John Williams'
Shadow Government Statistics
Analysis Behind and Beyond Government Economic Reporting

COMMENTARY NUMBER 695
Payroll-Employment Revisions – Corrections to Inconsistent Reporting

February 10, 2015

Consistent and Corrected BLS Payroll-Employment Data Are Available Here to ShadowStats Subscribers

Highly Volatile Inconsistencies in Payroll Reporting

Comparable with January 2015 Payroll Reporting, November Jobs Gain Was 340,000, Not the Headline 423,000

Similar Quality Issues Plague Unemployment Data

PLEASE NOTE: The next Regular Commentary *is scheduled for Thursday, February 12th, covering January retail sales (see updated* Week Ahead *section).*

Best Wishes to all — John Williams

UPDATED SEASONAL-ADJUSTMENT MODELING FOR PAYROLL EMPLOYMENT

Bad Practices in BLS Reporting Distort Headline versus Historical Numbers. Supplemental to *Commentary No. 694*, this missive provides the promised, detailed updating to the seasonal-adjustment modeling of the Bureau of Labor Statistics (BLS) in its 2014 benchmark revision to payroll-employment data, as published February 6th. Separately, the *Trend Model* has been updated for February 2015.

Standardly, the BLS does not publish its historical data on a basis that is comparable with its headline reporting, creating distortions in the headline historical series. Although consistent and comparable

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numbers are not published by the BLS, they can be calculated and are being made fully available to ShadowStats subscribers, through this *Commentary* and in specific detail available at ShadowStats affiliate ExpliStats. With each monthly payroll-employment release, including the annual benchmark revision, ShadowStats—through ExpliStats—runs the BLS seasonal-adjustment model, using detail available from the Bureau. Such enables ShadowStats and ExpliStats to publish comparable month-to-month headline payroll data back in time, which the BLS will not do beyond two months. The BLS publishing practice simply leaves the headline historical numbers not comparable with headline reporting.

"ExpliStats Consistent Payroll Series" – The Purest Version of the BLS Seasonally-Adjusted Payroll Data. The *ExpliStats Consistent Payroll Series* detail, provided in graphic form here, and in expanded graphic detail and in downloadable form on the ExpliStats website, shows the headline seasonally-adjusted BLS payroll data in consistent form, in a manner not otherwise available to the public. The benefit of the ExpliStats reporting of the actual numbers is the consistency of the historical series. Consistency eliminates distortion in month-to-month comparisons of payroll changes, and it provides data users—who rely on historical data—with consistent numbers for modeling and analysis.

Again, the ExpliStats detail provides the purest version of the seasonally-adjusted data available from modeling at the BLS, and the current detail is the cleanest-benchmark revision available. The BLS could publish this material if it chose to, but it does not, as discussed elsewhere in this *Commentary*. The ExpliStats numbers are generated using the BLS models and unadjusted detail, as provided by the BLS.

ExpliStats reporting does not alter the headline BLS numbers for issues other than the lack of publishing consistent historical data. There are no considerations given here to any ShadowStats discussions of inaccuracies in upside biases added into the Birth-Death model, or questions as to the appropriateness of the benchmark revisions to the unadjusted payroll data, issues discussed in *Commentary No. 694*.

Links to the new ExpliStats pages and data download, and the password for accessing same, are provided at the end of this section. The interim discussion and graphs explore some of the facets of the BLS mis-reporting its own data.

An Egregious Example of Not-Comparable Headline Data. In preparing its headline monthly payroll-employment data, the BLS readjusts five years of payroll employment numbers, each and every month, creating a revamped historical series that will be consistent with the new month's data. What distorts revised month-to-month jobs growth patterns, as headlined by the BLS, though, is that once the BLS recalculates all the numbers, it only publishes two months of fully-consistent data.

