

COMMENTARY NUMBER 941

February Industrial Production and Housing Starts

March 19, 2018

**Subject to Likely, Downside Annual Benchmark Revisions this Coming Friday,
February Industrial Production Jumped by 1.1% (0.9% Net of Revisions),
Reflecting Strength in Manufacturing and Mining**

**Given a Record 122 Months of Non-Expansion,
Manufacturing Still Holds Shy of Its Pre-Recession Peak by 3.7% (-3.7%)**

**Manufacturing Gains Likely Reflected Some Inventory Rebuilding
Against Weakening Sales, As Disaster-Recovery Bloat Passes from the System**

**Continuing in Nonsensical Monthly Booms and Busts,
February Housing Starts Activity Fell by 7.0% (-7.0%),
Still Shy by 45.6% (-45.6%) of Recovering Its Pre-Recession Peak**

First-Quarter 2018 GDP Outlook Continued to Weaken

Nonetheless, the FOMC Appears Set for a Rate Hike on Wednesday

PLEASE NOTE: The next regular Commentary, planned for Friday, March 23rd, will cover February New Orders for Durable Goods, and New- and Existing-Home Sales. It also will headline summary Industrial Production benchmark revisions, but the full-revisions analysis will follow in a Commentary on Monday, March 26th.

Best wishes — John Williams (707) 763-5786

Today's (March 19th) Opening Comments and Executive Summary. The *Opening Comments* reviews the latest economic detail in the context of what increasingly looks like an unfolding first-quarter GDP contraction, and it previews the pending benchmark revision to Industrial Production. The *Executive Summary* (page 5) highlights details of February 2018 Industrial Production and New Residential Construction.

The *Reporting Detail* (page 15) reviews in greater depth February Industrial Production and activity in the Housing Starts and Building Permits series.

The *Consumer Liquidity Watch* (page 37) has been updated for the February 2018 “advance” estimate of the University of Michigan’s Consumer Sentiment.

The *Week, Month and Year Ahead* (page 51) provides background on recent *Commentaries* and reviews upcoming February New Orders for Durable Goods, New- and Existing-Home Sales and the March 23rd annual benchmark revisions to the Industrial Production series.

OPENING COMMENTS AND EXECUTIVE SUMMARY

Disaster-Recovery Boom and Bust: Outlook for First-Quarter GDP Still Sinking, but FOMC Appears Set for a Wednesday Rate Hike. Despite stronger-than-expected headline activity in February 2018 Industrial Production, the outlook for a rapid slowing in relative First-Quarter 2018 GDP growth remained in place, as suggested by comments tied to the Atlanta Fed’s GDP “nowcast” model. ShadowStats still contends that First-Quarter 2018 GDP is at high risk of a headline quarterly contraction.

The Federal Reserve’s Federal Open Market Committee (FOMC) expectations of current U.S. economic growth likely are moving somewhat along with the Atlanta Fed forecasts, yet market expectations are that an FOMC rate hike already is set for March 21st.

Atlanta Fed “Nowcast” Model Takes Another Notch Out of First-Quarter GDP Outlook. As noted in prior [Commentary No. 940](#), the widely followed [Atlanta Fed](#) estimate of first-quarter real GDP growth was revised lower to 1.9% on March 14th. This was subsequent to the headline reporting of February Retail Sales and the CPI and PPI inflation details. That estimate was revised to 1.8% on March 16th, after the reporting of February Industrial Production and Housing Starts and other considerations:

The nowcast of first-quarter real private fixed-investment growth increased from 2.4 percent to 3.3 percent after this morning’s new residential construction release from the U.S. Census Bureau and this morning’s industrial production and capacity utilization release from the Federal Reserve Board of Governors. *This increase was more than offset by the modest downward revisions to the nowcasts of the contributions of real consumer spending, real net exports, and real inventory investment to first-quarter real GDP growth* [ShadowStats emphasis].

Again, the March 16th 1.8% first-quarter GDP “Nowcast” estimate of the Atlanta Fed was down from 2.5% on March 12th, and from an initial 4.2% estimate published January 29th.

Underlying Economic Reality/Conditions. Discussed frequently here, what has happened with underlying economic reality is that broad activity had continued to stagnate and to falter anew, before the multiple natural disasters began to hit in late-August 2017, with Hurricane Harvey. The ensuing natural-disaster recovery boosted fourth-quarter economic activity, in areas ranging from retail sales and industrial production to construction spending and housing starts. That background largely was ignored by the hyper-bulls in the financial markets, who touted the rapidly expanding economy. That concept also received massive popular coverage in the headline media.

Consumer Confidence and Sentiment are booming at multi-year highs, as +discussed in the *Consumer Liquidity Watch* (page 37). The details reflect little more than the tone of the popular press, given how those measures of relative consumer optimism are surveyed. Such was established decades ago by the late Albert Sindlinger, an original consumer pollster, and Dr. David Fan of the University of Minnesota. Restricted consumer liquidity circumstances continue to impair and to constrain broad economic activity.

Despite the disaster-related fourth-quarter boosts, otherwise-faltering economic activity pulled headline Fourth-Quarter 2017 GDP growth lower to 2.54%, from 3.16% in the third-quarter 2017. The outlook for First-Quarter GDP has slowed further, with the natural-disaster-recovery gains waning. The GDP likely will show an ultimate, outright quarterly contraction, albeit exaggerated by relative swings in disaster-related activity.

Preview of the Industrial Production Benchmark Revision (March 23rd). Commonly, the annual benchmark revisions to the Federal Reserve Board’s Index of Industrial Production (IIP) have resulted in major downside revisions to recent economic history. Often what happens with the production series will presage the annual GDP benchmarking, which is due for Friday, July 27, 2018. In the last several years, the GDP revisions have been heavily gimmicked (see the *Underlying Economic Reality* on page 4 of [Commentary No. 938](#)), but the pending GDP revision will be a comprehensive overhaul, with restatement back to 1929, instead of the recent revisions for just the last couple of years.

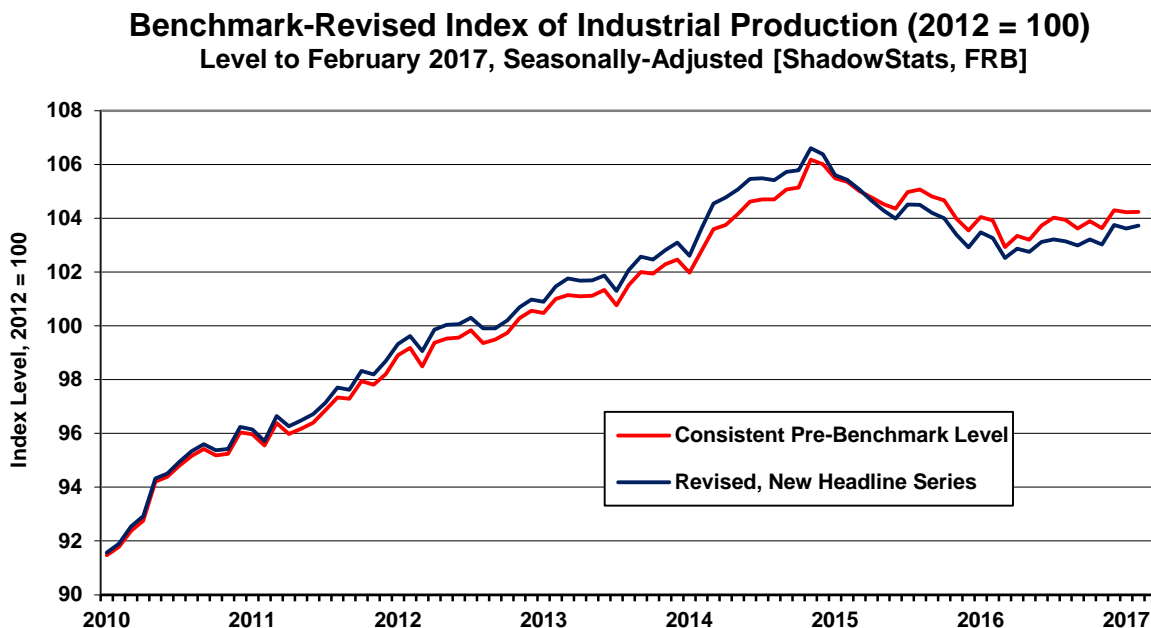
The pending 2017 Industrial Production benchmarking will be published on Friday, March 23rd, with revisions reflecting recent annual census reporting, redefined series and recast seasonal adjustments, back to 1972. See page 3 of the Federal Reserve’s March 16th [Press Release](#). The benchmarking will be covered briefly in *Commentary 942-A* of March 23rd, with full coverage, including an updated economic assessment in *Commentary No. 942-B* of March 26th.

Graphs OC-1 to OC-3 plot the Industrial Production benchmark revisions of the last three years, where the blue line is the new series and the red series is the prior reporting. In each case, the most-recent activity was revised lower, a pattern that likely will continue, given the positive, underlying assumptions that drive most headline economic reporting (see [Special Commentary No. 885](#), entitled *Numbers Games that Statistical Bureaus, Central Banks and Politicians Play*).

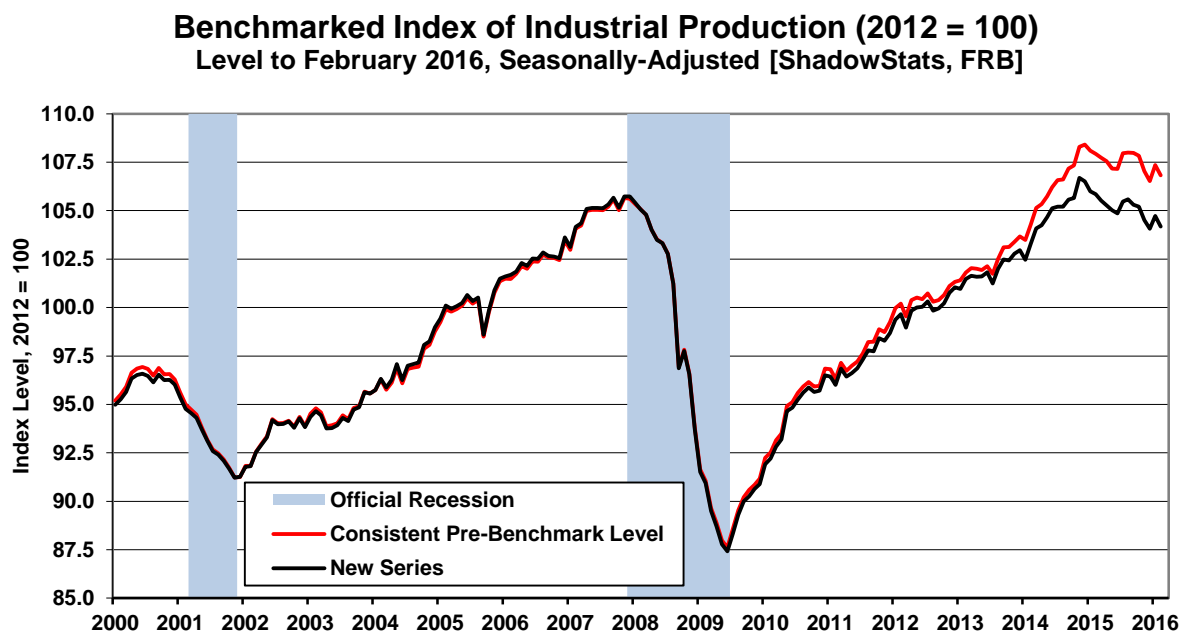
Several items to consider include that the base-year indexing for the IIP was changed in the 2015 benchmarking to 2012 = 100, from January 2000 = 100. Where pending revisions will go back to 1972, the new revisions will pivot around the 2012 index parity point. ShadowStats will show both the headline

and historical reporting on a consistent basis. Again, full coverage follows in the next two *Commentaries*.

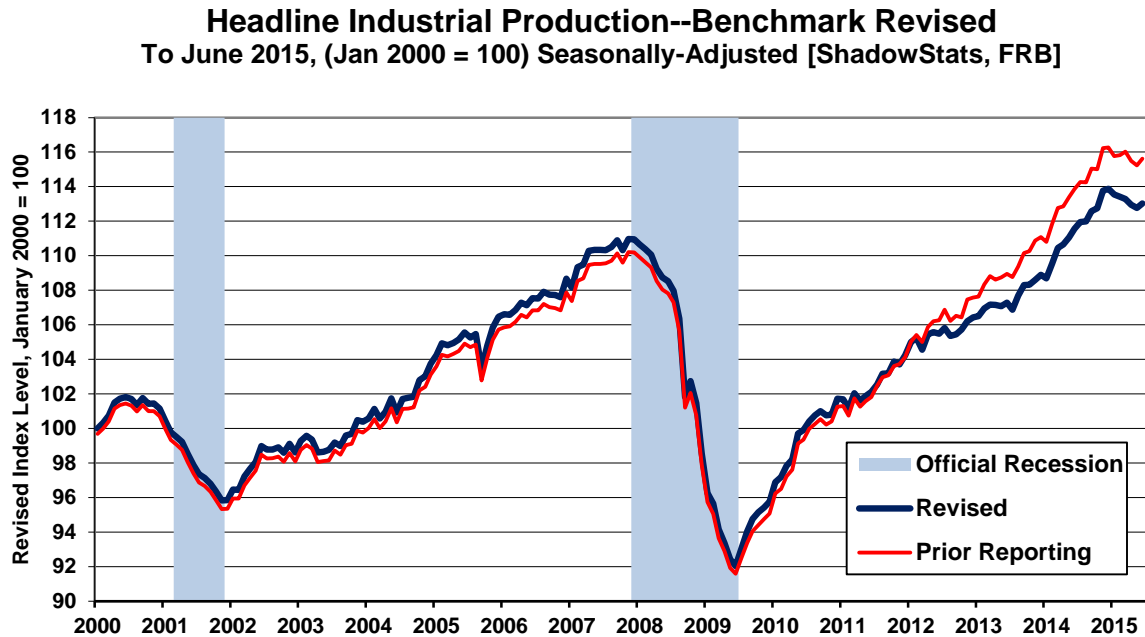
Graph OC-1: 2016 benchmark revisions published in 2017 from [Commentary No. 877](#)



Graph OC-2: 2015 benchmark revisions published in 2016 from [Commentary No. 796-A](#)



Graph OC-3: 2014 benchmark revisions published in 2015 from [Commentary No. 737](#)



EXECUTIVE SUMMARY: Industrial Production—February 2018—Monthly Jump of 1.06% was 0.91% Net of Revisions; Beware the Pending Benchmark Revisions! Headline February 2018 Industrial Production rose a rounded 1.1%, in the context of a revised, deeper monthly decline in January of 0.3% (-0.3%). Net of prior-period revisions, the headline February gain was 0.9%.

All details here will be overhauled in the annual benchmark revision, as discussed in the *Opening Comments*. A revamped economic analysis of the production series will follow in *Commentary No. 942-B* of March 26th, where the numbers are going to change, probably significantly.

Industrial Production—February 2018. Headline February 2018 production rose by 1.06% month-to-month, following a downwardly-revised monthly contraction of 0.26% (-0.26%) in January, and a downwardly revised gain of 0.46% in December activity.

Net of prior-period revisions, February 2018 industrial production gained 0.91%, instead of the headline 1.06%. Year-to-year, February 2018 industrial production gained 4.25%, versus a downwardly-revised 3.50% in January 2018 and an upwardly-revised 3.46% in December 2017.

Growth by Major Sector. Detailed by major industry group, the February 2018 aggregate industrial production monthly gain of 1.05%, reflected monthly gains of 1.25% in the dominant Manufacturing Sector, 4.34% in the Mining Sector (including oil and gas production), and a decline of 4.70% (-4.70%) in Utilities.

For the same sectors, the February 2018 year-to-year aggregate industrial production gain of 4.35% encompassed annual gains of 2.51% in the dominant Manufacturing Sector, 9.73% in Mining (including oil and gas production) and a record 10.54% in Utilities, despite the month-to-month drop there.

Production Activity and Graphs—Corrected and Otherwise. Subject to the looming benchmark revisions, and in the context of the downside 2016 production benchmark revisions (published in 2017) and subsequent regular monthly reporting through February 2018, index-level and annual-growth production details are found in and plotted in the *Reporting Detail (Graphs 12 to 15)*, along with the drill-down graphs of major subcomponents of the production series (*Graphs 16 to 29*).

The level of headline production showed a topping-out process in third- and fourth-quarter 2014, followed by deepening quarterly downturns into first- and second-quarter 2015, with the second-quarter 2015 also beginning a string of quarterly year-to-year contractions. Third-quarter 2015 showed some bounce, but activity in fourth-quarter 2015 and in first- and second-quarter 2016 turned down anew, dropping sharply into negative quarter-to-quarter growth and continuing year-to-year decline. Third-quarter 2016 growth was positive on a quarter-to-quarter basis, but continued in annual contraction. That pattern repeated in fourth-quarter 2016. That seventh straight quarter of annual contraction was a circumstance never seen in industrial production reporting outside of periods that eventually were recognized formally as recessions.

With the reporting of first-quarter, second-quarter and third-quarter 2017 details, production showed both annual and quarterly gains, except for a quarterly contraction in the third-quarter, although the headline activity had remained below pre-recession highs seen in 2007, except for a brief recovery in third-quarter 2014, and one-quarter's expansion in fourth-quarter 2014, before dropping back below the 2007 pre-recession peak.

Fourth-quarter 2017 activity boomed against the third-quarter's weakness, and soared enough for the quarterly activity to regain the series' pre-recession peak for a second time, with activity generally still gaining into February 2018. On a monthly basis, the pre-recession high of November 2007 was recovered briefly in June of 2014, with October and November 2014 a short-lived peak. October 2017 recovered the monthly pre-recession high, for a second time, in advance of the quarterly recovery.

Following *Graphs 1* and *2* address reporting-quality issues tied just to the overstatement of headline growth in the total series that results directly from the Federal Reserve Board using too-low an estimate of inflation in deflating some components of its production estimates into real dollar terms, for inclusion in the Index of Industrial Production. Hedonic quality adjustments to the inflation estimates understate the inflation rates used in deflating those components; this overstates the resulting inflation-adjusted growth in the headline industrial production series (see [Public Comment on Inflation](#) and [Chapter 9 of 2014 Hyperinflation Report—Great Economic Tumble](#)).

