

Information Sheet: JOLTS Net Employment Change Compared to CES Month-to-Month Employment Change

The Job Openings and Labor Turnover Survey (JOLTS) measures hires and separations on a monthly basis. If separations are subtracted from hires, the difference represents an *implied employment change*. The Current Employment Statistics (CES) survey provides *net employment change*. The JOLTS implied employment change and the CES net employment change are conceptually similar and are expected to track well with each other over time. While this is true over the long term, the series can diverge from each other in the short term. The information below provides a brief overview of this issue.

It would seem logical that the implied employment change from JOLTS would match the CES over-the-month change on a monthly basis, but it often does not. Several reasons are outlined here.

- A. The JOLTS program was not designed to measure over-the-month employment change while the CES survey was. Consequently, the JOLTS survey differs from the CES in its methodology and data elements collected.
- B. Both the JOLTS and the CES programs are sample surveys and both are subject to sampling error. The two programs have differing levels of reliability because the CES collects data from far more establishments than the JOLTS program.
- C. The two surveys have differing seasonal patterns.
- D. There are definitional differences between the two surveys:
 - Reference period: The employment observation in CES targets the pay period that includes the 12th of the month. The JOLTS hires and separations, however, are counted for the entire month. This means for example, that for weekly payrolls, JOLTS turnover occurring in the first half of the month is reflected in the mid-month CES employment observation, while JOLTS turnover occurring in the latter part of the month will not be reflected in the CES employment observation until the following month.
 - Part-time and on-call workers: A potential source of difference between the two surveys can be traced to part-time and on-call workers. Depending on their schedules, these employees may move in and out of the employment count for CES while never changing their employment status for JOLTS because they are still on the employee roster. A part-time worker at a retail establishment is an excellent example of this issue. If the part-time worker is not working during the pay period that includes the 12th of the month, he or she does not appear in the CES employment count. Since the employee was not separated, the JOLTS implied employment change does not show a corresponding decrease.
 - Working vs. employed: It is generally assumed that hires and separations are reflected in employment. However, a closer look at the data indicates this is not always the case. For example, employment levels at universities generally drop over the summer. The CES employment level shows the expected drop in employment over the summer because the CES employment level reflects people who worked or received pay for the reference pay period. The JOLTS data captures formal separations including employed students, visiting professors, etc., while employees that will return, such as professors and staff, are not counted in separations unless they have been formally

separated. Because some permanent staff may not be working, they are not counted as employed by CES but they are also not counted as separated (or subsequently hired) by JOLTS.

Detailed information for both of these programs can be found in the [BLS Handbook of Methods](#).

Keeping in mind the differences between the two programs, it is easy to see why the implied employment change and net employment change do not match on a monthly basis. However, despite these differences, the two series track well over time with the bulk of the difference dissipating over the course of a year. The remaining divergence is addressed using the monthly alignment method. See "[The CES/JOLTS Divergence: How to Apply the Monthly Alignment Method to Help Close the Gap](#)". The monthly alignment method – which aligns the JOLTS *implied employment change* with the CES 2nd closing preliminary *net employment change* – removes any remaining trend divergence while preserving the unique seasonal pattern of the JOLTS series. Because the seasonal pattern is preserved, the two series do not always track well from month to month. For more information see "[Methodological Changes in the Job Openings and Labor Turnover Survey](#)".

In 2013, the JOLTS implied employment change and the CES net employment change diverged more than usual. The source of this divergence was determined to be revisions to CES data between 2nd and 3rd closing. For operational reasons, JOLTS data are aligned monthly to CES 2nd closing data; revisions to 3rd closing CES data are not incorporated into JOLTS estimates until the annual benchmark process. Looking at CES revisions to the seasonally adjusted data for 2012 and 2013 we see that:

- In 2012 from January to September, the monthly 1st to 2nd closing revisions summed to +100,000; the 2nd to 3rd closing revision was +55,000
- In 2013 from January to September, the monthly 1st to 2nd closing revisions summed to +22,000; the 2nd to 3rd closing revision was +154,000