In Friday's (February 6th) headline reporting of January 2015 payroll employment, for example, the revised headline monthly gain for November 2014 was a remarkable 423,000 jobs. That headline reporting showed that the November monthly gain had revised higher by some 70,000 jobs, from the 353,000 November monthly headline increase published last month, with the December 2014 data.

In reality, the new November headline monthly gain should have been 340,000, some 83,000 jobs shy of the reported 423,000 number, and some 13,000 jobs below the prior, December estimate of a 353,000 jobs gain in November. That type of misreporting is bad practice, at best.

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Again, the problem is in how the BLS publishes its numbers. In the seasonal-adjustment process, the last five years of history are seasonally-adjusted anew, each month, so that the headline jobs number for the current month has its own unique set of seasonal factors. The headline jobs gain for January 2015 was calculated in a manner that revised every monthly number going back in time for the last five years. Standardly, though, the BLS only states the current and prior two months of payroll level on a consistent basis, everything else is frozen in time. The BLS has indicated that it does not want to confuse its data users with too many revisions.

As a result, the headline increase of 257,000 jobs to the January 2015 payroll employment level of 140,849,000, versus 140,592,000 total employment in December 2014, was consistent with and comparable to the 329,000 jobs increase in December, versus employment of 140,263,000 in November. Yet, the headline jobs gain of 423,000 in November, versus headline payroll employment of 139,840,000 in October, was not comparable to or consistent with the December and January headline reporting.

Where the BLS makes available to outside users the information needed to calculate the new, historically-consistent data back over time, ShadowStats affiliate ExpliStats has calculated that level for October 2014 payrolls. Consistent with and comparable to headline January 2015 (and December and November 2014) reporting, the level of employment in October was 139,923,000, which means that the January 2015-comparable headline-jobs gain in November 2014 was 340,000, some 83,000 jobs shy of the published, headline 423,000 jobs gain.

Bureau of Labor Statistics Description of the Seasonal Adjustment Process. The following material is from the February 6th, BLS News Release, *The Employment Situation—2015*, excerpted from the *Seasonal Adjustment* section of the *Technical Note*. The Household Survey is conducted as the Current Population Survey by the Census Bureau [as a separate matter, CPS surveying irregularities are under Congressional investigation, see *Commentary No. 669*], suffering even more stringent publishing restrictions than the payroll data, it is the source for the unemployment data. The Establishment Survey generates the nonfarm payroll-employment data. The underlined text is the BLS text; the bracketed comments are from ShadowStats.

For both the household and establishment surveys, a concurrent seasonal adjustment methodology is used in which new seasonal factors are calculated each month using all relevant data, up to and including the data for the current month.

In the household survey, new seasonal factors are used to adjust only the current month's data. [The seasonal adjustment process revises all the monthly data of the last five years, but only the current month's data are published, and that is on a basis not comparable with any of the previously-published older data.]

In the establishment survey, however, new seasonal factors are used each month to adjust the three most recent monthly estimates. [The seasonal adjustment process revises all the monthly data of the last five years, but only the three most-recent monthly estimates of nonfarm payroll levels are published on a consistent basis. That means that only the two most recent months of headline month-to-month change are published on a consistent basis.]

The prior 2 months [in the establishment survey] are routinely revised to incorporate additional sample reports and recalculated seasonal adjustment factors.

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In both surveys, 5-year revisions to historical data are made once a year. [Historically-consistent household survey data are published once per year, in December. Come January, though, the headline number and previously reported historical numbers no longer are comparable.]

[The establishment survey goes through an annual benchmark-revision process, as seen on February 6th, including the recasting of seasonally-adjusted data. Due to several months of testing-delays in the benchmarking process, however, the seasonally-adjusted historical data, although revised, ***never*** are published on a consistent, seasonally-adjusted basis. The ExpliStats benchmark revision is consistent.]