Graph 1 shows official, headline industrial production reporting, but indexed to January 2000 = 100, instead of the Fed's formal index that is set at 2012 = 100. The 2000 indexing simply provides for some consistency in the series of revamped "corrected" graphics including, Real Retail sales (see prior [Commentary No. 940](#)) and in [Commentary No. 937](#) and [Commentary No. 938](#) for graphs of "corrected" New Orders for Durable Goods and the "corrected" GDP. The indexing does not affect the appearance of the graph or reported growth rates (as can be seen with a comparison of *Graph 1* here to *Graph 14* in the *Reporting Detail* section).

Graph 2 is a recast version of *Graph 1*, corrected for the estimated understatement of the inflation used in deflating certain components of the production index. Estimated hedonic-inflation adjustments have been backed-out of the official industrial-production deflators used for headline reporting.

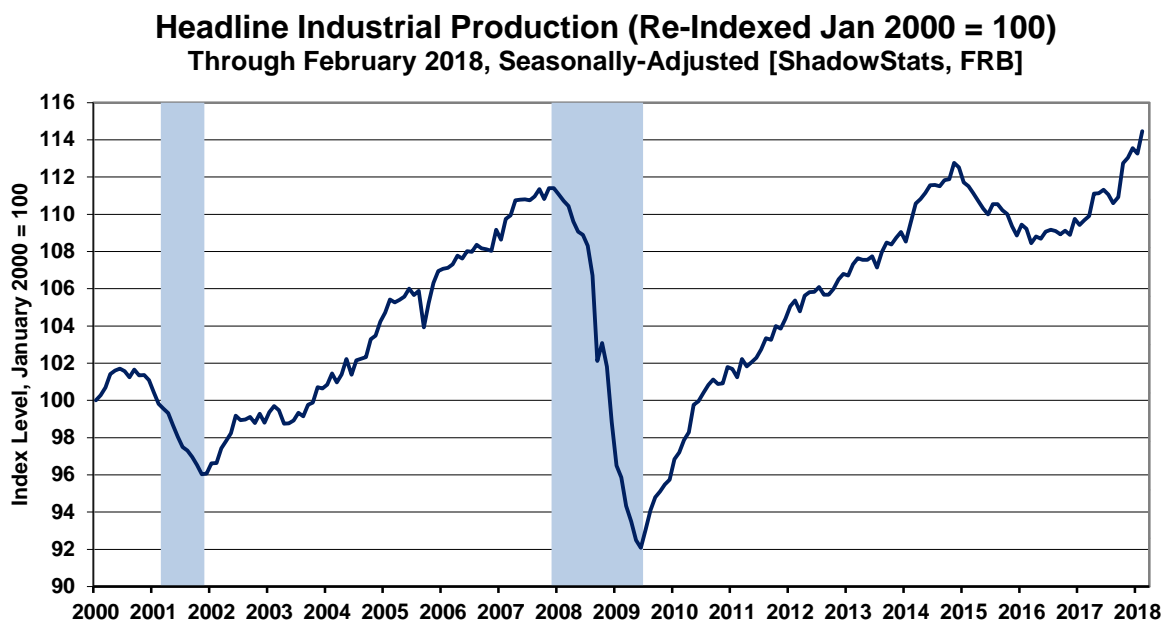
This “corrected” *Graph 2* shows some growth in the period subsequent to the official June 2009 trough in production activity, but that upturn has been far shy of the short-lived full recovery and the renewed expansion reported in official GDP estimation (see [Commentary No. 869](#) and the *ECONOMY* section of [No. 859 Special Commentary](#)). Unlike the headline industrial production data and the headline GDP numbers, corrected production levels never recovered their 2007 pre-recession highs, although, again, the headline aggregate production index quickly backed off its official “recovery” in late-2014, only to recovery its pre-recession peak for only a second time, on a monthly basis, in the October 2017. That said, the dominant manufacturing sector of industrial production still never has recovered its December 2007 pre-recession peak. It continues to show a protracted, now decade-plus period of economic non-expansion, unprecedented in its duration within the 100-year history of the Industrial Production series.

Instead, the “corrected” production series here entered a period of protracted low-level, but up-trending, stagnation in 2010, with irregular quarterly contractions seen through 2013, an irregular uptrend into 2014, a topping-out in late-2014, generally turning lower through fourth-quarter 2016 and into early-2017, with a small upturn, then downturn, with high volatility aggravated by natural-disaster impact of recent months, jumping in recent months with recovery activity in oil production and manufacturing activity to replace hurricane damaged automobiles.

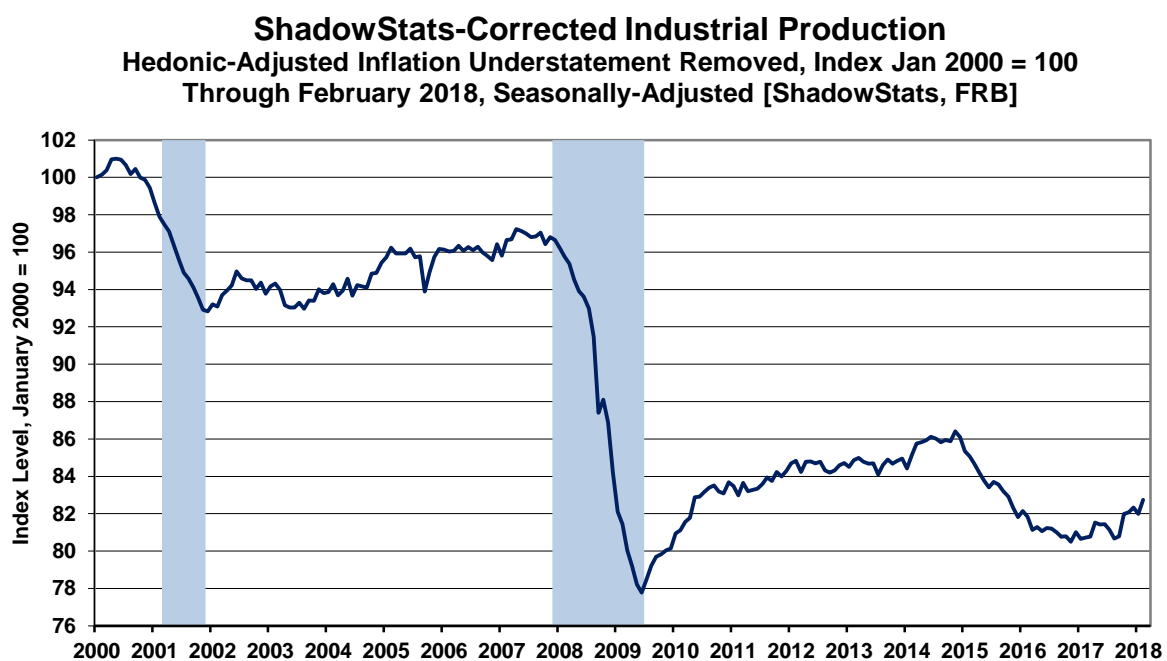
Where the corrected series has remained well shy of a formal recovery, both the official and corrected series suffered an outright contraction in both first- and second-quarter 2015; that is a pattern of severe economic weakness last seen during the economic collapse. Despite the brief third-quarter 2015 quarter-to-quarter uptick, headline fourth-quarter 2015 and first- and second-quarter 2016 industrial production continued in quarter-to-quarter contractions, but rallied thereafter. A string of seven quarters of year-to-year contraction began in second-quarter 2015 and continued through fourth-quarter 2016. First-quarter 2017 production grew both quarter-to-quarter and year-to-year, as did second-quarter 2017, with third-quarter 2017 activity down quarter-to-quarter, partially due to the disruptions from natural disasters, but up year-to-year, with disaster-boosted fourth-quarter 2017, against the disaster-depressed third-quarter, still boosted into February and, again subject to the pending benchmark revisions, as discussed in the *Opening Comments* and *Reporting Detail*.

[Graphs 1 and 2 follow on the next page.]

Graph 1: Indexed Headline Level of Industrial Production (Jan 2000 = 100)



Graph 2: Headline ShadowStats-Corrected Level of Industrial Production (Jan 2000 = 100)



Note: More-extensive analysis of Industrial Production follows in the *Reporting Detail*.

New Residential Construction (Housing Starts and Building Permits)—February 2018—Nonsense Volatility Pummeled Housing Starts, Now Shy by 45.6% (-45.6%) of Recovering Its Pre-Recession Peak. The headline reporting-quality of this series remains as bad as it gets, with none of the headline monthly or annual changes in February Housing Starts or its major components statistically-significant at the 95% confidence level. Discussed in the *Reporting Detail*, however, pending changes to reporting methodology may alter that circumstance, a bit.

In the context of the ongoing nonsense-reporting in February 2018, aggregate Housing Starts declined month-to-month by 7.0% (-7.0%), having gained a minimally-revised 10.1% in January. Single-Unit Housing Starts gained 2.9% in February, following a minimally-revised 3.5% gain in January, with the headline Multiple-Units Housing Starts (five or more) declining by 28.0% (-28.0%) in February, versus a minimally-revised gain of 23.6% in January.

With the headline February reporting, the six-month smoothed trends are now relatively flat to uptrending, across-the-board for the housing starts and building permits. Monthly activity for the various February measures remained shy of regaining the 2005 pre-recession peaks by 42.6% (-42.6%) for Building Permits, 45.6% (-45.6%) for Housing Starts and 50.5% (-50.5%) for Single-Unit Starts. Although Multiple-Unit Starts (the broadest two-or-more category) had fallen back sharply, after first having recovered its 2005 pre-recession peak in early-2015, the revised 23.6% jump in January 2018 monthly activity wiped out virtually all of the most-recent deficit. That resurfaced in February 2018 reporting, however, with the series now 25.8% (-25.8%) shy of its pre-recession peak.

The headline numbers are reflected in accompanying *Graphs 3 to 10* and are reviewed in the *Reporting Detail*. Broadly, these series (including the often, statistically-significant Building Permits) are in low-level, slightly-uptrending stagnation, non-recovery and non-expansion.

A Note on the Housing Starts Graphs. Headline reporting of Housing Starts activity is expressed by the Census Bureau as an annualized monthly pace of starts, which was 1,236,000 in February 2018, versus a revised 1,329,000 [previously 1,326,000] in January 2018. The scaling used in the aggregate housing starts and building permits *Graphs 30 to 35* in the *Reporting Detail* reflects those annualized numbers in millions.

Nonetheless, given the recent and frequent nonsensical monthly volatility in reporting, and the exaggerated effect of annualizing the monthly numbers in this unstable series, the magnitude of monthly activity and the changes in same, more realistically are reflected at the non-annualized monthly rate. Consider that the headline, month-to-month gain at an annualized rate of 266,000 in October 2016 was larger than any actual level of (not change in) monthly starts, ever (in units per month, not annualized), for a single month. That is since related starts detail first was published after World War II.

Accordingly, the monthly rate of 103,000 units in February 2018, instead of the annualized headline level of 1,236,000 units, is used in the scaling (monthly units in thousands) of accompanying *Graphs 3 to 10*. With the use of either scale of units, though, appearances of the graphs and the relative monthly, quarterly and annual percentage changes are otherwise identical, as seen in a comparison of *Graph 5* versus *Graph 31* in the *Reporting Detail*.

The record monthly low level of activity seen for the present aggregate series was in April 2009, where the annualized monthly pace of housing starts then was down by 79% (-79%) from the January 2006 pre-

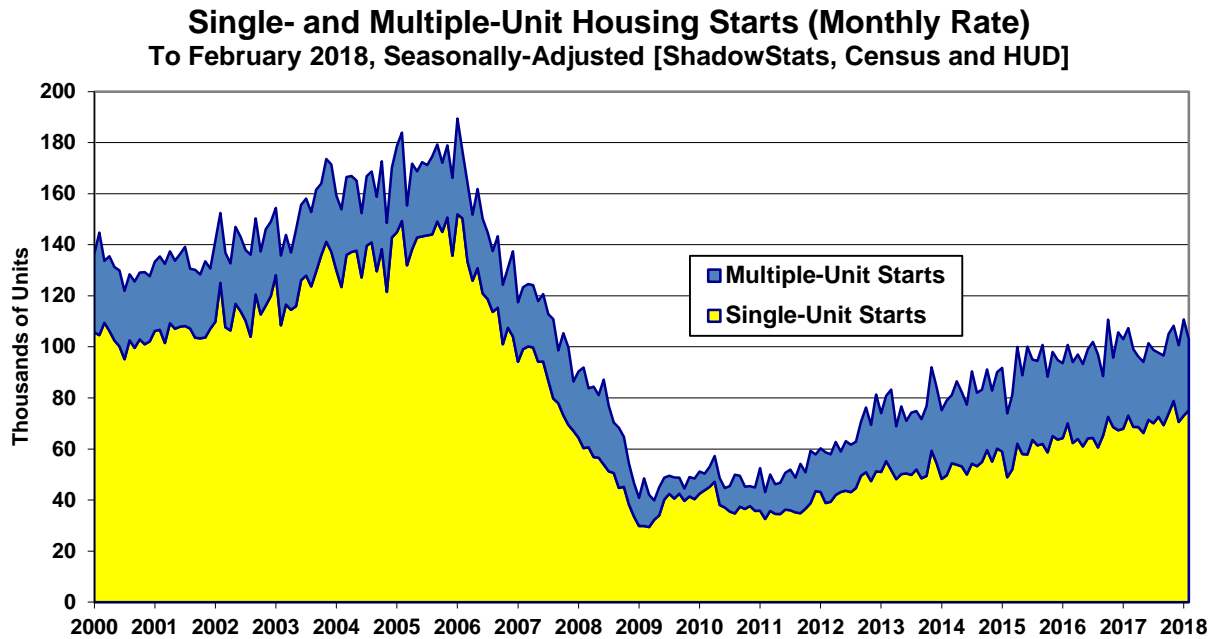
recession peak for the series. Against that downside-spiked low in April 2009, the February 2018 headline monthly number was up by 159%, but it still was down by 46% (-46%) from the January 2006 pre-recession high.

Shown in the historical perspective of the post-World War II era, current aggregate-starts activity is in relative stagnation, still at low levels that otherwise have been seen at or near the historical troughs of other recession activity of the last 70 years, as reflected in *Graphs 34* and *35* at the end of the *Reporting Detail*. In fact, as can be seen there in *Graph 35*, current housing starts activity not only has failed to recover the current pre-recession (pre-collapse into 2009) peak, but also has yet to recover to the level of any pre-recession peak activity seen in the entire post-World War II era.

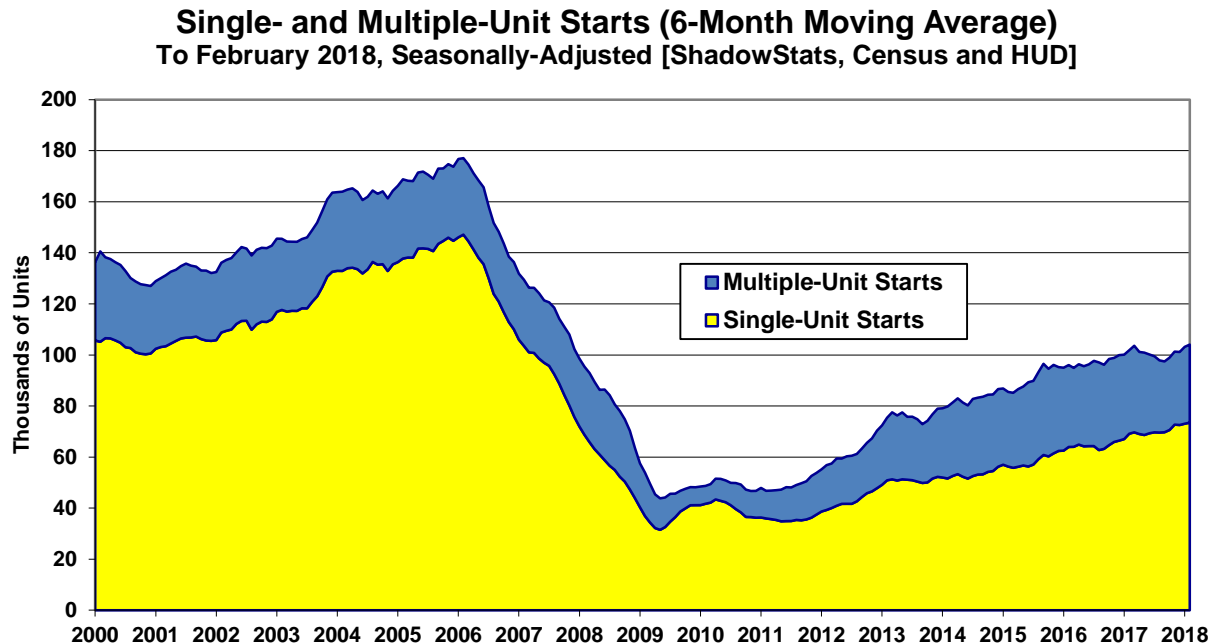
Note: More-extensive analysis of the New Residential Construction follows in the *Reporting Detail*

[Graphs 3 to 10 begin on the next page.]

