7	38.224,5	181,8	22.576,5	22.810,4	234,0	20.402,3	20.620,0	217,7	2.174,2	2.190,5	16,3	59,35	59,67	0,33	53,63	53,94	0,31	9,63	9,60	-0,03	9,63	9,60	-0,03	9,63	9,60	-0,03
II 2008	38.161,5	38.341,7	180,2	22.806,7	23.032,6	225,9	20.425,1	20.646,9	221,8	2.381,5	2.386,7	4,1	59,76	60,07	0,31	53,52	53,85	0,33	10,44	10,36	-0,08	10,44	10,36	-0,08	10,44	10,36	-0,08
III 2008	38.270,7	38.447,8	177,2	22.945,1	23.157,1	212,0	20.346,3	20.566,4	220,1	2.598,8	2.600,7	1,9	59,95	60,23	0,28	53,16	53,47	0,30	11,33	11,23	-0,10	11,33	11,23	-0,10	11,33	11,23	-0,10
IV 2008	38.356,5	38.546,6	190,1	23.064,7	23.262,1	197,5	19.856,8	20.055,3	198,5	3.207,9	3.208,8	-1,1	60,13	60,35	0,22	51,77	52,03	0,26	13,91	13,79	-0,12	13,91	13,79	-0,12	13,91	13,79	-0,12
I 2009	38.408,6	38.589,3	180,7	23.101,5	23.302,6	201,1	19.090,8	19.284,4	193,7	4.010,7	4.019,2	7,4	60,15	60,39	0,24	49,70	49,97	0,27	17,36	17,24	-0,12	17,36	17,24	-0,12	17,36	17,24	-0,12
II 2009	38.432,0	38.631,4	199,4	23.082,4	23.293,8	211,4	18.945,0	19.154,2	209,3	4.137,5	4.139,6	2,1	60,06	60,30	0,24	49,29	49,58	0,29	17,92	17,77	-0,15	17,92	17,77	-0,15	17,92	17,77	-0,15
III 2009	38.442,5	38.670,1	227,7	22.993,5	23.219,8	226,4	18.870,2	19.088,4	228,3	4.123,3	4.121,4	-1,9	59,81	60,05	0,23	49,09	49,39	0,30	17,93	17,75	-0,18	17,93	17,75	-0,18	17,93	17,75	-0,18
IV 2009	38.443,2	38.713,0	269,8	22.972,5	23.225,4	253,0	18.645,9	18.890,4	244,5	4.326,5	4.335,0	8,5	59,76	59,99	0,24	48,50	48,80	0,29	18,83	18,66	-0,17	18,83	18,66	-0,17	18,83	18,66	-0,17
I 2010	38.450,8	38.725,0	274,1	23.006,9	23.270,5	263,7	18.394,2	18.652,9	258,7	4.612,7	4.617,1	5,0	59,83	60,09	0,26	47,84	48,17	0,33	20,05	19,84	-0,21	20,05	19,84	-0,21	20,05	19,84	-0,21
II 2010	38.467,8	38.745,0	277,2	23.122,3	23.406,4	284,1	18.476,9	18.751,1	274,2	4.645,5	4.655,3	9,8	60,11	60,41	0,30	48,03	48,40	0,36	20,09	19,89	-0,20	20,09	19,89	-0,20	20,09	19,89	-0,20
III 2010	38.485,4	38.768,7	283,2	23.121,5	23.404,4	282,9	18.546,8	18.819,0	272,2	4.574,7	4.585,4	10,7	60,08	60,37	0,29	48,19	48,54	0,35	19,79	19,59	-0,19	19,79	19,59	-0,19	19,79	19,59	-0,19
IV 2010	38.512,4	38.801,8	289,4	23.104,8	23.377,1	272,3	18.408,2	18.674,9	266,8	4.696,6	4.702,2	5,5	59,99	60,25	0,25	47,80	48,13	0,33	20,33	20,11	-0,21	20,33	20,11	-0,21	20,33	20,11	-0,21
I 2011	38.581,2	38.808,7	226,7	23.061,8	23.347,3	285,5	18.151,7	18.426,2	274,5	4.910,2	4.921,2	11,0	59,88	60,16	0,28	47,13	47,48	0,35	21,29	21,08	-0,21	21,29	21,08	-0,21	21,29	21,08	-0,21
II 2011	38.481,2	38.827,1	345,9	23.136,7	23.466,2	329,4	18.303,0	18.622,0	318,9	4.833,7	4.844,2	10,5	60,12	60,44	0,31	47,56	47,96	0,40	20,89	20,64	-0,25	20,89	20,64	-0,25	20,89	20,64	-0,25
III 2011	38.487,8	38.851,6	363,8	23.134,6	23.482,5	347,9	18.156,3	18.484,5	328,2	4.978,3	4.998,0	19,7	60,11	60,44	0,33	47,17	47,58	0,40	21,52	21,28	-0,24	21,52	21,28	-0,24	21,		

Comparación entre las series de las principales variables EPA, según base Censo 2011 y base Censo 2001  
Comunidades autónomas. Cuarto trimestre de 2013