BLS Does Not Want to Confuse Data Users. Issues as to publishing revisions to the historical data were addressed in the article "Revision of Seasonally adjusted Labor Force Series in 2004," by Tiller and Evans, in the BLS publication *Employment and Earnings, January 2004*:

"Numerous revisions during the year, however, should be avoided, because they tend to confuse data users and substantially increase publication costs."

Solutions to the BLS Reporting-Consistency Problem. The problem can viewed simply as bad practice, in the environment of extreme economic turmoil of the last eight years. The BLS itself is open about their seasonal-adjustment and publication practices. The system may have seen less volatility in more-stable economic times—before the economic plunge into 2008—but the concurrent seasonal adjustment process becomes erratic in unstable environments as is evident in *Graphs 4* and *5*, following. In an environment of stable and unrevised seasonal adjustments, the lines in those graphs would be flat and at zero.

Aside from ShadowStats making the corrected data available to its subscribers, there are simple remedies for the headline distortions being put before the public.

First, the BLS could publish the revised history of the both the payroll and household series, each month, along with the consistent, new headline series. The BLS already has calculated and has those numbers available.

Second, the BLS could revert to using fixed seasonally-adjustment rates, its prior approach to seasonal adjustments, which would be revised only once per year, along with annual benchmark revisions.

Visible Differences Between Comparable and Not-Comparable Historic Benchmark Revisions. The following *Graph 1* shows the BLS headline benchmark revision (inconsistent by bad-practice reporting). *Graph 2* shows the ExpliStats Consistent Payroll Series equivalent benchmark revision on an internally-consistent basis. Both series are plotted separately versus the same underlying, not-seasonally-adjusted benchmark revision. Both graphs show the net benchmark revisions, increases or decreases, in the monthly levels of payroll employment, both seasonally-adjusted and unadjusted.

Immediately obvious to the eye is a much higher correlation (98.3%) for the ExpliStats series versus the unadjusted series, than the correlation (88.6%) seen between the BLS seasonally-adjusted inconsistent benchmark numbers and the same unadjusted series used in the ExpliStats graph. A high correlation would be expected here, with an upside revision to the unadjusted number likely being matched to a large degree with an upside revision to the seasonally-adjusted version of the same number.