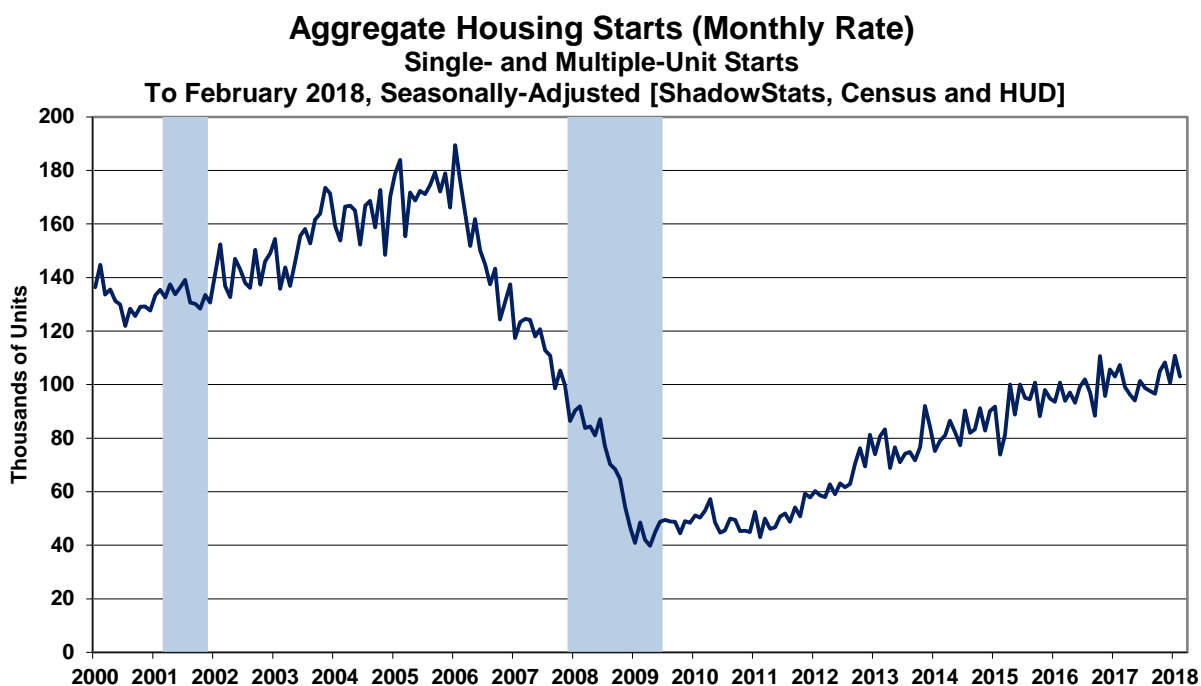
Graph 3: Single- and Multiple-Unit Housing Starts (Monthly Rate of Activity)



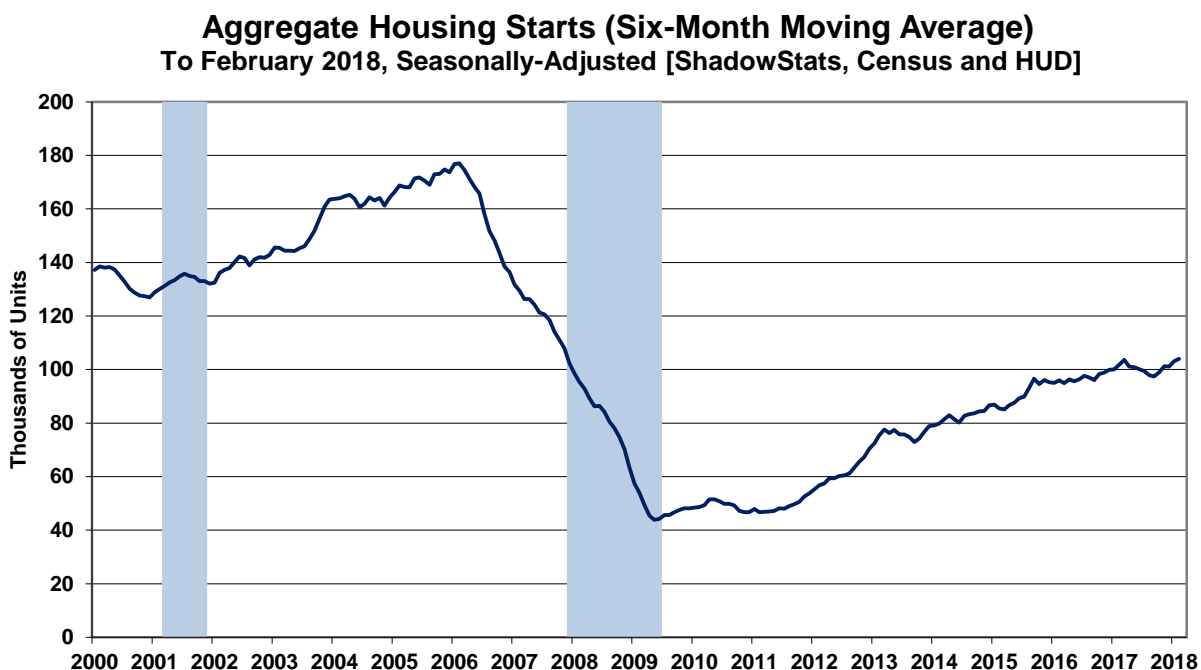
Graph 4: Single- and Multiple-Unit Starts (Six-Month Moving Average, Monthly Rate of Activity)



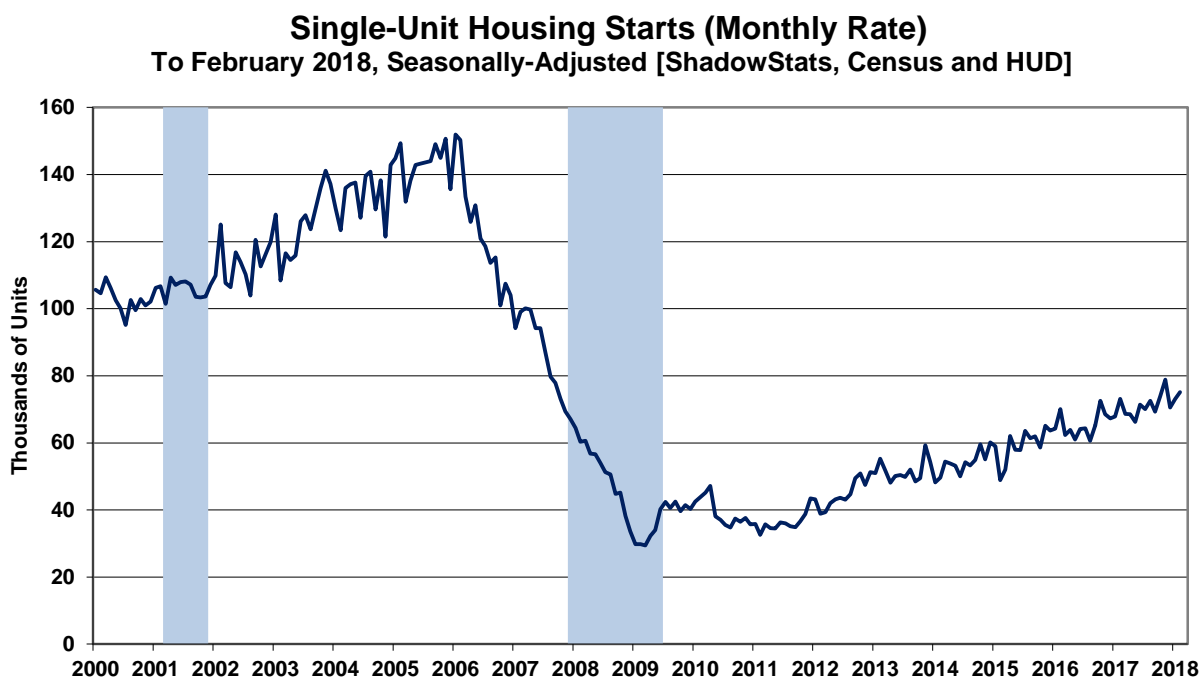
Graph 5: Aggregate Housing Starts (Monthly Rate of Activity)



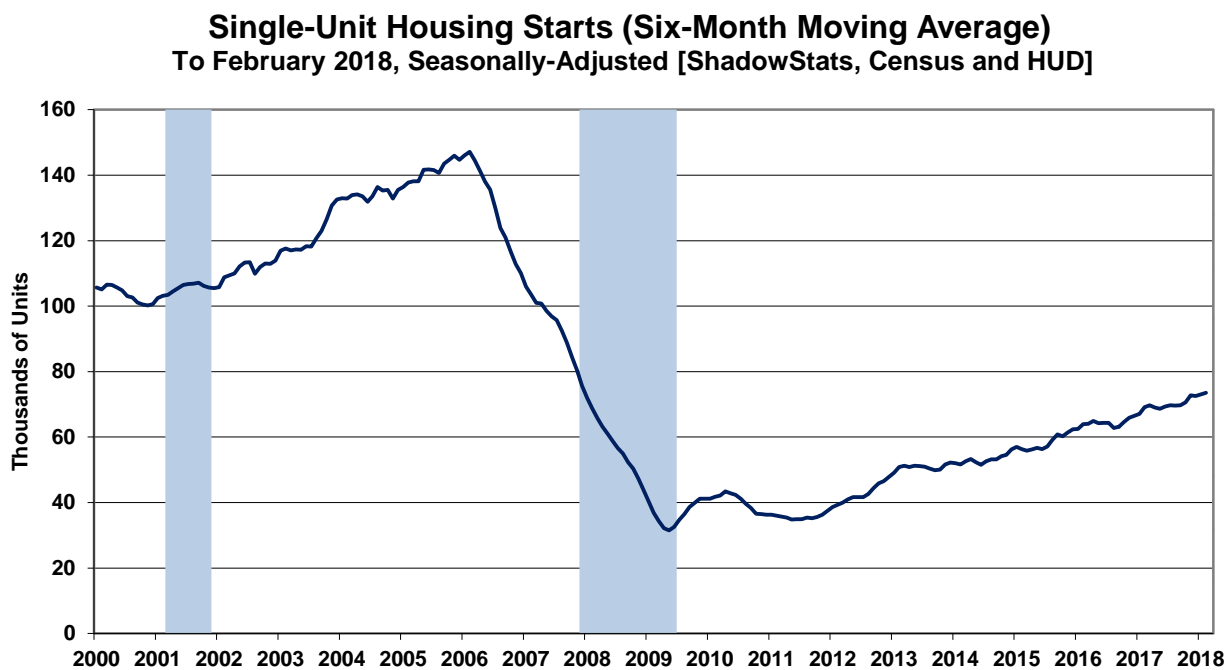
Graph 6: Aggregate Housing Starts (Six-Month Moving Average, Monthly Rate of Activity)



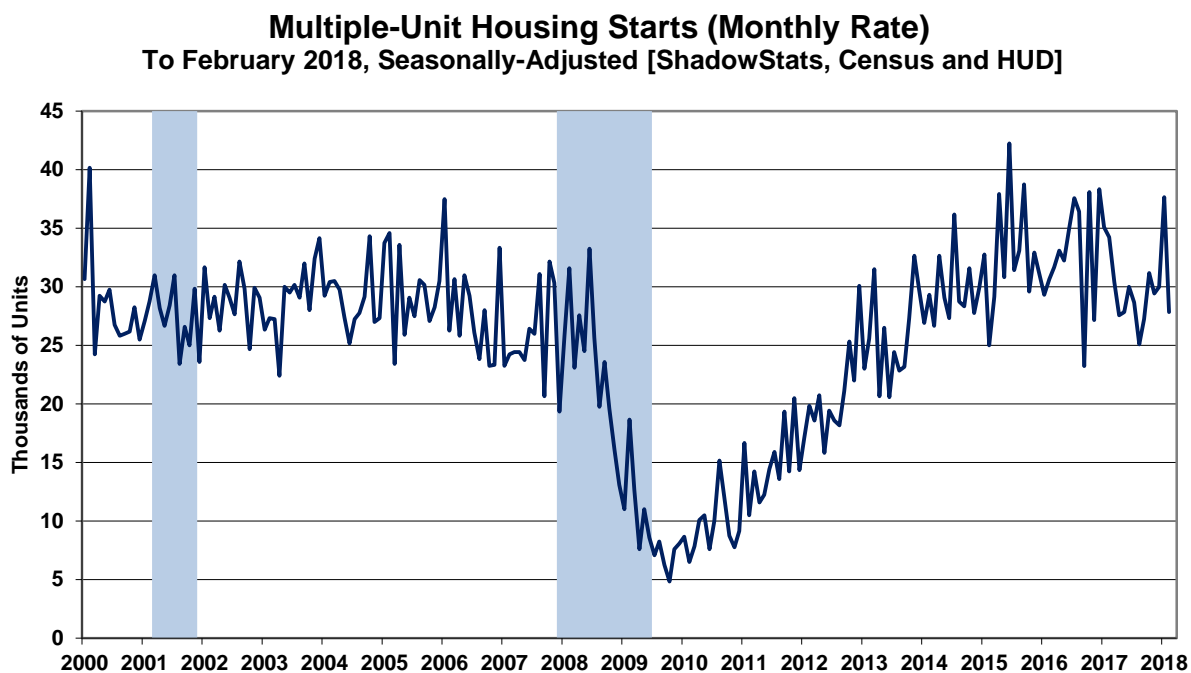
Graph 7: Single-Unit Housing Starts (Monthly Rate of Activity)



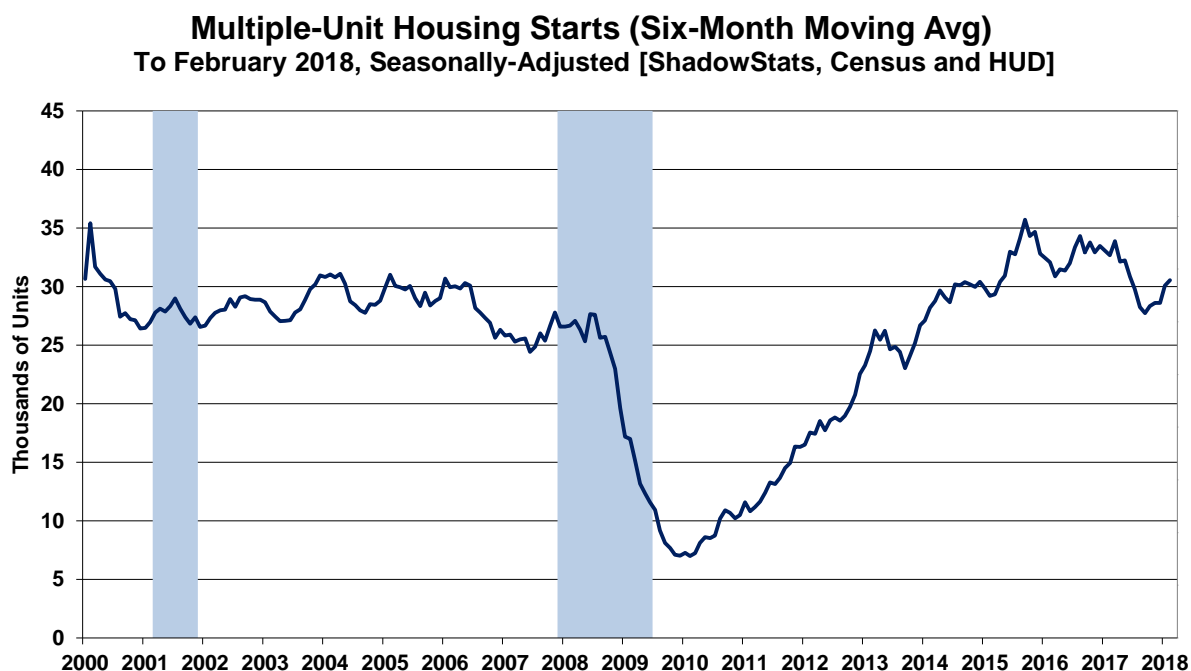
Graph 8: Single-Unit Housing Starts (Six-Month Moving Average, Monthly Rate of Activity)



Graph 9: Multiple-Unit Housing Starts (Monthly Rate of Activity)



Graph 10: Multiple-Unit Housing Starts (Six-Month Moving Average, Monthly Rate of Activity)



[Extended analysis and graphs of the Production and Residential Investment series follow in the Reporting Detail, beginning on the next page.]

REPORTING DETAIL

INDUSTRIAL PRODUCTION (February 2018)

Monthly February Production Jumped 1.06% (0.91% Net of Revisions), Boosted by Manufacturing and Mining, but Beware the Pending Benchmark Revisions! Headline February 2018 Industrial Production rose by 1.06%, up by a rounded 1.1%, in the context of a revised, deeper monthly decline in January of 0.26% (-0.26%) [previously down 0.05% (-0.05%)], down by a rounded 0.3% (-0.3%) [previously 0.1% (-0.1%)] in January. Net of prior-period revisions, the headline February gain was 0.91%. In the context of downside revisions to January Manufacturing and Mining and an upside revision to Utilities, the headline monthly gain of 1.06% in February production, reflected monthly gains of 1.25% in Manufacturing, 4.34% in Mining and a decline of 4.70% (-4.70%) in Utilities, although the annual gain in Utilities held at a record high.

A Week from Now All These Numbers Will Have Been Revamped. All details here will be overhauled in an annual benchmark revision on Friday, March 23rd, as discussed in the *Opening Comments*. Where the numbers are going to change, probably significantly, a fully revamped economic analysis of the production series data will follow in *Commentary No. 942-B* of March 26th. Correspondingly, some of the coverage here may be a little lighter than usual.

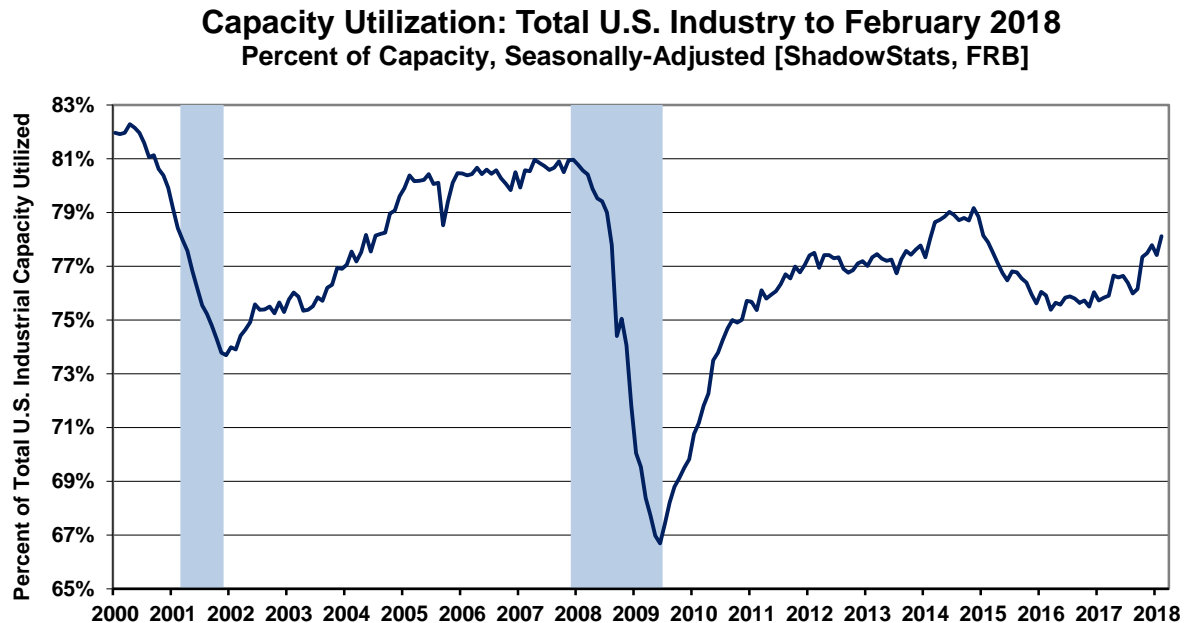
Though Improved in the Month Total U.S. Industrial Capacity Utilization Still Shows a Non-Recovering Broad Economy. Beginning with [Commentary No. 927](#), ShadowStats started regular coverage of the Federal Reserve's measure of Capacity Utilization, an estimate of total Industrial Production versus total Productive Capacity of the United States. Despite reservations about the Fed's ability to measure productive capacity adequately, the series, in terms of Capacity Utilization is worth considering, as plotted in *Graph 11*.

