

Labor Force and Employment Estimates Smoothed for Population Adjustments, 1990–1999 and 2000–2011

Background

In order to produce estimates from survey data, statistical weights must be applied. Population controls are independent estimates of population used to weight the Current Population Survey (CPS) sample results to reflect the civilian noninstitutional population age 16 and older. The population controls are developed by the U.S. Census Bureau. They are based on decennial census information and administrative data the Census Bureau incorporates between decennial census years, such as birth and death statistics, along with the Census Bureau's estimates of net international migration.

With the release of January data each year, the Bureau of Labor Statistics (BLS) incorporates updated, or adjusted, population controls into the CPS estimates. The adjustments reflect an annual review of the components of population change—births, deaths, and net international migration—and of the methodology the Census Bureau used to estimate population. Following a decennial census, the adjustments also will reflect a new population base determined by that census. When introducing the annual adjustments, BLS typically does not revise the historical national labor force data series to reflect the new controls because of the extensive effort needed to revise and verify the many time series produced from the CPS, and because the revisions would be negligible for most series.

Time series comparability issues and the introduction of smoothed series

Substantial revisions to the population controls in some years have created historical comparability problems in some CPS data series, particularly the national labor force and employment levels. In December 2003, BLS outlined a method to smooth such level shifts in these two series as a convenience to its data users. The method distributes the amount of the level shift incrementally over a multi-year period, rather than incorporating the entire change in January of the years in which it was implemented. (See Marisa L. DiNatale, *Creating Comparability in CPS Employment Series*, on the BLS website at <http://www.bls.gov/cps/cpscomp.pdf>.)

BLS' initial application of the smoothing method distributed the January 2000 and January 2003 level shifts that resulted from the introduction of Census 2000-based population controls over the relevant historical time periods for each. The January 2000 level shift, which represented the difference between the 1990 census-based estimates and those based to Census 2000, was smoothed back over the period from January 1990 through December 1999, thus approximating data series for the 1990s on a Census 2000 population base. The January 2003 level shift, which represented estimated population growth since Census 2000, was smoothed back to January 2000.

BLS provided updated versions of the smoothed, seasonally adjusted labor force and employment series in subsequent years, following significant adjustments to the Census 2000 population base. Each time, the series were revised back to January 2000 and extended to include new data. Data for 1990–1999 were not further revised.

Changes to smoothed series in 2012

With release of data for January 2012, BLS incorporated the first population controls based on Census 2010. (Additional information about the adjustments is on the BLS website at <http://www.bls.gov/cps/cps12adj.pdf>.) The previously released smoothed series for January 2000 through December 2010, which reflected Census 2000-based population controls, have been replaced with smoothed series that reflect the Census 2010 population adjustment, thus approximating data series for the 2000s on a Census 2010 population base. In addition, the smoothed series have been extended through December 2011 to link up with the official data series beginning with January 2012. The 1990–1999 series smoothed with the Census 2000 population adjustment have not been revised.

To summarize, with this release the smoothed series now have two segments: 1) January 1990 through December 1999, smoothed to incorporate the adjustment resulting from Census 2000 population data, and 2) January 2000 through (currently) December 2011, smoothed to incorporate the adjustment resulting from Census 2010 population data.

The updated smoothed labor force and employment series are presented in the following tables. Users should be aware that these smoothed series will not match the official estimates in BLS publications or the BLS website databases. In addition, these estimates would differ from those calculated using other smoothing methods.

Civilian labor force smoothed for adjustments in population controls, 1990–1999 and 2000–2010, seasonally adjusted

(In thousands)

	January	February	March	April	May	June	July	August	September	October	November	December
1990	125,845	125,734	125,837	125,697	125,953	125,645	125,816	126,087	126,001	126,116	126,203	126,287
1991	126,112	126,189	126,420	126,742	126,382	126,549	126,384	126,392	126,905	126,909	126,981	126,956
1992	127,566	127,524	127,934	128,184	128,475	128,829	128,945	129,008	128,908	128,444	128,872	128,998
1993	128,856	128,926	129,079	129,077	129,772	129,932	129,931	130,166	129,826	130,145	130,296	130,539
1994	131,210	131,296	131,038	131,272	131,444	131,237	131,341	131,980	132,139	132,477	132,637	132,710
1995	132,811	132,901	132,906	133,404	132,673	132,784	133,193	133,199	133,489	133,607	133,517	133,426
1996	133,545	133,896	134,138	134,381	134,654	134,697	135,302	135,083	135,560	135,982	136,082	136,202
1997	136,560	136,517	137,025	137,164	137,281	137,387	137,668	137,824	137,894	137,865	138,209	138,418
1998	138,370	138,401	138,539	138,465	138,703	138,800	138,947	138,942	139,679	139,685	139,801	140,070
1999	140,456	140,433	140,207	140,452	140,615	140,852	140,977	140,981	141,189	141,353	141,623	141,790
2000	142,269	142,459	142,439	142,758	142,396	142,601	142,290	142,527	142,533	142,639	142,980	143,268
2001	143,822	143,725	143,949	143,596	143,346	143,387	143,686	143,317	144,024	144,123	144,279	144,345
2002	143,925	144,697	144,527	144,772	144,987	144,859	144,855	145,063	145,608	145,372	145,100	145,127
2003	146,000	146,165	146,089	146,542	146,570	147,128	146,559	146,520	146,607	146,795	147,081	146,811
2004	146,926	146,795	147,032	146,939	147,156	147,553	147,787	147,661	147,513	147,893	148,264	148,163
2005	148,134	148,471	148,500	149,037	149,374	149,353	149,549	149,898	150,075	150,124	150,189	150,156
2006	150,342	150,771	150,945	151,015	151,205	151,492	151,517	151,858	151,806	152,187	152,554	152,882
2007	153,296	153,137	153,207	152,592	152,829	153,202	153,217	152,913	153,581	153,351	154,006	154,091
2008	154,250	153,824	154,103	153,941	154,507	154,500	154,666	154,834	154,749	155,067	154,815	154,821
2009	154,432	154,720	154,343	154,652	155,004	154,936	154,746	154,528	153,996	154,034	154,047	153,306
2010	153,671	153,923	154,185	154,752	154,441	153,879	153,976	154,303	154,150	153,942	154,277	153,850
2011	153,488	153,542	153,634	153,664	153,946	153,656	153,607	153,925	154,258	154,313	154,194	154,146