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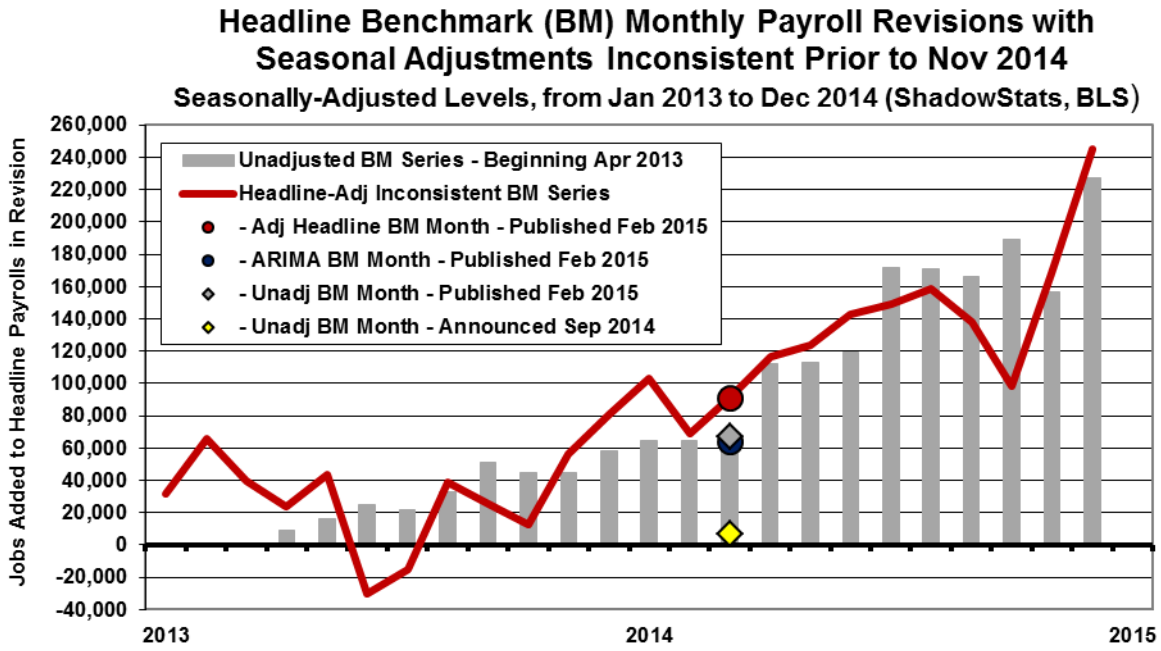
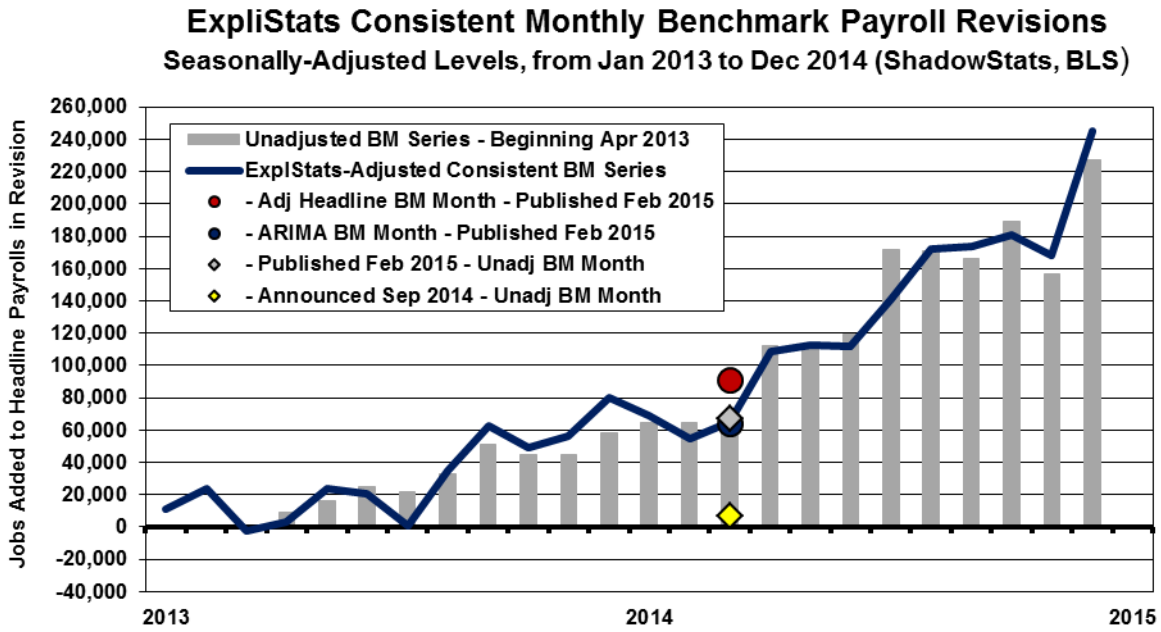
Graph 1: BLS (Inconsistent) Published Headline Monthly Benchmark-Payroll Revision



Graph 2: ExpliStats Actual (Consistent) Monthly Benchmark-Payroll Revision



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The ExpliStats version is a clean picture of the benchmark revision, which the BLS does not provide.

As to the dots and diamonds in both graphs, the points are for the benchmark-revision month of March 2014. The yellow triangle represents the announcement in September 2014 of the initial estimate of an upside revision of 7,000 jobs to unadjusted levels of March 2014 activity. The actual unadjusted revision was 67,000, represented by the gray diamond (the unadjusted numbers are shown as gray bars). The differences between those estimates was discussed in *Commentary No. 694*, and is summarized in the sub-section following.