Sharp downturns in Capacity Utilization usually signal the onset of a recession, which would support the concept that a renewed economic downturn began at the end of 2014. That is the ShadowStats estimate for the timing of new or deepening multiple-dip downturn, in the economic crisis that formally began at the end of December 2007. Contrary to the consensus hype, however, as seen with the Manufacturing Sector, the U.S. economy never has recovered fully from that downturn. Reported along with the headline February 2018, but subject to imminent revision, Capacity Utilization rose by 0.70% in the month, up by 0.58% net of prior-period revisions.

Against its December 2007 pre-recession peak level of 80.96%, the February 2018 Capacity Utilization reading—still spiked in level by hurricane disruptions and boosts from weather-distorted utility usage—held shy of recovering that peak by 3.51% (-3.51%). That is despite the Index of Industrial Production

having recovered its pre-recession high in fourth quarter 2017, for a second time on a quarterly basis, and a second time on a monthly basis in October 2017. At the same time, February 2018 Manufacturing remained 3.73% (-3.73%) shy of recovering its pre-recession peak of December 2007.

Graph 11: Utilization of Total U.S. Industrial Production and Manufacturing Capacity (2000 to Date)



Manufacturing Sector Has Continued in Non-Expansion for a Record 122 Months. Despite headline January 2018 Industrial Production holding above its pre-recession peak by 2.74%, largely due to continued expansion in the Mining sector and a monthly gain in February Manufacturing, that dominant Manufacturing Sector still remains 3.73% (-3.73%) shy of recovering its December 2007 pre-recession peak. In terms of quarterly detail, fourth-quarter 2017 remained 4.58% (-4.58%) shy of ever having recovered its fourth-quarter 2007 pre-recession peak. The Manufacturing Sector is in the longest stretch of economic non-expansion ever seen in the 100-year history of Industrial Production, now at 122-months and counting, a full 10-plus years. In contrast, the second-longest period of non-expansion in manufacturing was the 96-months to needed retool the post-war U.S. economy, to rebuild domestic manufacturing to its World War II peak. The third longest was the first down-leg of the Great Depression, it took 88-months to recover the pre-collapse high.

One of the Better-Quality Series, Industrial Production Still Overstates Headline Activity. Irrespective of annual benchmark revisions, despite last year's downside revisions, which hit historical production detail hard, current headline production reporting still overstates economic activity tied to understated inflation. With the benchmarked 2016 industrial production representing 59% of the real value of Gross Domestic Product (GDP), the broad economy remains in the harsh reality of ongoing recession, one that has continued from somewhat before 2007. Headline production remains troubled by its dominant Manufacturing Sector (76.4% of aggregate production), which, again, never has recovered its pre-recession peak, continuing in low-level, non-recovered economic stagnation (see *Graph 16*). This detail will be revised in the week ahead.

Industrial Benchmark Revisions Loom for this Friday, March 23, 2018. The Federal Reserve will publish its annual 2017 benchmark revisions on Friday, March 23, 2018 (see the discussion the *Opening Comments*), with revisions reflecting recent annual census reporting, redefined series and recast seasonal adjustments, back to 1972. See page 3 of the March 16th [Press Release](#). Traditionally, most series (specifically Industrial Production) go through these benchmarkings, suffer net downside revisions to the history of recent years, where underlying reality begins to catch up with usually overly-optimistic assumptions built into initial headline reporting (see the discussion in [Commentary No. 877](#)).

Headline Industrial Production—February 2018. The Federal Reserve Board released its first estimate of seasonally-adjusted, February 2018 Industrial Production on March 16th. The new detail reflected a downside revision to January 2018 and an upside revision to December 2017 detail, with all detail here subject to revisions, again, in the week ahead.

Headline February 2018 production rose by 1.06% month-to-month, dominated by gains of 1.25% in Manufacturing and 4.34% in Mining (oil and gas exploration and extraction, and coal production), versus a monthly drop of 4.70% (-4.70%) in Utilities. The February production gain was on top of a downwardly-revised monthly contraction of 0.26% (-0.26%) [previously 0.05% (-0.05%)] in January, and a revised gain of 0.46% [previously 0.41%, initially 0.89%] in December activity. Net of prior-period revisions, February 2018 industrial gained 0.91%, instead of the headline 1.06%.

February 2018 Monthly and Annual Growth by Major Sector. Detailed by major industry group (see *Graphs 14, 16, 21 and 23*), the February 2018 aggregate industrial production monthly gain of 1.05%, again was composed of monthly gains of 1.25% in the dominant Manufacturing Sector, 4.34% in the Mining Sector (including oil and gas production), and a decline of 4.70% (-4.70%) in Utilities.

In like manner (see *Graphs 15, 17, 22 and 24*), the February 2018 the annual aggregate industrial production gain of 4.35% was composed of monthly gains of 2.51% in the dominant Manufacturing Sector, 9.73% in Mining (including oil and gas production) and a record 10.54% in Utilities, despite month-to-month drop there.

Year-to-Year Change. Year-to-year February 2018 industrial production gained 4.25%, versus a revised 3.50% [previously 3.66%] in January 2018 and a revised 3.46% [previously 3.40%, initially 3.56%] in December 2017.

Quarterly and Annual Production Changes. Year-to-year growth rates in quarterly production had continued to slow and then decline, ranging from a positive 1.72% in first-quarter 2015, to year-to-year declines of 0.76% (-0.76%) in second-quarter 2015, 1.08% (-1.08%) in the third-quarter 2015 and 2.66% (-2.66%) in fourth-quarter 2015.

The annual declines continued, down by 2.17% (-2.17%) in first-quarter 2016, by 1.34% (-1.34%) in second-quarter 2016 and by 1.24% (-1.24%) in third-quarter 2016. Fourth-quarter 2016 production contracted year-to-year for the seventh-straight quarter by 0.14% (-0.14%).

First-quarter 2017 detail, annual change rose by 0.58%, the first annual gain since first-quarter 2015. Second-quarter 2017 production gained year-to-year by 2.14%, with third-quarter 2017 showing a hurricane impaired at annual gain of 1.64%. The third estimate of annual fourth-quarter 2017 growth was a hurricane-boosted 3.53%, with first-quarter 2018 on early track for 3.82% based just on initial January and February 2018 reporting.

Annualized Quarter-to-Quarter. Going back to first-quarter 2015 industrial production contracted at an annualized quarterly pace of 3.30% (-3.30%), having gained by 2.72% in fourth-quarter 2014. That was followed by a quarterly contraction of 3.97% (-3.97%) in second-quarter 2015, with a third-quarter 2015 production gain of 0.37%, followed by a fourth-quarter 2015 contraction of 3.66% (-3.66%).

The first-quarter 2016 annualized quarterly contraction was 1.34% (-1.34%), with second-quarter 2016 down at an annualized 0.68% (-0.68%). Third quarter 2016 gained at an annualized pace of 0.78%, followed by a gain of 0.70% in fourth-quarter 2016.

The first-quarter 2017 annualized quarterly gain was 1.54%. The second-quarter 2017 gain was 5.63%, with hurricane-disrupted third-quarter 2017 growth now showing an annualized quarterly contraction of 1.17% (-1.17%). The third estimate for fourth-quarter activity was a hurricane boosted 8.37%, with first-quarter 2018 on early track for a 2.68% gain, based just on initial January and February 2018 reporting.

Production Graphs. The regular two sets of long- and short-term plots of industrial production levels and annual growth rates (*Graphs 12 to 15*) set the background for the drill-down detail graphs of various components of the aggregate industrial series (*Graphs 16 to 29*).

Graphs 12 and 13, and *Graphs 14 and 15* show headline industrial production activity to date. *Graph 13* shows the monthly year-to-year percent change in the aggregate series, in historical context since World War II. Post-2017 benchmarking, activity was somewhat stronger coming into 2014, but much weaker going into 2015, as detailed in [Commentary No. 877](#).

Graph 12 shows the monthly level of the production index post-World War II, with a topping-out and renewed downturn—deepening quarterly contractions in first- and second-quarter 2015, with a bounce in third-quarter 2015, followed by renewed and deeper contractions in fourth-quarter 2015 and first- and second-quarter 2016, turning to the plus-side in second-half 2016 into second-quarter 2017 and the recent third-quarter 2017 hurricane disruptions and accompanying near-term volatility, with a boosted activity into February 2018. Such patterns of monthly and quarterly year-to-year declines post late-2014 to the onset of 2017 (see *Graph 13*) were seen last in the economic collapse into 2009, and historically never seen outside of what would be recognized as formal recessions. *Graphs 14 and 15* show the same series in near-term detail, beginning in January 2000. Such remains in the context of a hurricane-impaired third-quarter reading and a hurricane-boosted fourth-quarter 2017 into February 2018.

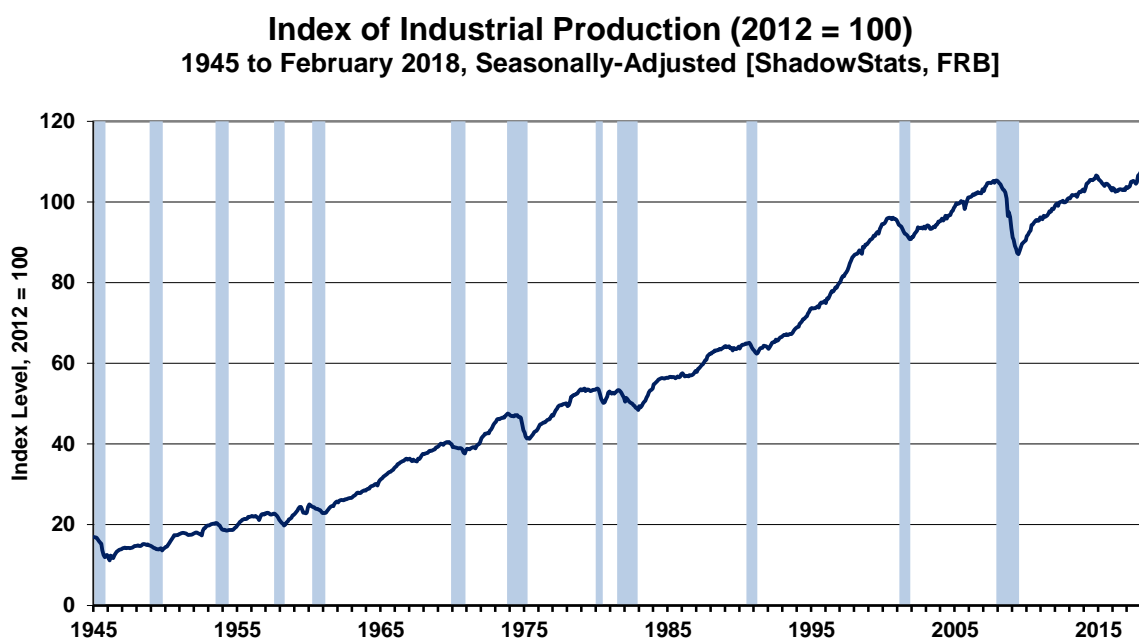
Seen most clearly in *Graph 15*, year-to-year activity dipped anew in 2013, to levels usually seen at the onset of recent recessions, bounced higher into mid-2014, fluctuated thereafter, turning negative, again, into 2015 and through 2016 as seen only in formal recessions. In the context of the 2017 benchmark revisions, year-to-year growth remains well off the recent relative peak for the series, which was 8.55% in June 2010, going against the official June 2009 trough of the economic collapse. Indeed, as shown in *Graph 13*, the June 2009 (the end of second-quarter 2009) year-to-year contraction of 15.43% (-15.43%) was the steepest annual decline in production since the shutdown of wartime production following World War II.

Although generally now in low-level stagnation, official production levels had moved higher since the June 2009 trough, corrected for the understatement of inflation used in deflating portions of the industrial production index (see the *Executive Summary* section, *Graph 2*). That series has shown more of a pattern of stagnation with a slow upside trend, since 2009, with irregular quarterly contractions interspersed. The

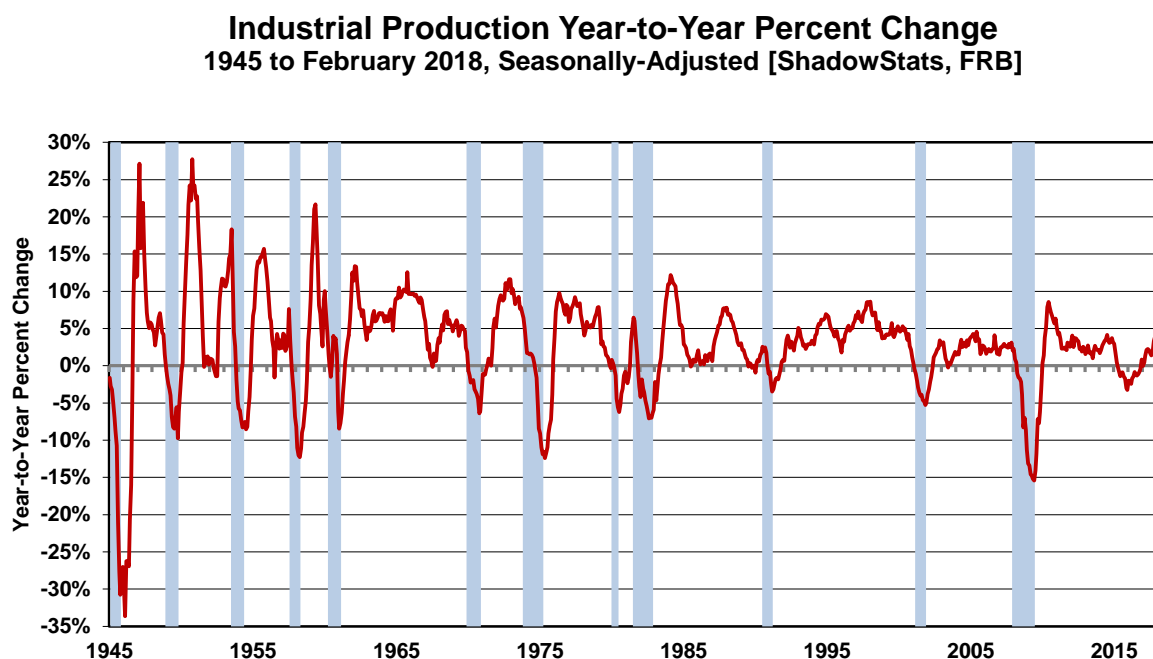
slow uptrend continued into a topping out pattern in late-2014. Headline growth—purportedly already neutered of any inflation impact—contracted in both first- and second-quarter 2015, moved minimally higher into 2016 through mid-2017 and into late-year, hurricane boosted territory and into February 2018. The “corrected” series has contracted quarter-to-quarter throughout 2016 and with some leveling off and minimal uptick into early-2017, with a downturn thereafter, now with an uptick in the post-disaster recovery.

[Graphs 12 to 15 begin on the next page.]