Valores absolutos en miles

Comunidad Autónoma	Población de 16 y más			Activos			Ocupados			Parados			Tasa de Actividad			Tasa de Empleo			Tasa de Pato		
	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia	Datos base 2001	Datos base 2011	Dife_ rencia
Total	38.121,7	38.543,2	421,4	22.654,5	23.070,9	416,4	16.758,2	17.135,2	377,0	5.896,3	5.935,6	39,3	59,43	59,86	0,43	43,96	44,46	0,50	26,03	25,73	-0,30
Andalucía	6.769,2	6.853,8	84,6	3.983,2	4.033,5	50,3	2.536,7	2.571,0	34,3	1.446,6	1.462,5	16,0	58,84	58,85	0,01	37,47	37,51	0,04	36,32	36,26	-0,06
Aragón	1.091,4	1.105,9	14,5	633,4	649,4	16,1	503,1	515,7	12,6	130,3	133,7	3,5	58,03	58,72	0,69	46,10	46,63	0,53	20,57	20,59	0,03
Asturias, Principado de	901,9	925,8	23,9	469,4	484,1	14,8	364,9	376,2	11,3	104,5	107,9	3,5	52,04	52,30	0,25	40,46	40,64	0,18	22,25	22,29	0,04
Baleares, Illes	928,1	925,2	-2,9	587,5	588,5	0,9	452,9	454,8	1,9	134,6	133,7	-0,9	63,30	63,60	0,30	48,80	49,15	0,35	22,91	22,72	-0,20
Canarias	1.791,4	1.774,1	-17,4	1.120,4	1.104,0	-16,4	748,7	738,7	-10,0	371,7	365,3	-6,4	62,54	62,23	-0,31	41,79	41,64	-0,15	33,18	33,09	-0,09
Cantabria	487,2	497,0	9,8	274,9	282,1	7,2	219,7	226,2	6,5	55,1	55,9	0,7	56,42	56,75	0,34	45,10	45,51	0,41	20,06	19,81	-0,25
Castilla y León	2.083,3	2.122,0	38,7	1.138,3	1.165,7	27,4	887,5	909,0	21,5	250,8	256,7	5,9	54,64	54,93	0,29	42,60	42,84	0,24	22,03	22,02	-0,01
Castilla-La Mancha	1.673,3	1.701,1	27,8	981,0	1.008,8	27,8	694,9	716,4	21,5	286,1	292,4	6,3	58,63	59,30	0,68	41,53	42,11	0,59	29,16	28,99	-0,18
Cataluña	5.966,1	6.093,2	127,1	3.685,5	3.838,3	152,8	2.865,1	2.988,8	133,6	820,4	839,5	19,1	61,77	62,99	1,22	48,02	49,21	1,19	22,26	21,87	-0,39
Comunitat Valenciana	4.148,8	4.115,5	-33,3	2.493,9	2.461,9	-32,0	1.797,9	1.793,5	-4,3	696,0	668,3	-27,7	60,11	59,82	-0,29	43,33	43,58	0,25	27,91	27,15	-0,76
Extremadura	896,4	916,7	20,3	495,7	506,4	10,7	335,7	342,4	6,7	160,1	164,1	4,0	55,30	55,25	-0,05	37,45	37,35	-0,10	32,29	32,40	0,11
Galicia	2.329,0	2.377,2	48,2	1.265,1	1.283,5	18,4	987,3	1.002,6	15,3	277,8	280,9	3,1	54,32	53,99	-0,33	42,39	42,18	-0,21	21,96	21,88	-0,08
Madrid, Comunidad de	5.234,3	5.233,1	-1,2	3.285,4	3.352,0	66,6	2.594,4	2.666,4	72,0	690,9	685,5	-5,4	62,77	64,05	1,29	49,57	50,95	1,39	21,03	20,45	-0,58
Murcia, Región de	1.168,5	1.181,5	13,0	717,4	725,0	7,6	509,5	518,4	8,9	207,9	206,6	-1,3	61,40	61,37	-0,03	43,60	43,88	0,27	28,98	28,50	-0,48
Navarra, Comunidad Foral de	506,8	521,0	14,2	297,9	310,3	12,4	247,7	259,3	11,6	50,1	51,0	0,9	58,77	59,56	0,79	48,88	49,77	0,89	16,83	16,44	-0,39
País Vasco	1.771,8	1.813,6	41,9	1.005,0	1.045,3	40,3	846,7	872,0	25,3	158,4	173,3	15,0	56,73	57,64	0,91	47,79	48,08	0,29	15,76	16,58	0,83
Rioja, La	257,4	260,7	3,3	153,3	157,4	4,1	122,5	125,5	3,0	30,7	31,9	1,1	59,53	60,38	0,84	47,60	48,16	0,56	20,05	20,24	0,19
Ceuta	59,5	64,6	5,1	34,0	38,3	4,3	21,5	24,2	2,7	12,5	14,1	1,6	57,19	59,31	2,12	36,13	37,50	1,36	36,82	36,78	-0,04
Melilla	57,2	61,1	3,8	33,3	36,3	3,0	21,5	24,0	2,5	11,8	12,3	0,5	58,10	59,41	1,31	37,55	39,33	1,78	35,36	33,79	-1,57

## 5. Results

As indicated previously, the new populations derived from the 2011 Census and the new calibration method have been applied from 2002 to 2013, for the purpose of having retrospective series available with results calculated in a homogenous way that will be comparable with the results of the EAPS from the first quarter of 2014.