The red dot is the level of net revision to the benchmark month for the BLS inconsistent headline seasonally-adjusted series (also reflected across-the-board as the red line in *Graph 1*), while the blue dot is the level of net revision to the benchmark month for the ExpliStats Consistent Payroll Series (reflected across-the-board as the blue line in *Graph 2*).

Differing Benchmark Estimates [Adapted from* Commentary No. 694*]. On September 18, 2014, the BLS announced that its benchmark revision to March 2014 payrolls, to be published on February 6, 2015, would be a negligible, upside adjustment of about 7,000 unadjusted jobs. Instead, the published revision was an upside change of 67,000 jobs to the unadjusted March 2014 payrolls, which translated, somehow, into an accelerating upside seasonally-adjusted headline revision of 245,000 jobs to the previously-estimated December 2014 payroll-employment level. Related- and increased-upside biases fed into the headline January 2015 payroll level, and a resulting headline monthly gain of 257,000 jobs.

The difference in the benchmark payroll-revision estimates, between the initial September 2014 and the final February 2015 readings—benchmarking that supposedly was against rock-hard numbers from state unemployment-insurance records—came primarily from an unexplained improvement in the revision to the *Education and Health Services* sector. As of September, that sector had been scheduled to revise lower by 72,000 (-72,000), but it revised lower by only 16,000 (-16,000) in the headline benchmarking. The difference accounted for the bulk of the headline benchmark-revision discrepancy.

This area would encompass Affordable Care Act (ACA) activity, and accordingly the ACA is suspect. Last year's benchmark introduced a new category of home healthcare in "social assistance," which also could be involved in the funny numbers (see *Commentary No. 598*).

Had the unadjusted initial benchmark estimate (yellow diamond), shown in *Graphs 1* and *2*, not been revised to the level of the headline, seasonally-adjusted reporting (red diamond), the revisions would have been largely flat, and new upside biases likely would not have been added, as discussed in the *Birth-Death Model* section of the *Reporting Detail* of *Commentary No. 694*.

Shifting Concurrent-Seasonal-Factors—The Graphs. There are serious and deliberate reporting flaws with the government's seasonally-adjusted, monthly reporting of both employment and unemployment. Each month, the BLS uses a concurrent-seasonal-adjustment process to adjust both the payroll and unemployment data for the latest seasonal patterns. As new headline data are seasonally-adjusted for each series, the adjustment process also revises the monthly history of each series, recalculating prior, adjusted reporting for every month, going back five years, on a basis that is consistent with the new seasonal patterns of the headline number. The BLS provides modeling detail for the payroll survey, allowing for third-party calculations; no such accommodation has been made for the household survey.