Graph 12: Index of Industrial Production (Aggregate), Since 1945

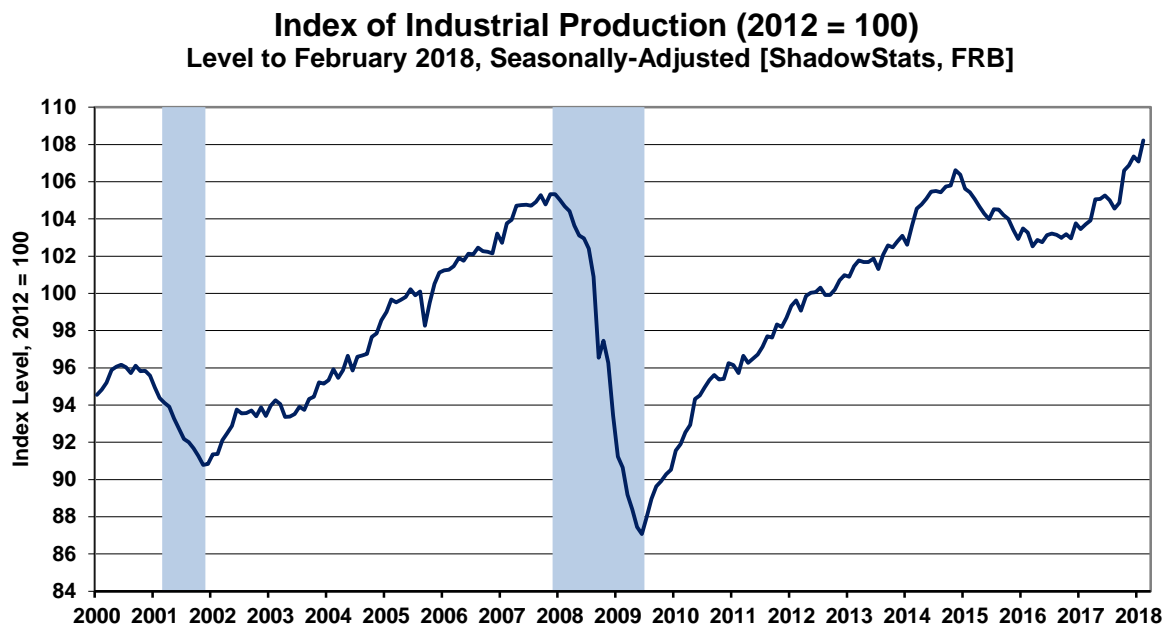


Graph 13 Industrial Production, Year-to-Year Percent Change, Since 1945

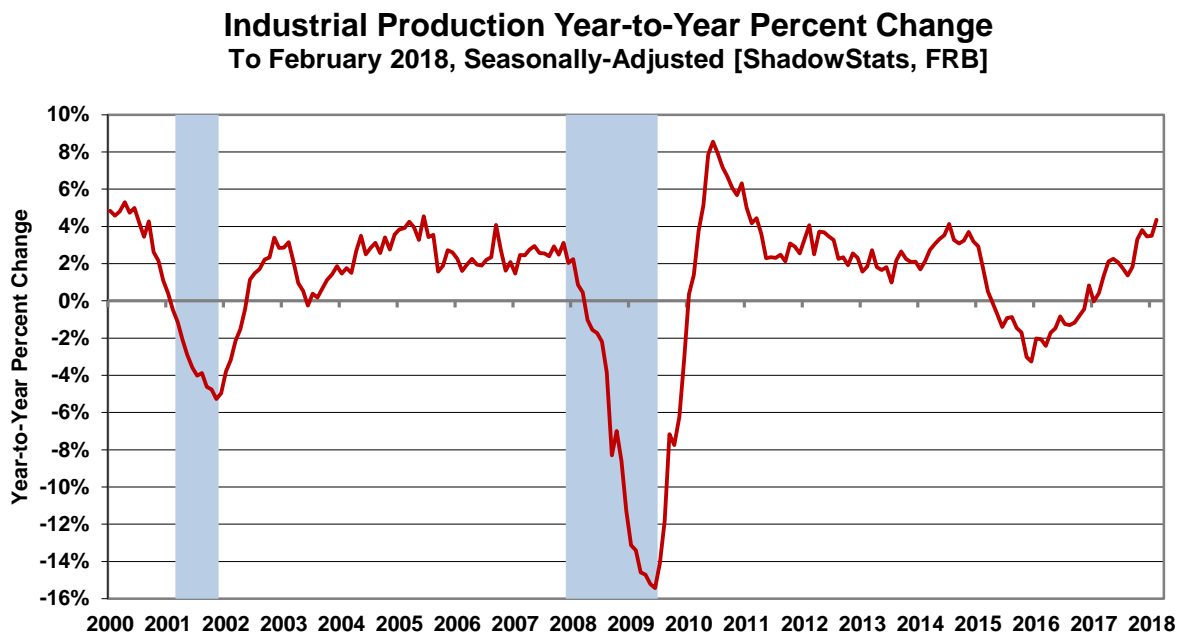


Drilling Down into the December 2017 U.S. Industrial Production Detail. Graphs 14, 16, 21 and 23 show headline reporting of industrial production and its major components.

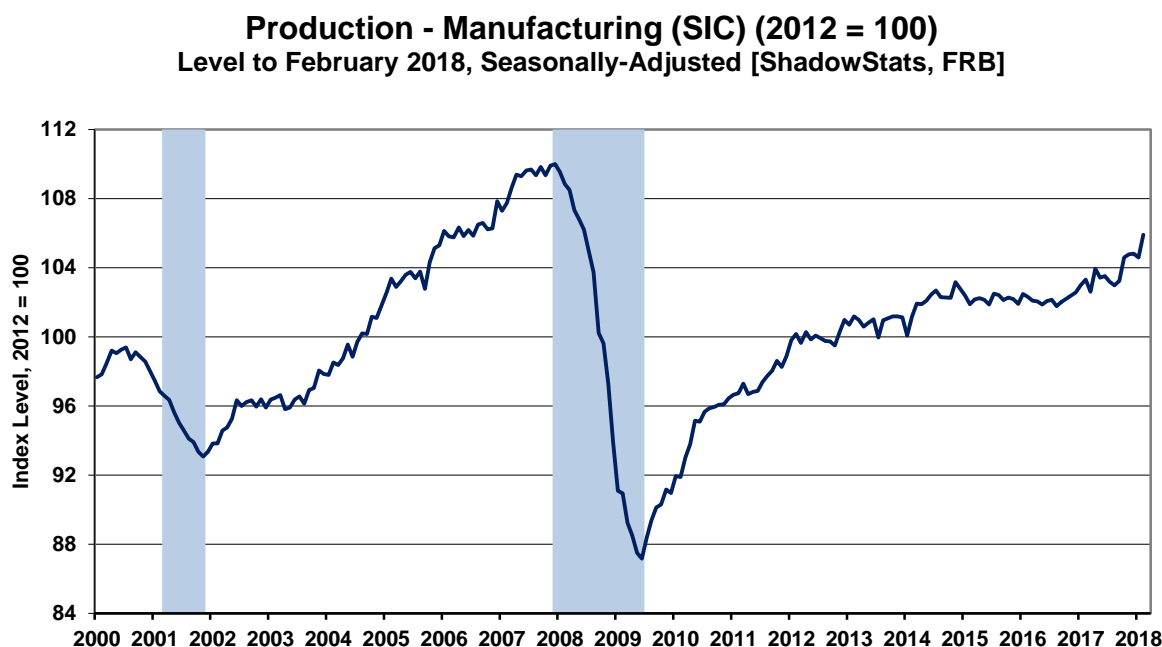
Graph 14: Index of Aggregate Industrial Production, Since 2000



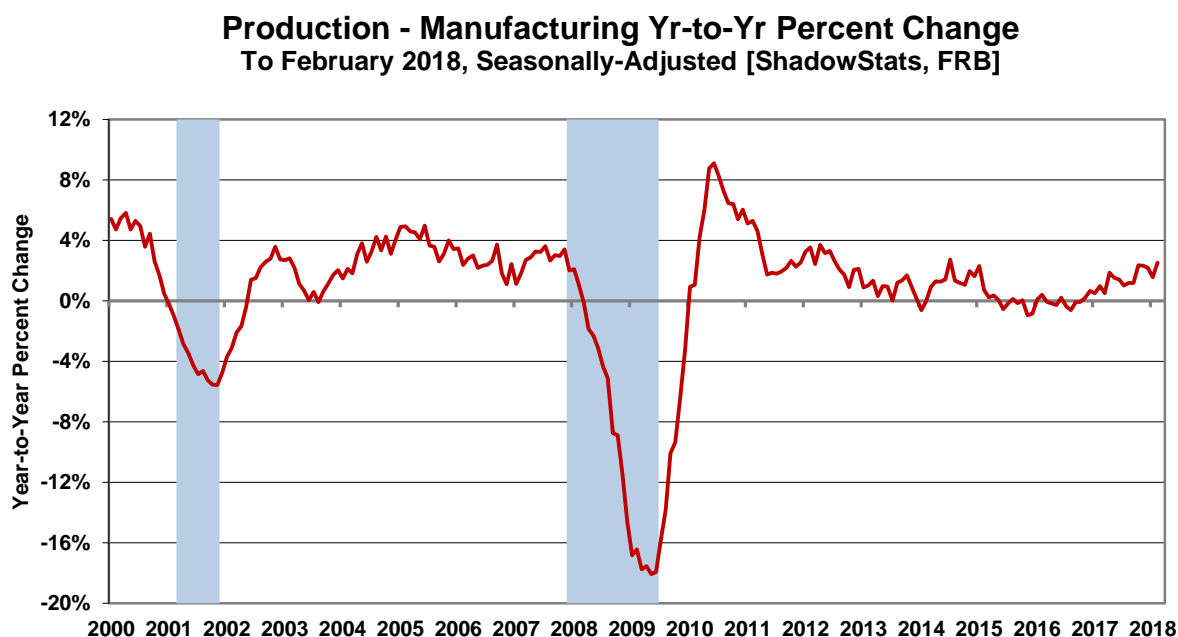
Graph 15: Aggregate Industrial Production, Year-to-Year Percent Change, Since 2000



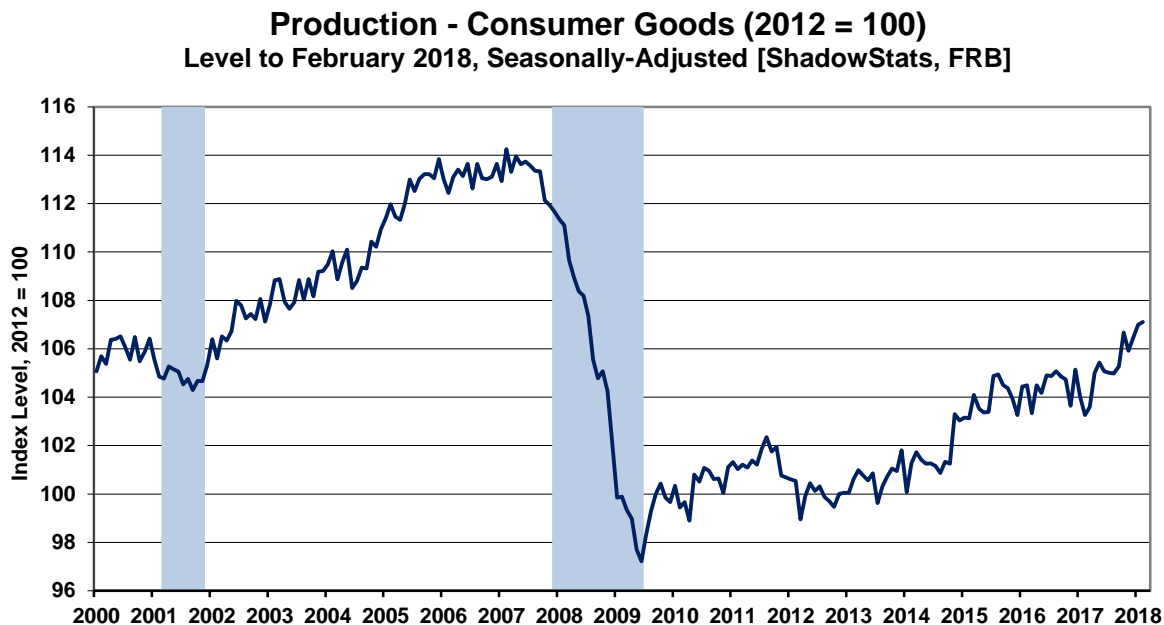
Graph 16: Industrial Production - Manufacturing (76.4% of the IIP in 2016), Since 2000



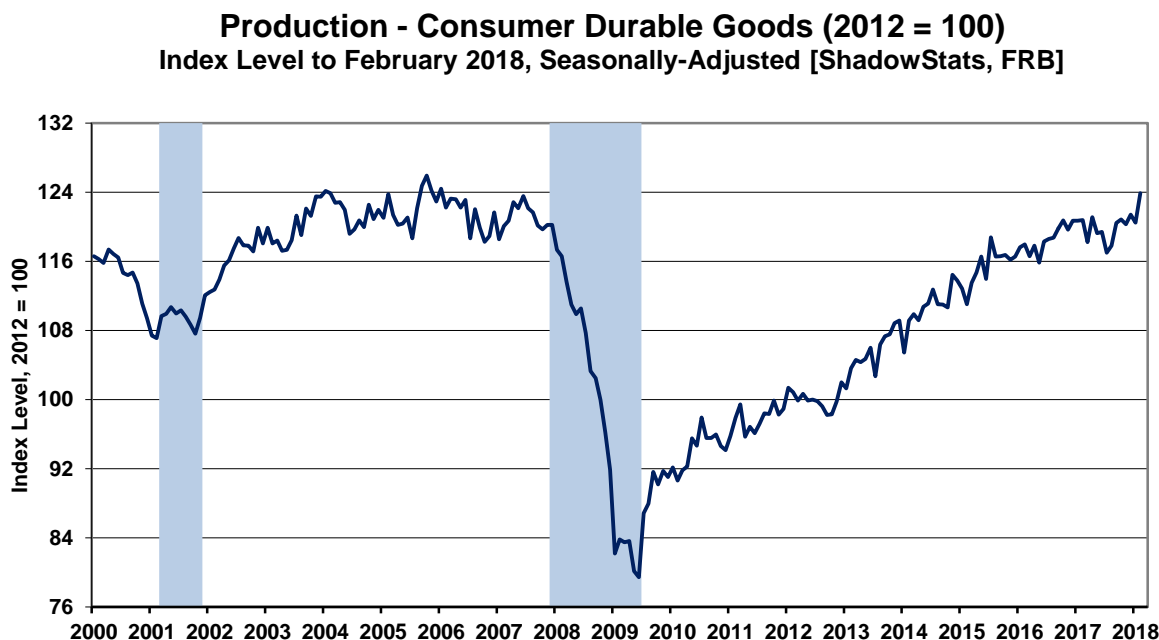
Graph 17: Industrial Production - Manufacturing, Year-to-Year Percent Change, Since 2000

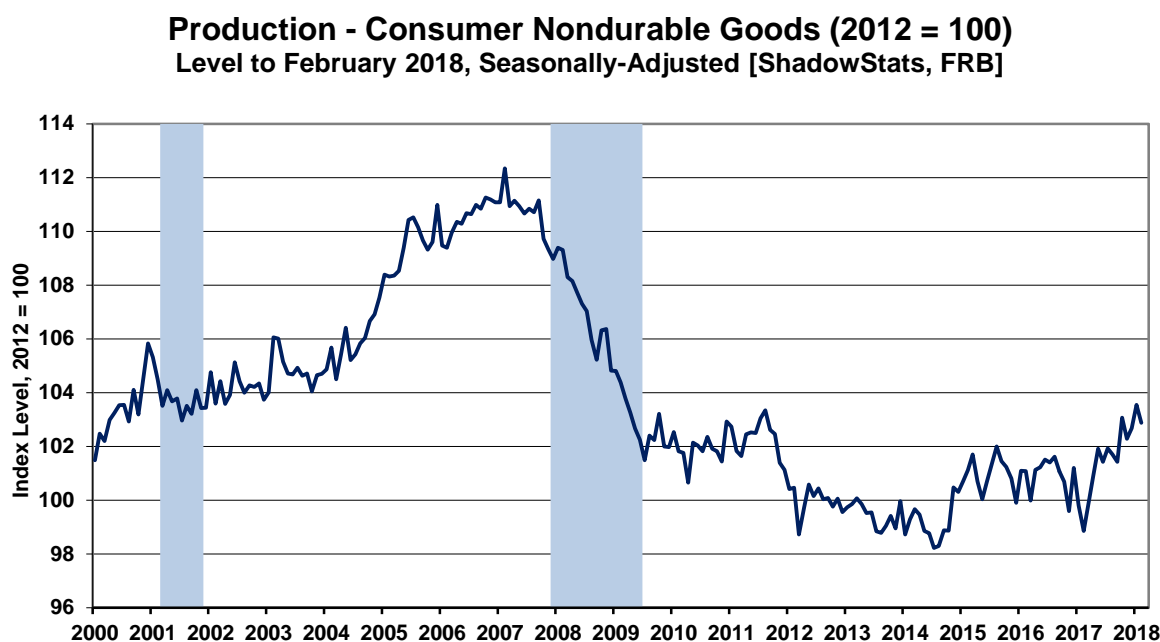


Graph 18: Consumer Goods (28.2% of the Aggregate in 2016), Since 2000



Graph 19: Durable Consumer Goods (6.3% of the Aggregate in 2016), Since 2000



Graph 20: Nondurable Consumer Goods (21.9% of the Aggregate in 2016), Since 2000

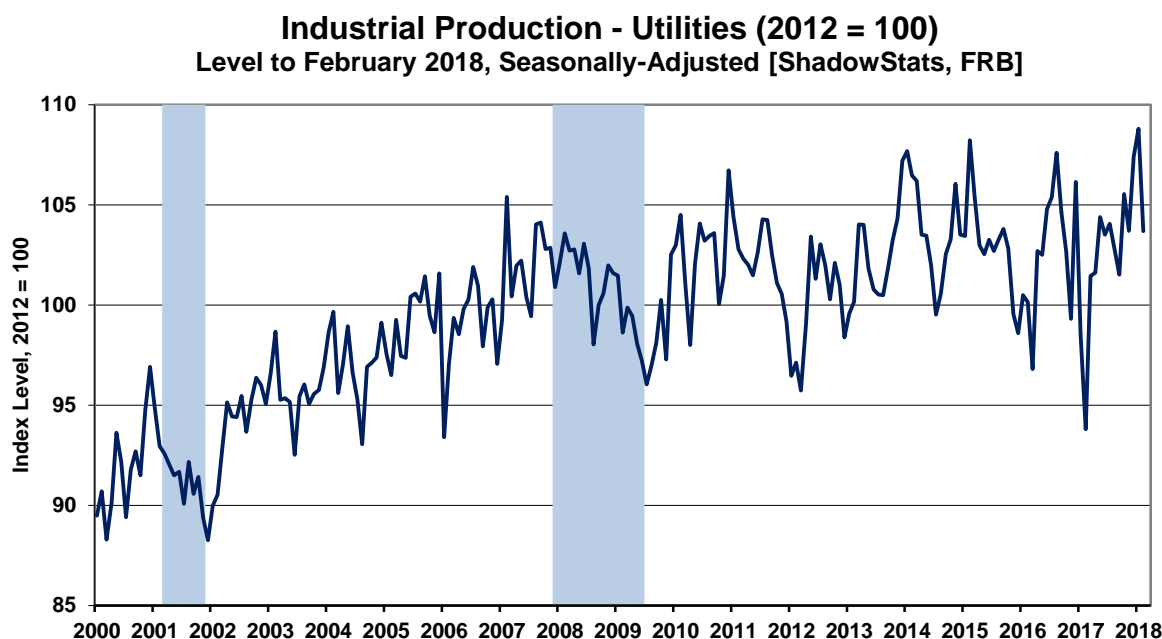
The aggregate production index (*Graph 14*) contracted quarter-to-quarter in both first- and second-quarter 2015, with a third-quarter 2015 bounce, followed by ongoing, consecutive quarterly contractions from fourth-quarter 2015 through second-quarter 2016. Year-to-year declines by quarter were seen for seven consecutive quarters, from second-quarter 2015 through fourth-quarter 2016, with first-quarter 2017 activity positive on both a quarterly and annual basis, flipped to fluctuating monthly and quarterly volatility and gains by lingering and varied hurricane disruptions and continuing recovery from same.