The main survey series for the aforementioned period are included in the table annex, whose index is listed below.

all of the quarterly results regularly offered by the EAPS, calculated with the new reference for said period, may be viewed at [http://www.ine.es/en/inebaseDYN/epa30308/epa\\_resultados\\_1\\_en.htm](http://www.ine.es/en/inebaseDYN/epa30308/epa_resultados_1_en.htm).

### ANNEX OF TABLES. INDEX:

Population aged 16 years old and over, by nationality and sex

Population aged 16 years old and over, economically active persons, employed persons and unemployed persons, by sex

Employed persons, by activity sector

Employed persons, by type of working day and sex

Employed persons, by professional situation

Wage earners, by type of contract and sex

Unemployed persons, by activity sector in the last job

Unemployed persons, according to professional experience and sex

Economic activity rates, employment and unemployment, by sex

Total households

Households with at least one economically active person, in which all of the members are unemployed

Households with at least one economically active person, in which all of the members are employed

Population aged 16 years old and over, economically active persons, employed persons, unemployed persons, economic activity rate, employment rate and unemployment rate, by Autonomous Community.

## **Main methodological aspects of the EAPS**

### **General characteristics**

The Economically Active Population Survey (EAPS) is a continuous sample-based study aimed at family dwellings, and which has been conducted since 1964.

The additional sample collected by the *Galician Statistics Institute* (IGE) has been incorporated as of the third quarter of 2009, using the same fieldwork system and identical methodology to that of the INE. Therefore, apart from the 3,588 census sections that have made up the sample for the whole of Spain since 2005, we must take into account the 234 additional sections in the Autonomous Community of Galicia. Since the third quarter of 2009, the EAPS sample is made up of 3,822 census sections in total, from the more than 30,000 census sections into which Spain is divided. An average of 18 households are surveyed in each one, except in the provinces of Barcelona, Madrid, Sevilla, Valencia and Zaragoza, where the number of households surveyed is 22. Thus, the sample size is approximately 65,000 dwellings, providing information on some 180,000 persons. The data is collected via personal and telephone interviews. The information is carefully filtered and computer-processed. Results are obtained within the month following the end of the reference quarter for the data.

### **Main definitions**

**Economically active persons:** persons aged 16 and over who, during the reference week (the week prior to that when the interview is held), supplied labour for the production of economic goods and services or were available to do so and carried out actions to incorporate themselves into said production. They are divided into employed and unemployed persons.

**Employed persons:** persons aged 16 and over who, during the reference week, worked for at least one hour in exchange for payment (salary, wage, business benefit, etc.) in cash or in kind. Persons who, being employed, had been temporarily absent from their job due to illness, holidays, etc., are also considered employed persons.

Employed persons are classified, considering their professional status, as non-wage earners (employers, businesspersons without wage earners and independent workers, cooperative members, family assistance) and wage earners (public or private).

Considering the length of the working day, employed persons are classified as full-time and part-time employed persons. The usual working week may not be shorter than 30 hours in the first case, nor exceed 35 hours in the second.

Wage earners are classified as permanent and temporary. For the latter, the end of their contract or work relationship is set by means of objective conditions, such as the expiry of a certain period of time, the completion of a specific task, etc.

A significant category within the occupation is that of **time-related underemployment**, as defined in the 16th International Labour Statisticians Conference (Geneva, 1998). The EAPS considers persons suffering time-related underemployment as employed persons who would like to work more hours, who are available to work more hours and whose

effective working hours in the reference week are less than the number of hours usually worked by employed persons working full-time in the same branch of activity as that in which the underemployed person develops the main job.

**Unemployed persons:** persons aged 16 and over who, during the reference week, were jobless, available for work, and actively looking for a job. Persons who might have already found a job and are waiting to start are also considered to be unemployed, provided that they meet the first two conditions.

According to European Commission Regulation 1897/2000, the following are considered as active search methods in the four weeks prior to the interview:

- Being in contact with a public employment office for the purpose of finding work, whatever part they play in the initiative (the renewal of registration due to purely administrative reasons does not constitute active planning).
- Being in contact with a private office (temporary employment office, specialised hiring agency, etc.) with the objective of finding work.
- Having sent an application directly to employers.
- Having searched via personal relations and trade unions, etc.
- To advertise or answer newspaper advertisements.
- To study employment offers.
- Participate in a test, competition or interview in the framework of a contracting procedure.
- Look for land, premises or material.
- To carry out the necessary procedures to obtain permits, licences or financial resources.

**Economically inactive population:** persons aged 16 years old and over not included in any of the above categories.