NOTE: This series reflects seasonally adjusted Current Population Survey labor force levels that have been revised to smooth out the effects of population control adjustments introduced each January. Data from 1990–1999 were revised to smooth out the effect of the Census 2000 population control adjustment. Data from 2000–2011 were revised to smooth out the effect of the Census 2010 population control adjustment.

This is a research series and will not match the official labor force estimates in BLS publications or the BLS website databases.

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Employment smoothed for adjustments in population controls, 1990–1999 and 2000–2010, seasonally adjusted

(In thousands)

	January	February	March	April	May	June	July	August	September	October	November	December
1990	119,093	119,082	119,238	118,898	119,209	119,052	118,891	118,894	118,628	118,651	118,432	118,379
1991	118,089	117,915	117,823	118,293	117,634	117,845	117,785	117,712	118,169	118,052	118,033	117,740
1992	118,265	118,050	118,454	118,748	118,709	118,764	119,071	119,195	119,101	119,020	119,280	119,413
1993	119,503	119,715	119,995	119,938	120,594	120,781	120,970	121,373	121,081	121,363	121,722	122,031
1994	122,547	122,679	122,534	122,908	123,497	123,277	123,362	124,013	124,372	124,811	125,230	125,448
1995	125,402	125,681	125,720	125,722	125,207	125,321	125,629	125,677	125,972	126,241	126,052	125,963
1996	126,013	126,542	126,779	126,924	127,189	127,562	127,922	128,161	128,540	128,909	128,801	128,904
1997	129,358	129,370	129,981	130,247	130,584	130,544	130,970	131,172	131,194	131,368	131,859	131,898
1998	131,958	132,053	132,072	132,484	132,614	132,545	132,643	132,718	133,333	133,359	133,655	133,994
1999	134,436	134,276	134,381	134,402	134,775	134,855	134,905	135,097	135,227	135,529	135,862	136,092
2000	136,560	136,601	136,705	137,276	136,637	136,949	136,541	136,674	136,906	137,103	137,338	137,632
2001	137,797	137,633	137,805	137,322	137,117	136,899	137,099	136,270	136,877	136,424	136,271	136,082
2002	135,737	136,476	136,216	136,167	136,581	136,459	136,458	136,752	137,350	137,058	136,572	136,478
2003	137,471	137,538	137,491	137,692	137,604	137,852	137,537	137,614	137,675	138,052	138,493	138,482
2004	138,544	138,616	138,528	138,757	138,930	139,254	139,638	139,656	139,572	139,818	140,319	140,215
2005	140,336	140,478	140,748	141,350	141,707	141,814	142,127	142,537	142,506	142,654	142,607	142,862
2006	143,261	143,570	143,856	143,877	144,207	144,473	144,323	144,748	144,940	145,441	145,663	146,101
2007	146,160	146,191	146,456	145,723	146,041	146,203	146,047	145,825	146,389	146,092	146,743	146,423
2008	146,548	146,310	146,262	146,286	146,086	145,896	145,690	145,357	145,221	144,956	144,242	143,493
2009	142,352	141,826	140,921	140,822	140,463	140,173	140,063	139,630	138,948	138,575	138,783	138,145
2010	138,679	138,845	139,018	139,490	139,526	139,324	139,327	139,528	139,536	139,265	139,131	139,416
2011	139,528	139,750	139,965	139,830	140,012	139,590	139,657	139,963	140,318	140,509	140,828	141,006

NOTE: This series reflects seasonally adjusted Current Population Survey employment levels that have been revised to smooth out the effects of population control adjustments introduced each January. Data from 1990–1999 were revised to smooth out the effect of the Census 2000 population control adjustment. Data from 2000–2011 were revised to smooth out the effect of the Census 2010 population control adjustment.

This is a research series and will not match the official employment estimates in BLS publications or the BLS website databases.

SOURCE: Bureau of Labor Statistics, Current Population Survey.