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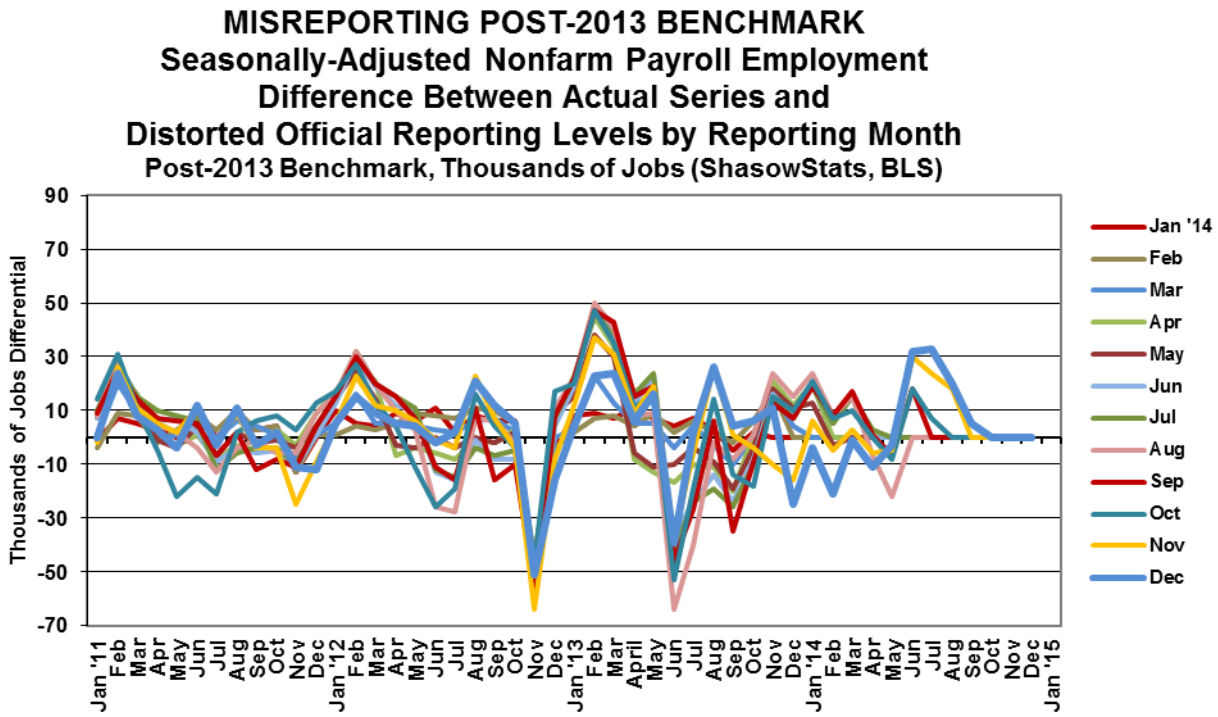
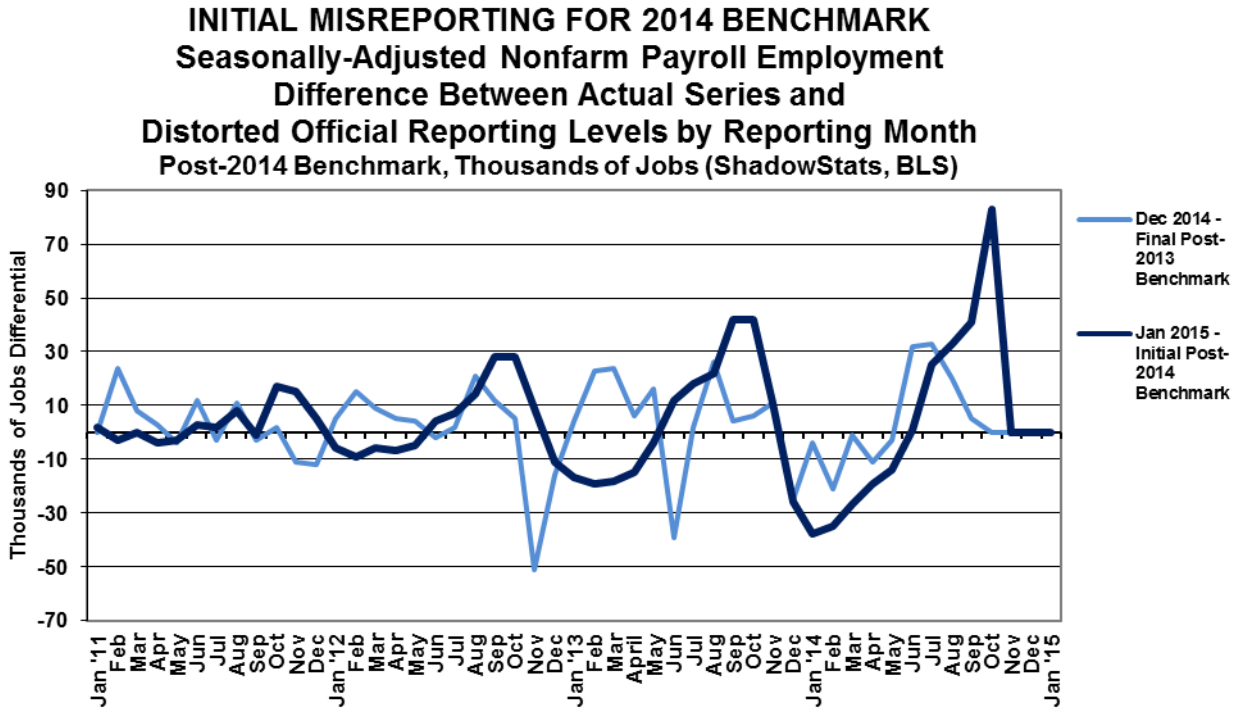
Graph 3: Monthly Variations in Post-2013 Benchmark Seasonally-Adjusted Historical Data