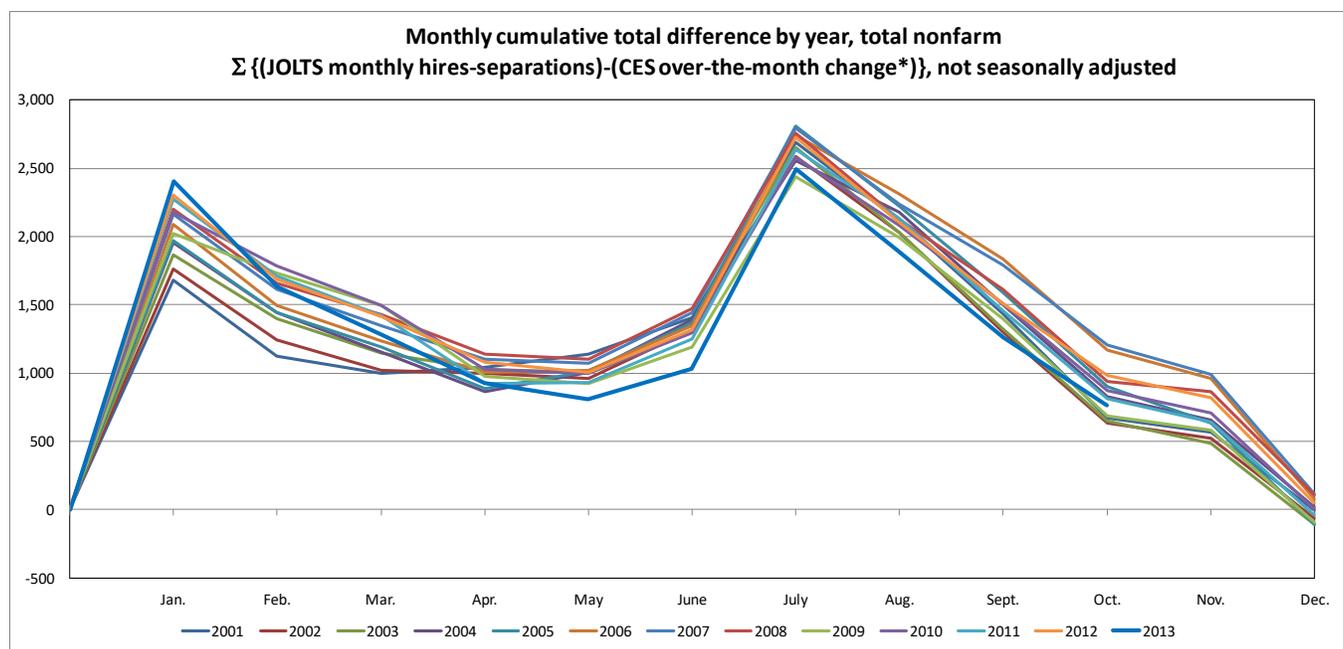
(Note that the above data reflects September 2013 data as October 2nd and 3rd closing data are not available at this time.)

The JOLTS data for 2013 through September reflect only the cumulative +22,000 1st to 2nd closing CES revisions; data do not reflect the cumulative +154,000 2nd to 3rd closing revisions. When the annual JOLTS benchmarking process incorporates the CES 3rd closing data, the JOLTS data will reflect the 2nd to 3rd closing revisions.

JOLTS Implied Employment Change, 12-month sum vs. CES Net Employment Change, not seasonally adjusted (in thousands)

Year	JOLTS Hires	JOLTS Separations	Implied JOLTS Emp. Change (Hires-Separations)	December CES Emp. Level (Except 2013)	CES over-the-year Emp. Change (Dec-Dec)	JOLTS Implied Emp. Change minus CES Emp. Change	Difference as a % of Dec. CES Emp.
2000				133,405			
2001	62,948	64,765	-1,817	131,591	-1,814	-3	-0.0023%
2002	58,583	59,190	-607	131,045	-546	-61	-0.0465%
2003	56,451	56,487	-36	131,120	75	-111	-0.0847%
2004	60,367	58,340	2,027	133,129	2,009	18	0.0135%
2005	63,150	60,733	2,417	135,655	2,526	-109	-0.0804%
2006	63,773	61,565	2,208	137,786	2,131	77	0.0559%
2007	62,421	61,162	1,259	138,929	1,143	116	0.0835%
2008	55,128	58,627	-3,499	135,321	-3,608	109	0.0805%
2009	46,357	51,532	-5,175	130,242	-5,079	-96	-0.0737%
2010	48,607	47,646	961	131,199	957	4	0.0030%
2011	49,675	47,626	2,049	133,292	2,093	-44	-0.0330%
2012	51,991	49,676	2,315	135,560	2,268	47	0.0347%
2013 (through Oct)	46,300	43,554	2,746	137,540	1,980	766	0.5569%