Shown in *Graphs 16, 21* and *23* are the three major industry sectors, Manufacturing, Utilities and Mining, all of which were distorted heavily to the downside by weather in the August 2017 detail, all sectors down month-to-month. In the context of downside prior-period revisions and declining impact from hurricane distortions, all three major industry sectors moved higher month-to-month with the September 2017 detail, and again, in October, except for Mining, which was hit by Hurricane Nate. Hurricane Nate spiked November Mining Activity, without which November Industrial Production was flat, per the Fed, but with renewed regular gains in December activity. That said, Manufacturing and Mining showed strength in February 2018, with Utilities backing off recent winter weather spikes, except in terms of annual growth.

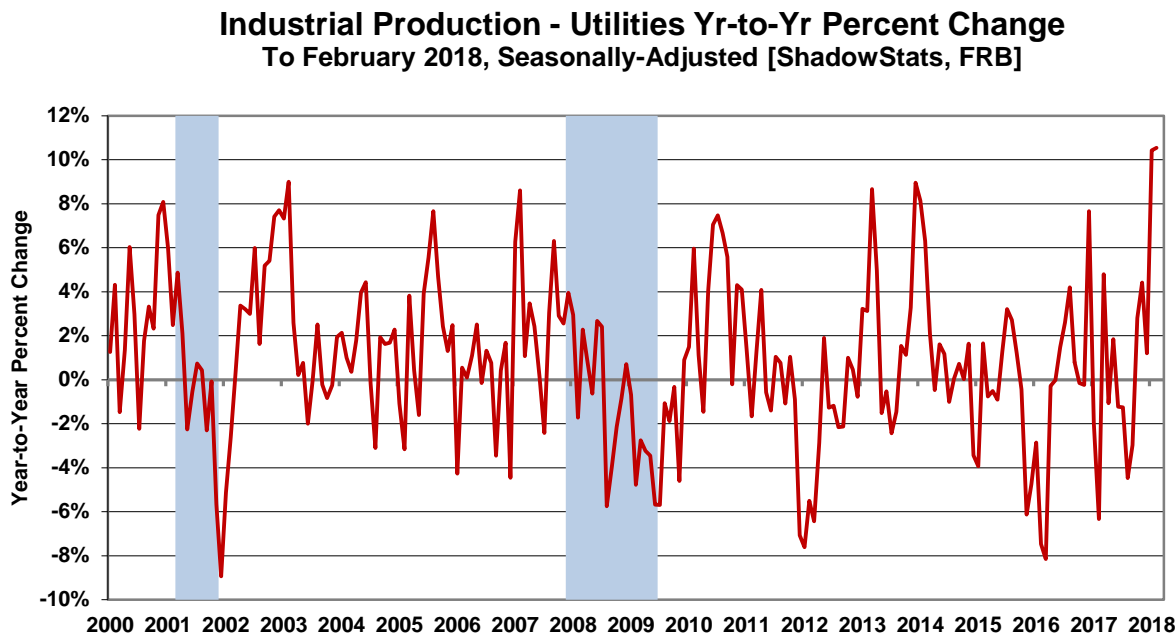
The Manufacturing graphs precede this, the other graphs follow, updated for the latest disrupted/recovery detail, subject to this week's benchmark revisions and new commentary in the next couple of months. *Graphs 17, 22* and *24*, show the respective plots of year-to-year change for those series. The preceding Manufacturing *Graphs 16* to *20* include various levels of consumer goods production (*Graphs 18* to *20*), all impacted by disaster distortions and recovery from same.

The next two *Graphs 21* and *22* reflect Utilities activity massively distorted by unseasonably-cold weather in the winter, so far, reaching record levels in terms of monthly activity and annual change in January and February 2018. The scale in *Graph 22* had to be expanded to the upside in order to show the January 2018 surge, which just was topped by the February 2018 annual growth.

Graph 21: Industrial Production - Utilities (10.6% of the Aggregate in 2016), Since 2000

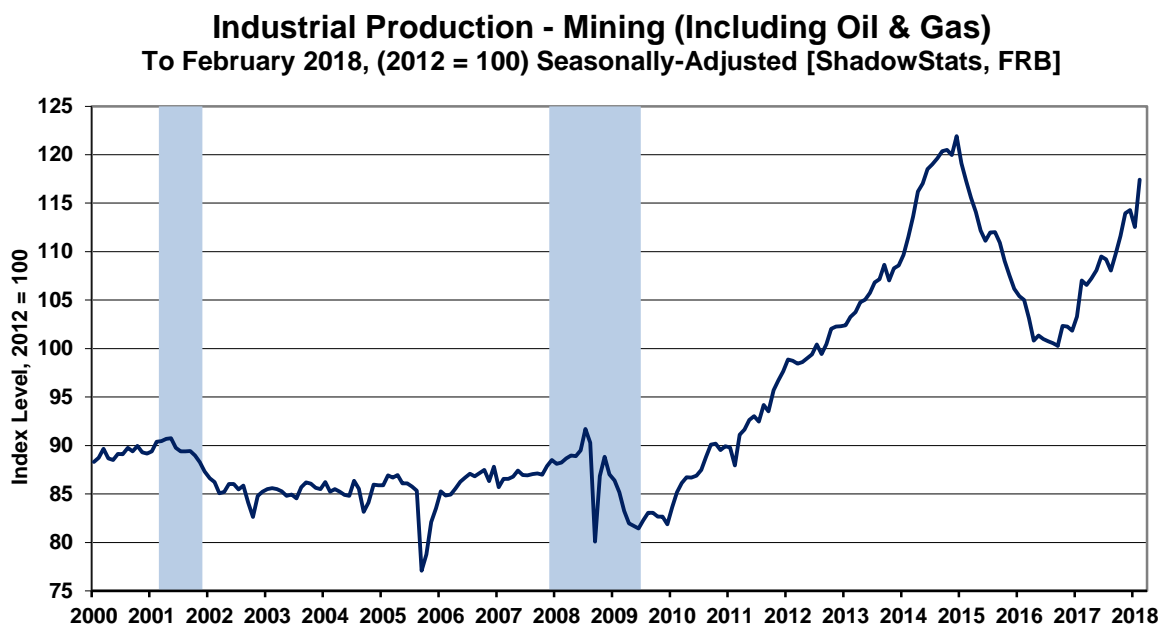


Graph 22: Industrial Production - Utilities, Year-to-Year Percent Change, Since 2000

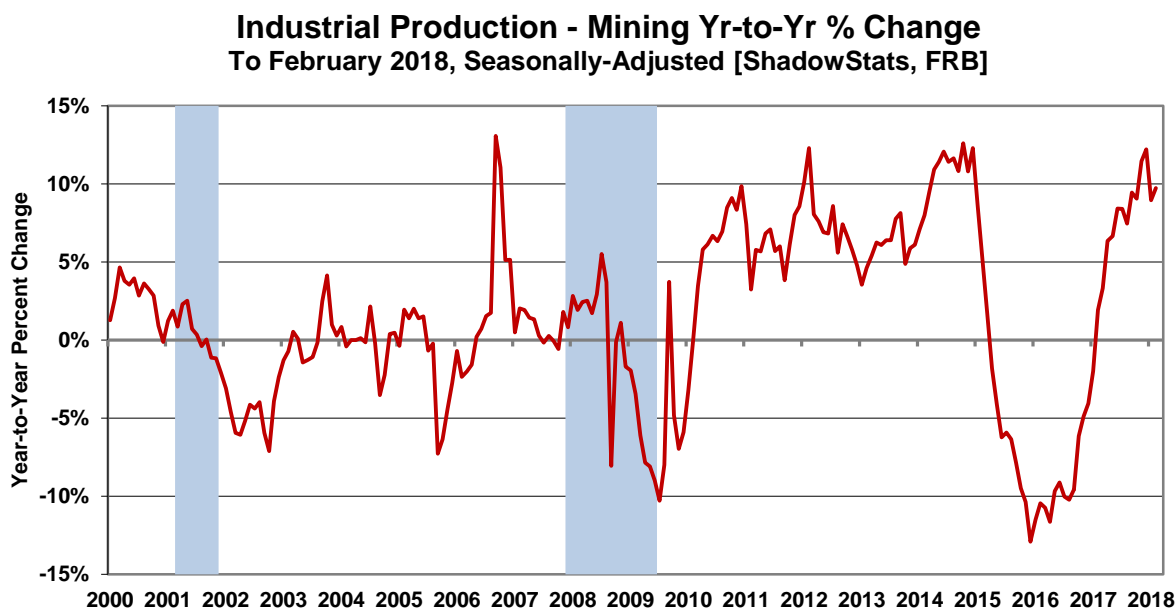


The final set of Mining *Graphs 23 to 20*, encompasses plots of related mining/oil production or exploration activity. Gold and silver mining rose in the month, as did coal mining. The dominant oil and gas mining rose across-the-board in February activity, with oil and gas drilling now moving higher, having stabilized in recent months.

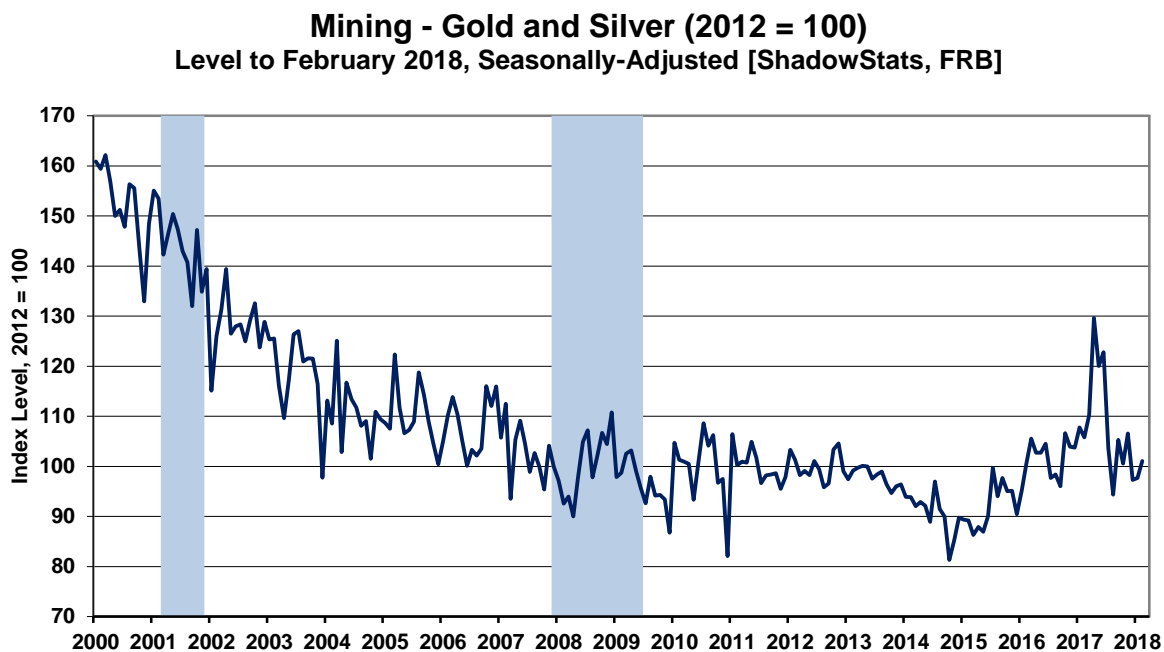
Graph 23: Industrial Production - Mining, Including Oil and Gas (12.9% of the Aggregate in 2016), Since 2000



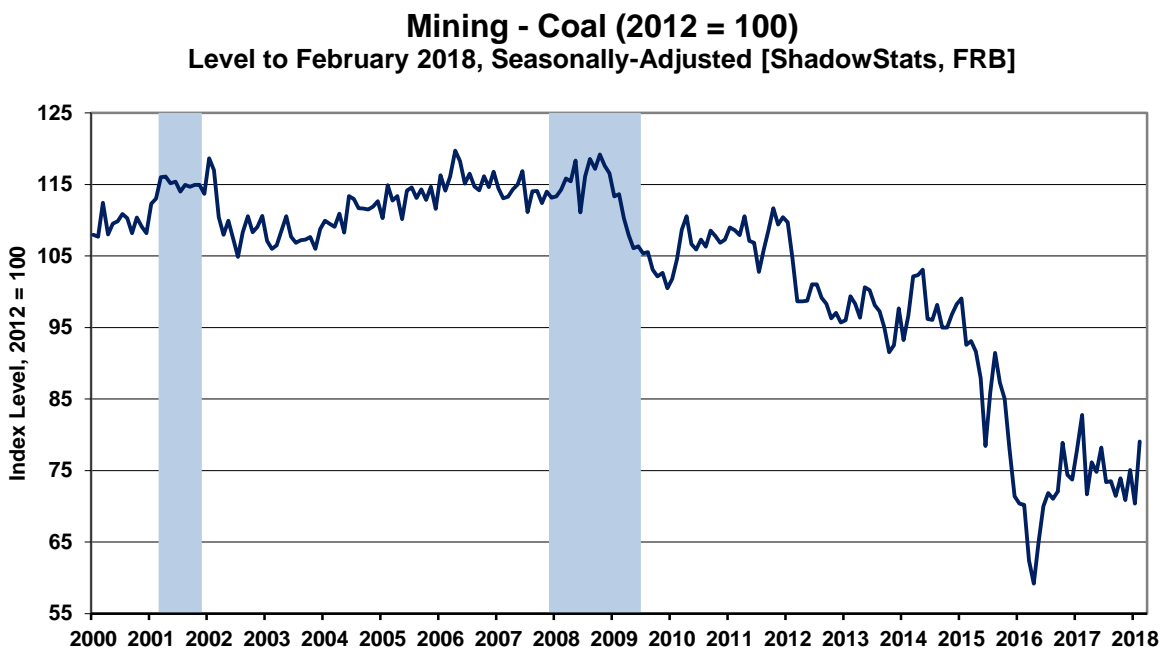
Graph 24: Industrial Production - Mining, Year-to-Year Percent Change, Since 2000



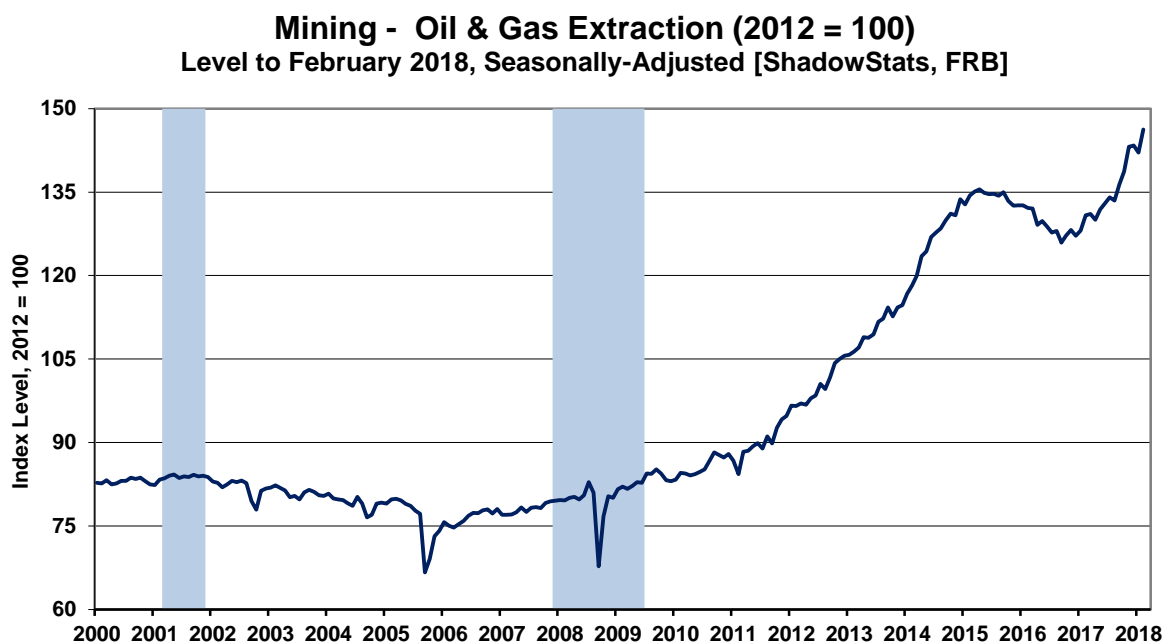
Graph 25: Mining – Gold and Silver Mining, Since 2000



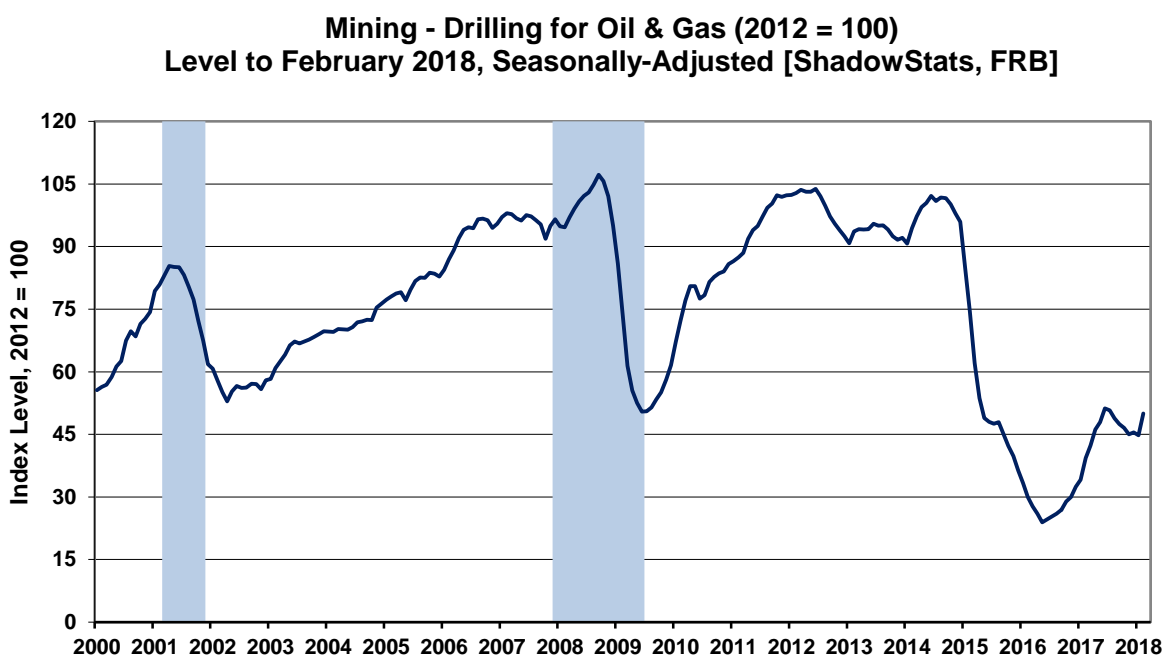
Graph 26: Mining - Coal Mining, Since 2000