Graph 4: Monthly Variations in Post-2014 Benchmark Seasonally-Adjusted Historical Data



The BLS uses and publishes the current headline estimate, but it does not publish the revised history, even though it calculates the consistent new data each month. As a result, headline reporting generally is neither consistent with, nor comparable to earlier reporting, and month-to-month comparisons of these popular numbers usually are of no substance, other than for market hyping or political propaganda.

No one seems to mind if the published earlier numbers are wrong, particularly if unstable seasonal-adjustment patterns have shifted prior jobs growth or reduced unemployment into current reporting, without any formal indication of the shift from the previously-published historical data.

The preceding graphs show how far the monthly payroll employment data strayed from being consistent. The first graph shows the monthly distortions through December 2014 reporting, versus the 2013-benchmark revision to the series in February 2014.

The second graph shows that December 2014 pattern versus the 2013-benchmark, and the January 2015 pattern of distortion versus the 2014-benchmark. Due to several months of testing of the model, before the benchmark release, the historical data never are published on a consistent basis by the BLS.

If the reporting were comparable and stable, month-after-month, all the lines in the graphs would be flat and at zero. With the payroll series, only the headline month and the prior month are consistent in terms of month-to-month reporting detail (headline November 2014 detail no longer is consistent with October 2014), prior data are not comparable.

In terms of the household survey, none of the month-to-month reporting is consistent, except in the once-per-year reporting of December data, when the annual revisions to seasonal adjustments are published. All historical comparability evaporates with the ensuing headline January reporting.

"Trend Model" for February 2015 Headline Payroll Employment Gain. Discussed in *Commentary No. 686,* and as described generally in *Payroll Trends*, the trend indication from the BLS's concurrent-seasonal-adjustment model—prepared by our affiliate www.ExpliStats.com—was for a January 2015 monthly payroll gain of 245,000, based on the BLS trend model structured into December's actual reporting. That trend estimate, however, was subject to the unknown impact of shifting detail in what was then the pending benchmark revision.

The late-consensus for January 2015 reporting was 230,000 (Bloomberg), where the headline gain came in at 257,000, slightly above trend. Standardly, full detail on the headline payroll data, including various drill-down and graphics options would available to ShadowStats subscribers at ShadowStats-affiliate www.ExpliStats.com.

February 2015 Trend Estimate. Based on the January 2015 and benchmark-revised BLS seasonal-adjustment modeling, the trend number calculations suggest a headline gain of 253,000 for February 2015.

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ShadowStats Subscriber Access to Consistent BLS Payroll Data. ShadowStats is pleased to provide complimentary access for its subscribers to the ExpliStats detail on the corrected and consistent, seasonally-adjusted payroll data, as of the February 6, 2015 payroll-benchmark publication. The consistent version of the seasonally-adjusted payroll-employment series back to January 2010—the beginning of the benchmark period—may be downloaded. Revised detail also is available for a large number of industries. Such will be posted as driven by subscriber interest (please advise interests).

The available, corrected information will be updated regularly, in conjunction with the headline monthly payroll releases from the Bureau of Labor Statistics.