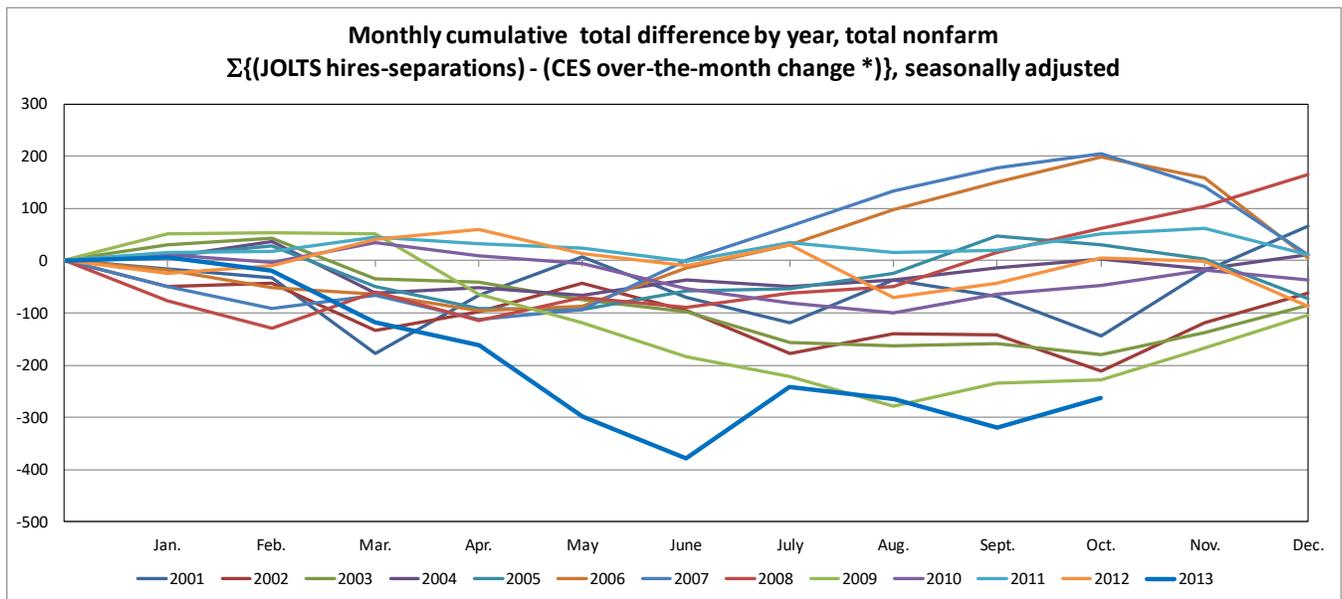
^October 2013^
1st Closing



*2013 CES over-the-month change data reflects 2nd closing employment levels and 1st closing for the most recent month.

JOLTS Implied Employment Change, 12-month sum vs. CES Net Employment Change, seasonally adjusted (in thousands)							
Year	JOLTS Hires	JOLTS Separations	Implied JOLTS Emp. Change (Hires-Separations)	December CES Emp. level, SA (Except 2013)	CES over-the-year Emp. Change (Dec-Dec)	JOLTS Implied Emp. Change minus CES Emp. Change	Difference as a % of Dec. CES Emp.
2000				132,580			
2001	62,767	64,458	-1,691	130,823	-1,757	66	0.0504%
2002	58,642	59,236	-594	130,291	-532	-62	-0.0476%
2003	56,514	56,538	-24	130,353	62	-86	-0.0660%
2004	60,339	58,309	2,030	132,372	2,019	11	0.0083%
2005	63,167	60,755	2,412	134,856	2,484	-72	-0.0534%
2006	63,785	61,709	2,076	136,927	2,071	5	0.0037%
2007	62,291	61,165	1,126	138,042	1,115	11	0.0080%
2008	55,090	58,542	-3,452	134,425	-3,617	165	0.1227%
2009	46,387	51,544	-5,157	129,373	-5,052	-105	-0.0812%
2010	48,637	47,651	986	130,395	1,022	-36	-0.0276%
2011	49,644	47,530	2,114	132,498	2,103	11	0.0083%
2012	51,946	49,840	2,106	134,691	2,193	-87	-0.0646%
2013 (through Oct)	44,376	42,776	1,600	136,554	1,863	-263	-0.1926%

^October 2013^
1st Closing



*2013 CES over-the-month change data reflects 2nd closing employment levels and 1st closing for the most recent month.