Graph 27: Mining – U.S. Oil & Gas Extraction, Since 2000



Graph 28: U.S. Drilling for Oil & Gas (Exploration), Since 2000



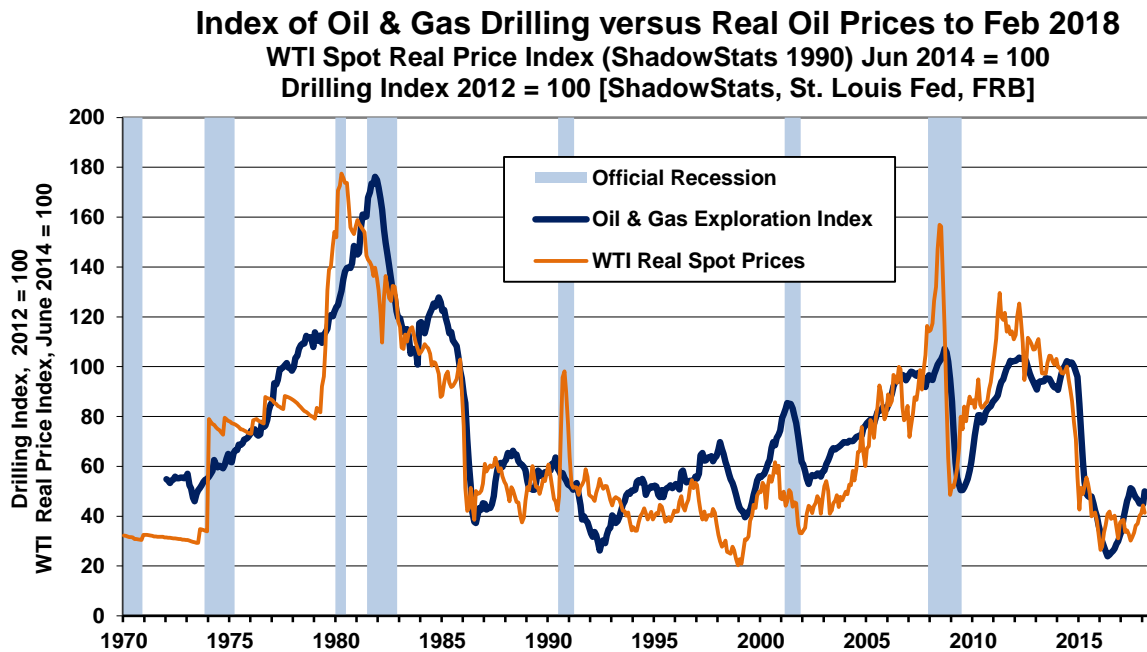
Shown in *Graph 29*, with some lag following sharp movements in oil prices, oil and gas exploration tends to move in tandem, and an upswing in exploration, indeed, appeared to have been in place with what was at least a short-term bottoming in oil prices in early 2016. Prices rallied into mid-2016, then plateaued, and had been moving lower into 2017, with oil and gas exploration easing in July 2017 versus June 2017,

the first month without a sharp month-to-month gain, since the boost from the 2016 upturn in oil prices. Yet, oil prices have risen in recent months and are in an uptrend, but exploration had been disrupted somewhat by hurricane disruptions. That changed with an uptick in exploration in February 2018. The oil price index used here is for the West Texas Intermediate (WTI) monthly average spot price, deflated using the ShadowStats Alternate CPI measure (1990 Base). The graph lines have been highlighted to show more clearly the price-level movement, which visually may coincide with the drilling levels.

When the dollar weakens, dollar-denominated oil prices also begin to strengthen, as seen recently, even in a circumstance with excess supply conditions. With the U.S. dollar currently in a downtrend, oil prices have been firming, also impacted by political tensions in the Middle East. At such time as the U.S. dollar declines meaningfully—ShadowStats looks for a massive sell-off in the dollar in the year ahead—U.S. dollar-denominated oil prices should rally sharply in response (see also [General Commentary No. 811](#)). That said, post-election, the U.S. dollar had rallied, but there had not been quite a commensurate decline in oil prices, and, again the dollar has begun to pull back recently. Where supply had been tightened artificially (see the discussion in [No. 859 Special Commentary](#)), oil prices showed some increase and oil and gas extraction and exploration continued to pick up accordingly, again with some lag. As the dollar substantially weakens anew, artificial supply constraints likely will ease in tandem.

That said, both oil prices and drilling activity had been meaningfully boosted and hit, respectively in August and September 2017, due particularly to the impact of Hurricane Harvey on the Gulf Coast. Prices and extraction activity have moved back to more-regular levels, and exploration appears to be picking up. Again, beyond the dollar, movement in oil prices remain subject to, and are reflective of, political developments at home and abroad, including the Middle East. Prices have rallied enough and long enough to suggest continuing, increased activity in the near future.

Graph 29: Mining – U.S. Drilling for Oil & Gas versus Real Oil Prices (WTI ShadowStats 1990 Base), Since 1970



NEW RESIDENTIAL CONSTRUCTION—Housing Starts and Building Permits (February 2018)

Extreme, Statistically-Insignificant Nonsense Volatility Reduced Housing Starts Activity to a Level Still Shy by 45.6% (-45.6%) of Recovering Its Pre-Recession Peak. In the economic context of what should be unwinding natural-disaster-recovery distortions, as seen recently in series such as retail sales, February 2018 aggregate housing starts plunged month-to-month by 7.0% (-7.0%), having soared by a minimally-revised 10.1% in January. As standardly is the circumstance, though, the headline monthly changes reflect nonsense volatility, with none of the changes in major industry components statistically-significant at the 95% confidence interval. That circumstance, however, may be about to change.

Hope for a Reporting-Quality Change? Annual Seasonal-Adjustment Overhaul Scheduled for May 16th. Last month ([Commentary No. 936](#)), ShadowStats offered, “There is nothing on the drawing board, however, that will improve the reporting quality of these numbers or the related, continued lack of monthly and annual statistical significance (see for example [Commentary No. 927](#) and [Commentary No. 932](#) for a discussion of distortions in the headline reporting for November and December 2017 activity).” We may have been wrong.

On page 2 of the March 16th of the Census Bureau’s [Press Release](#) for the New Residential Construction series, was the following notice:

With the April 2018 release [on May 16th], seasonally adjusted estimates of housing units authorized by building permits will be revised back to January 2012, and seasonally adjusted estimates of housing units authorized but not started, started, under construction, and completed will be revised back to January 2013. With each April release, seasonally adjusted data will now be revised for an additional five years beyond the revision period for unadjusted data. **Research has shown that this revision span should produce more reliable seasonally adjusted time series** [ShadowStats emphasis].

We wish the Census Bureau well with its constructive efforts here. The complicating hurricane- and wildfire-recovery distortions pretty much should have run their course on new residential construction. Impact from storm-generated new housing starts largely should be out of the system with the February 2018 detail. As noted regularly here, however, this series has been so unstable and meaningless in its headline reporting, that clarity as to what has happened often awaits an annual benchmark revision or two.

In the context of the sharp monthly contraction in February 2018 detail (a very large multiple-units contraction more than offsetting a single-units gain), on top of minimally-revised January 2018 reporting, the six-month smoothed, moving averages of these series, as seen in *Graphs 4, 6, 8 and 10* in the *Executive Summary*, have tended to flatten out or notch higher. Irrespective of near-term reporting instabilities, the six-month trends in those key series remained broadly stagnant-to-uptrending. Current levels of the headline monthly activity still hold well below pre-recession peaks for the aggregate and single unit series. The exception has been the extraordinarily-volatile, multiple-units category, which pushed its pre-recession high last month, but again has backed off that peak, which it did regain previously in 2015.

Indeed, the broad pattern of collapsing residential construction activity from its 2006 pre-recession peak, to a trough in 2009, was followed by a protracted period of up-trending but non-recovering, low-level activity. That had flattened out in the last year or two, in ongoing, low-level stagnation and had turned lower still in recent detail, coming into the October and November gains. Such resumed temporarily with the initial December drop, jumping around with the recent volatility (see accompanying *Graphs 30 to 35*

of the Building Permits and Housing Starts series). Again, also see *Graphs 3 to 10* in the *Executive Summary*, covering all of the major Housing Starts series.

Building Permits activity also has seen a broad pattern of non-recovery. The headline, monthly decline in February 2018 of 5.7% (-5.7%) +/- 0.8% was statistically-significant at the 95% confidence interval (all confidence intervals here are at the 95% level), however, ***the problem with the Building Permits series remains that the data are not reported on a consistent basis over time.*** The headline gain, however, was enough to turn the otherwise minimally-uptrending, stagnant six-month moving average of that series to flat/downtrending, once again (see *Graph 32*).

Plotted with just the seasonally-adjusted monthly data in *Graphs 30 and 31*, the pattern of low-level, broadly downtrending stagnation in the various New Construction Activity series, showed headline February 2018 building permits activity down by 42.6% (-42.6%) from recovering its pre-recession peak, versus aggregate housing starts activity down similarly by 45.6% (-45.6%).

Again, the six-month smoothed trends are now relatively flat to uptrending, across-the-board for the housing starts and building permits. Monthly activity for the various February measures remained shy of regaining the 2005 pre-recession peaks, again, by 42.6% (-42.6%) for Building Permits, 45.6% (-45.6%) for Housing Starts and 50.5% (-50.5%) for Single-Unit Starts. Although Multiple-Unit Starts (the broadest two-or-more category) had fallen back sharply, after first having recovered its 2005 pre-recession peak in early-2015, the temporary (revised) 23.6% [previously 23.7%] jump in January 2018 monthly activity wiped out virtually all of the most-recent deficit. That resurfaced in February 2018 reporting, however, now leaving the series 25.8% (-25.8%) shy of its pre-recession peak.

Annualized Fourth-Quarter 2017 Growth in Housing Starts Boomed by an Unrevised 32.0% in a Hurricane-Boosted Quarter, Against a Hurricane-Depressed Quarter. In this highly volatile and unstable series of recent years, the total housing-starts count fell at an annualized quarter-to-quarter pace of 23.7% (-23.7%) in first-quarter 2015, rose at an 87.7% pace in second-quarter 2015, by 1.9% in third-quarter 2015 and then contracted at an annualized pace of 12.0% (-12.0%) in fourth-quarter 2015.

First-quarter 2016 activity showed an annualized quarterly gain of 10.7%, while second-quarter 2016 rose by 1.5%. Third-quarter 2016 activity contracted on both an annual and quarterly basis, down year-to-year by 1.0% (-1.0%), the first annual decline since first-quarter 2014, and down at an annualized quarterly pace of 2.7% (-2.7%). Fourth-quarter 2016 housing starts showed annualized quarterly growth of 39.0%, up by 11.0% year-to-year.

First-quarter 2017 annualized quarterly change was a contraction of 3.4% (-3.4%), with year-to-year change slowing to 7.3%. Second-quarter 2017 showed an annualized quarter-to-quarter contraction of 21.0% (-21.0%), with year-to-year change slowing to 0.8%. Third-quarter 2017 Housing Starts activity was unrevised at an annualized gain of 1.8%, with annual growth of 1.9%.

Third reporting for fourth-quarter 2017 activity was for an annualized gain of 31.8% [previously 32.0%, initially 29.7%], with the year-to-year gain, however, holding at an unrevised 0.6% [initially 0.2%]. In this circumstance, that annual growth rate just highlights how the weak the activity in this series has been in the last year.

Given the meaningless volatility in the headline February and January 2018 details, the early trend (just for January and February) is for annualized First-Quarter 2018 growth of 8.8% [previously 24.1% based just on initial January reporting], up year-to-year by 3.6% [previously 7.1%].

In comparison/contrast, Building Permits (the theoretically-leading series to Housing Starts) showed an annualized quarterly contraction of 2.8% (-2.8%) in first-quarter 2017, with year-to-year change of 7.9%. Second-quarter 2017 showed an annualized contraction of 11.0% (-11.0%), with year-to-year growth slowing to 3.9%. Third-quarter 2017 showed an annualized gain of 6.2%, with a year-to-year gain of 2.2%. The third reporting for fourth-quarter 2017 showed an unrevised annualized gain of 22.3%, with an unrevised annual gain of 3.0%.

Given the more-statistically-significant headline details for building permits, the early trend based on January and February 2018 is for annualized first-quarter 2018 growth of 8.8%, up year-to-year by 3.6%. Based just on January, the trend had been for annualized first-quarter 2018 growth of 30.4%, up year-to-year by 10.8%.

February 2018 Housing Starts, Headline Detail. The always-unstable and highly-volatile reporting in the aggregate Housing Starts series has been exacerbated in recent reporting by hurricane effects. Those distortions most likely have worked out of the system, despite the latest data gyrations. Headline February 2018 detail sank month-to-month, on top of minimally-revised January and December numbers.

The Census Bureau and Department of Housing and Urban Development (HUD) reported March 16th, a statistically-insignificant, seasonally-adjusted, headline monthly decline in February 2018 Housing Starts of 7.0% (-7.0%) +/- 19.5% (again, all confidence intervals are expressed at the 95% level). That followed a revised gain of 10.1% [previously 9.7%] in January 2018 and a revised decline of 7.1% (-7.1%) [previously 6.9% (-6.9%), initially 8.2% (-8.2%)] in December 2017. Net of the prior-period revisions, February Housing Starts declined by 6.8% (-6.8%), instead of the headline 7.0% (-7.0%). Level-of-activity aggregate detail is plotted in *Graphs 3 to 10 of the Executive Summary*, and in *Graphs 31, 33, 34 and 35* at the end of this section.

Year-to-year change in the seasonally-adjusted, February 2018 aggregate housing-starts measure was a statistically-insignificant decline of 4.0% (-4.0%) +/- 14.3%, versus a revised annual gain of 7.3% [previously 7.5%] in January 2018, and a revised annual decline in December 2017 of 4.8% (-4.8%) [previously 4.7% (-4.7%), initially 6.0% (-6.0%)].

The February 2018 headline decline of 7.0% (-7.0%) in total Housing Starts encompassed a monthly gain of 2.9% in Single-Unit starts and a 28.0% (-28.0%) plunge in the Multiple-Unit “Five Units or More” category. There is a missing balance in the “Two to Four Units” category, which gained by 41.7% in February. Where that latter category is considered too small to be meaningful and is not reported directly, it did affect the aggregates to the extent that total multiple units actually declined by 26.1% (-26.1%), instead of the headline 28.0% (-28.0%) drop in the five-units-or-more category, as discussed later in the broadest, aggregate “multiple unit” category. As usual, none of the monthly or annual headline changes was statistically significant.

Housing Starts by Unit Category. [See *Graphs 3 to 10 in the Executive Summary.*] Where the irregular housing starts series can show varying patterns, that partially is due to a reporting mix of residential construction products, with the largest physical-count category of one-unit structure housing starts—

generally for individual consumption, resulting in new home sales—versus multiple-unit structure starts that generally reflect the building of condominiums, rental and apartment units.

Housing starts for single-unit structures in February 2018 gained month-to-month by a statistically-insignificant 2.9% +/- 12.6%, following a revised gain of 3.5% [previously 3.7%] in January and a revised decline of 10.5% (-10.5%) [previously 10.6% (-10.6%), initially 11.8% (-11.8%)] in December 2017. February 2018 single-unit starts showed a statistically-insignificant annual gain of 2.9% +/- 12.6%, versus unrevised gains of 7.6% January 2018 and of 4.8% [previously 4.7%, initially 3.5%] in December 2017 (see *Graphs 3, 4, 7 and 8* in the *Executive Summary*).

Housing starts for apartment buildings, condominiums, etc. (generally 5-units-or-more) fell sharply in February 2018, down month-to-month by a statistically-insignificant 28.0% (-28.0%) +/- 45.0%, versus revised monthly gains of 23.6% [previously 19.7%] in January and 3.2% [previously 4.3%, initially 2.6%] in December 2017. A statistically-insignificant annual decline of 19.1% (-19.1%) +/- 28.2% in February 2018 followed a revised annual gain of 5.3% [previously 3.1%] in January 2018 and a revised annual decline of 20.7% (-20.7%) [previously 19.8% (-19.8%), initially 21.6% (-21.6%)] in December 2017.

Expanding the multiple-unit housing starts category to include 2-to-4-units plus 5-units-or-more usually reflects the bulk of rental- and apartment-unit activity. The Census Bureau does not publish monthly estimates of the 2-to-4-units category, due to statistical significance problems (a general issue for the aggregate series). Nonetheless, the total multiple-unit category can be estimated by subtracting the single-unit category from the total category (see *Graphs 3, 4, 9 and 10* in the *Executive Summary*).