Access to this material is complimentary for ShadowStats subscribers. ExpliStats soon will become a revenue-generating service, but it will maintain a continuing and evolving special relationship with our subscribers. Eventually, expanded ExpliStats services will be offered by subscription, with a special discount for ShadowStats subscribers.

As always, comments and suggestions are invited (including payroll-data interests). Let us know what you would like to see on the ExpliStats Web site. Contact: johnwilliams@shadowstats.com

Link to ExpliStats Detail: http://explistats.com/ces_data/

Password: comp

WEEK AHEAD

Against Overly-Optimistic Expectations, Economic Releases and Revisions in the Months Ahead Should Trend Much Weaker; Inflation Releases Should Be Increasingly Stronger after the Impact of Temporary Oil-Price Declines. Shifting some to the downside, again, from the upside, amidst wide fluctuations in the numbers, market expectations for business activity still remain overly optimistic in the extreme. They exceed any potential, underlying economic reality. Downside corrective revisions and an accelerating pace of downturn in broad-based headline economic reporting should hammer those expectations in the next several months. Recent GDP excesses, however, will not face downside revisions until the July 30, 2015 benchmark revision, other than for the two months of revisions still pending for fourth-quarter 2014 GDP.

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Headline consumer inflation—dominated by gasoline and other oil-price related commodities—should hit a near-term bottom in the next two months or so. Significant upside inflation pressures should resume when oil prices begin their rebound, a process that already may be underway, and one that would be accelerated rapidly by an eventual sharp downturn in the exchange-rate value of the U.S. dollar. These areas, the general economic outlook and longer range reporting trends are reviewed broadly in *No. 692 Special Commentary: 2015 - A World Out of Balance*.

A Note on Reporting-Quality Issues and Systemic-Reporting Biases. Significant reporting-quality problems remain with most major economic series. Beyond gimmicked changes to reporting methodologies of the last several decades, ongoing headline reporting issues are tied largely to systemic distortions of seasonal adjustments. Data instabilities were induced partially by the still-evolving economic turmoil of the last eight years, which has been without precedent in the post-World War II era of modern economic reporting. The severity and ongoing nature of the downturn provide particularly unstable headline economic results, when concurrent seasonal adjustments are used (as with retail sales, durable goods orders, employment, and unemployment data). Combined with recent allegations (see *Commentary No. 669* of Census Bureau falsification of data in its monthly Current Population Survey (the source for the Bureau of Labor Statistics' Household Survey), these issues have thrown into question the statistical-significance of the headline month-to-month reporting for many popular economic series.

PENDING RELEASE:

UPDATED **- Retail Sales (January 2015).** The Census Bureau will release January 2015 retail sales on Thursday, February 12th. Market expectations are for continued month-to-month decline in the series, before inflation adjustment. Per Bloomberg, consensus expectations are for a month-to-month contraction of 0.5% (-0.5%). A downside reporting surprise usually is a good bet with this series.

The consumer remains in an extreme liquidity bind, as detailed extensively in *No. 692 Special Commentary: 2015 - A World Out of Balance*. Without sustained growth in real income, and without the ability and/or willingness to take on meaningful new debt, making up for the income shortfall, the U.S. consumer is unable to sustain positive growth in domestic personal consumption, including retail sales. Accordingly, the headline January 2015 retail sales number indeed is at high risk of showing another outright month-to-month contraction (in nominal terms, before inflation adjustment). At the same time, look for downside revisions to the previously-reported December and November detail.

The BLS has delayed release of the January 2015 CPI-U estimate until February 26th, in order to accommodate annual seasonal-adjustment revisions and to introduce series redefinitions. The ShadowStats *Commentary* of that same date will cover January 2015 real retail sales. As happened in December 2014, the headline January CPI-U most likely contracted sharply, month-to-month. Nonetheless, after adjustment for the negative monthly inflation, headline January real retail sales still should have contracted month-to-month, as well.

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