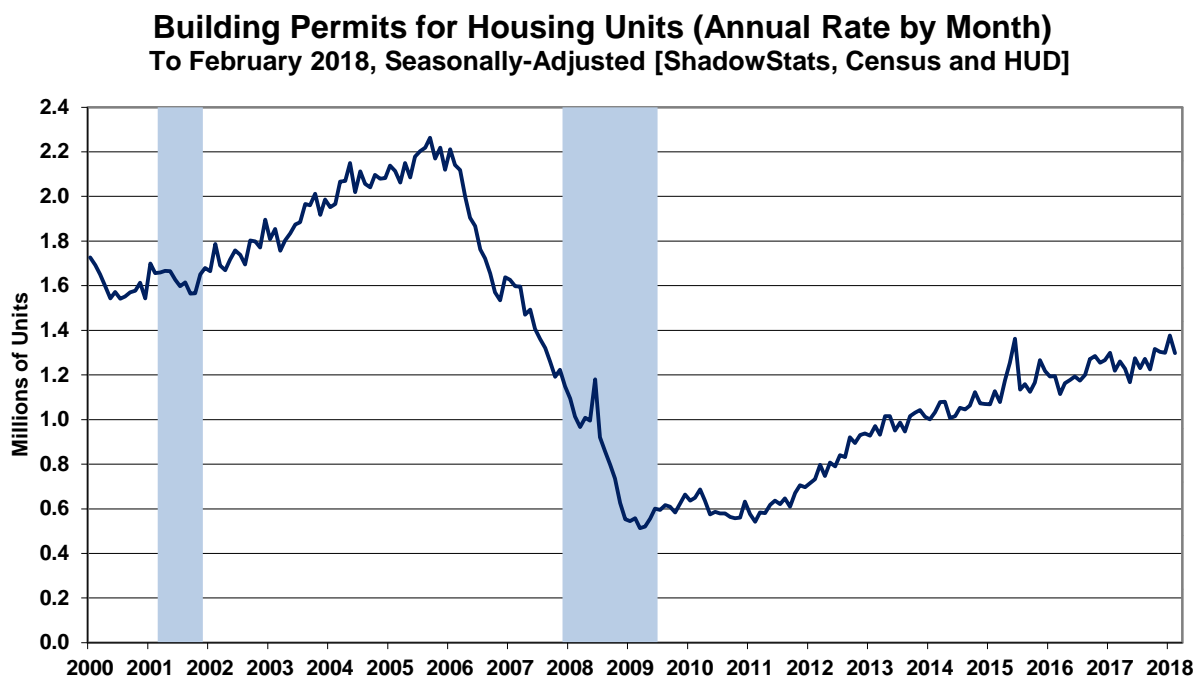
Accordingly, the statistically-insignificant February 2018 monthly decline of 7.0% (-7.0%) in aggregate starts was composed of a statistically-insignificant gain of 2.9% in one-unit structures and a statistically-insignificant decline of 26.1% (-26.1%) in the multiple-unit structures category (two-units-or-more, including the five-units-or-more category). In contrast, again, ex-two-units-or-more, the multiple-unit category declined by 28.0% (-28.0%). Again, these series are graphed in the *Executive Summary*.

Consumer Liquidity Problems Continue to Impair Residential Construction Activity. Discussed in the *Consumer Liquidity Watch*, the extreme liquidity bind besetting consumers continues to constrain residential real estate activity. Without sustainable growth in real income, and without the ability and/or willingness to take on meaningful new debt in order to make up for an income shortfall, the U.S. consumer remains unable to sustain positive growth in domestic personal consumption, including aggregate real estate activity. That circumstance—in the last ten-plus years of economic collapse and stagnation—has continued to prevent a normal recovery in broad U.S. economic activity, 73% of which is dependent on real personal spending, including residential construction.

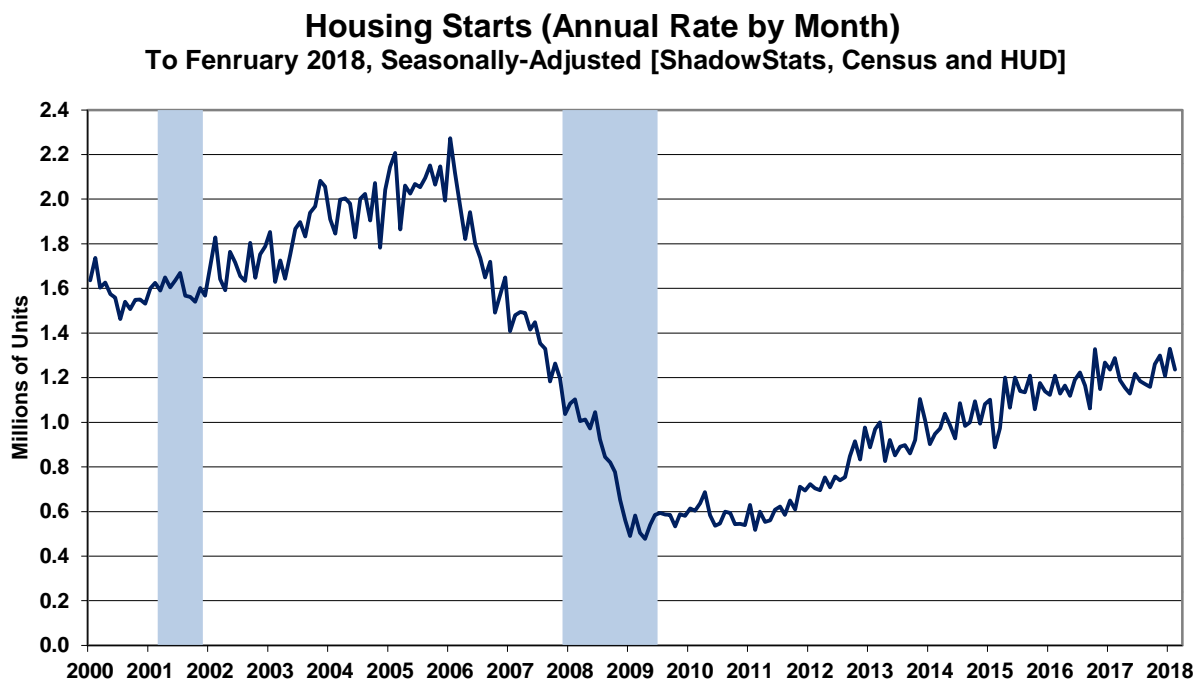
Please see the *Note on the Housing Starts Graphs* on page 9.

[Graphs 30 to 35 begin on the next page.]

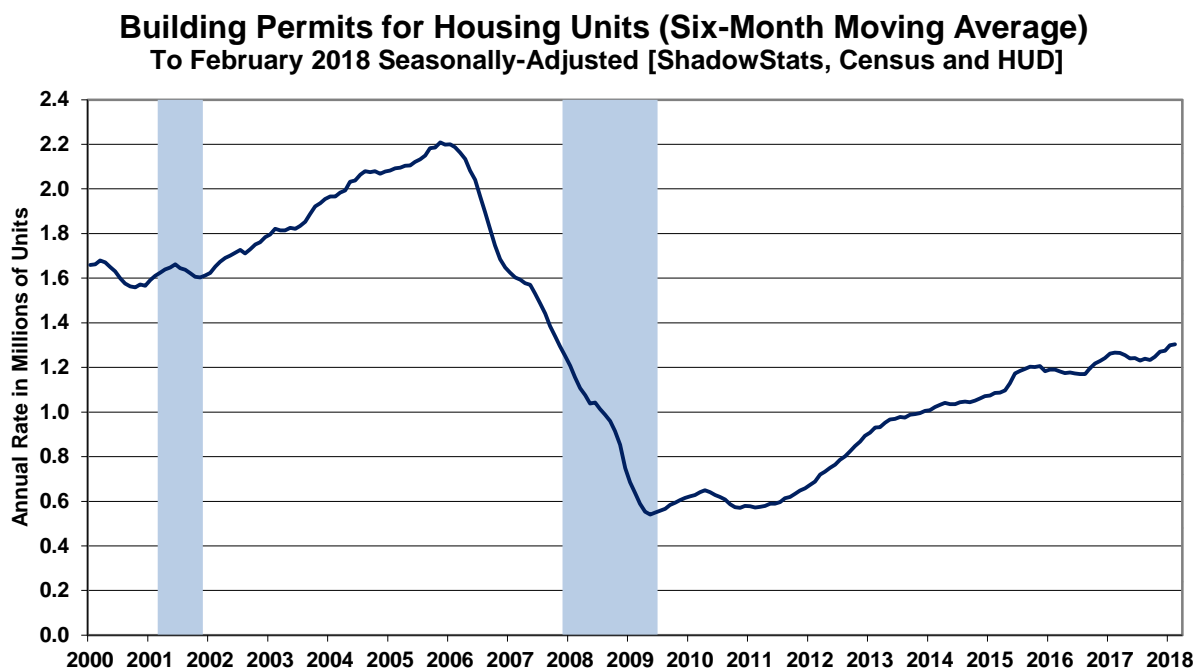
Graph 30: Building Permits (Annualized Monthly Rate of Activity), 2000 to Date



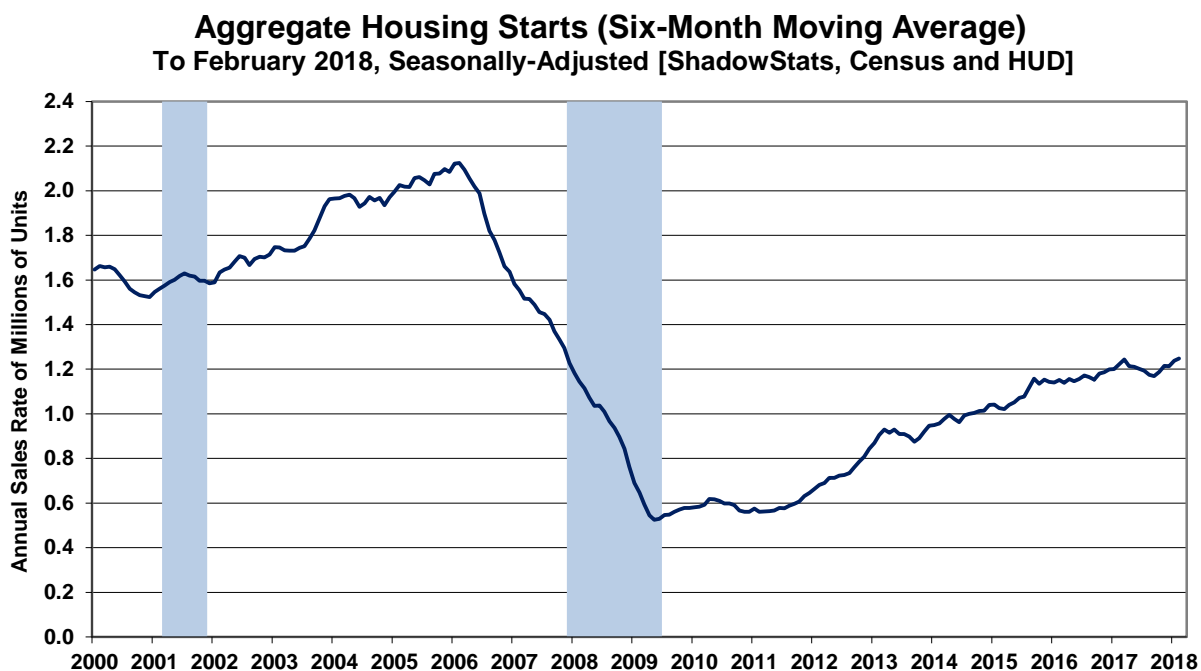
Graph 31: Housing Starts (Annualized Monthly Rate of Activity), 2000 to Date



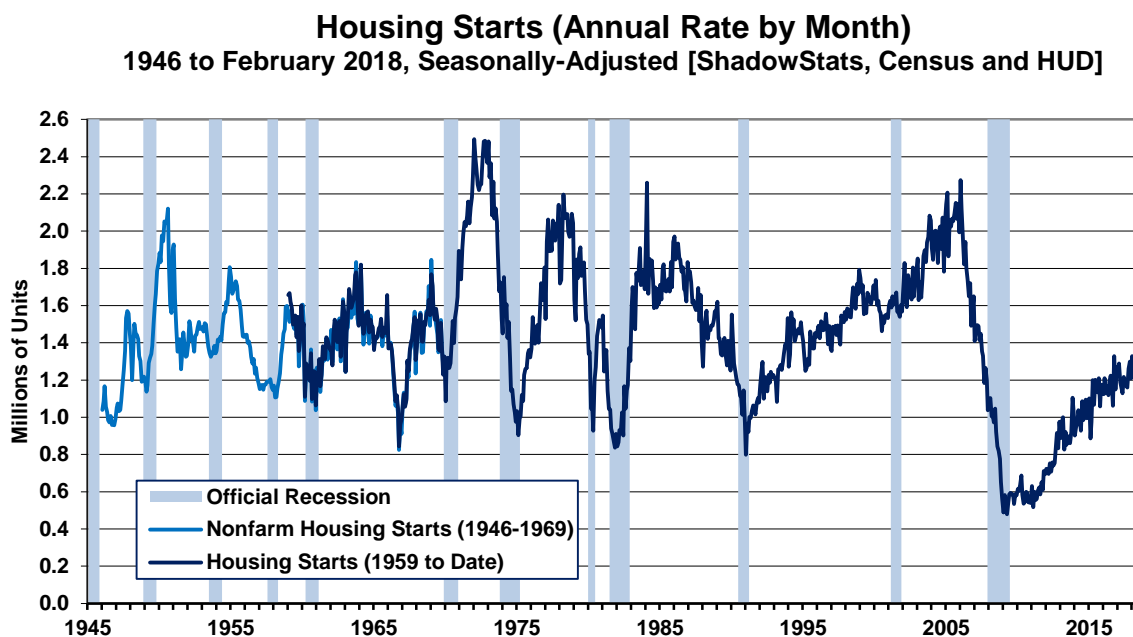
Graph 32: Building Permits (Six-Month Moving Average), 2000 to Date



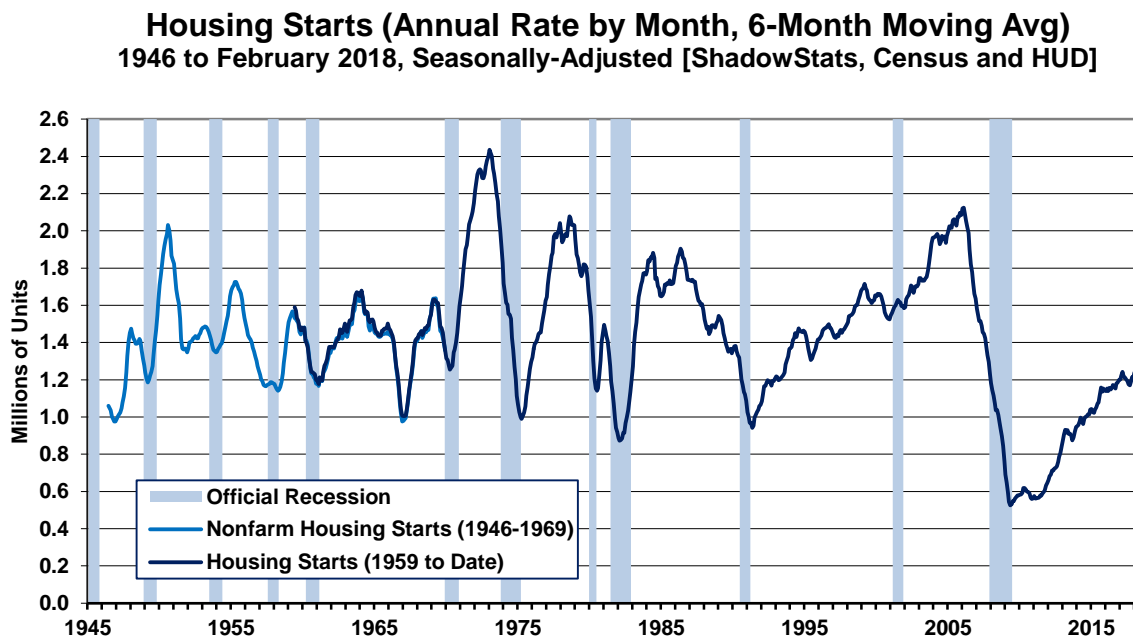
Graph 33: Housing Starts (Six-Month Moving Average), 2000 to Date



Graph 34: Housing Starts (Annualized Monthly Rate of Activity), 1946 to Date



Graph 35: Housing Starts (Annualized Monthly Rate of Activity, 6-Month Moving Avg), 1946 to Date



[The Consumer Liquidity Watch begins on the next page.]

CONSUMER LIQUIDITY WATCH

CONSUMER LIQUIDITY, INCOME, CREDIT AND RELATIVE OPTIMISM. *[Updated for the “Advance” March 2018 reading of the University of Michigan’s Consumer Sentiment, opening paragraphs and links.]*

Continuing Consumer Liquidity Stresses Constrain Broad Economic Activity. The U.S. consumer faces increasing financial stress, which recently had been mirrored in renewed softening of fundamental headline economic activity, including Payroll-Employment, Real Retail Sales, Housing and Construction, and the Manufacturing/Production sector, all pre-hurricane activity. Net of what have been mixed, but significant, near-term hurricane distortions, initial hits to activity were followed by related and transient economic boosts from recovery, replacement and restoration activity. Funded by insurance payments and savings liquidation, those distortions broadly should pass from headline data by the February/March reporting of January/February 2018-headline detail now underway. Indeed hurricane-boosted activity appears to be passing, as early first-quarter economic activity continues to turn down (see the *Opening Comments* and [Commentary No. 940](#)). Such effects are discussed in the separate analyses of relevant series in covered in the regular *ShadowStats Commentaries*. While there have been recent signals of faltering consumer liquidity (see Consumer Credit Outstanding and Real Earnings), headline consumer optimism has remained strong, despite softening underlying economic reality.

Monthly series that have faced the most severe, disaster-triggered reporting disruptions, where headline details have yet to stabilize or correct, still include in particular Household Survey Employment and Unemployment (see [Commentary No. 939](#)). Retail Sales and Industrial Production (see *Opening Comments*) appear to have stabilized, and are beginning to turn down anew, but they still need to subside to levels stable with normal consumption activity and inventories. Despite the initial slowing in Fourth-Quarter 2017 GDP growth, the series remains heavily bloated from the disaster-distortions. A downside revision still could loom for the fourth-quarter detail, along with increasing odds for an outright quarterly contraction in real First-Quarter 2018 GDP (see today’s *Opening Comments* and [Commentary No. 937](#)).

Liquidity Issues Limit Economic Activity. Severe and persistent constraints on consumer liquidity of the last decade or so drove economic activity into collapse through 2009, and those conditions have prevented meaningful or sustainable economic rebound, recovery or ongoing growth since. The limited level of, and growth in, sustainable real income, and the inability and/or unwillingness of the consumer to take on new debt have remained at the root of the liquidity crisis and ongoing economic woes.

These underlying pocketbook issues contributed to the anti-incumbent electoral pressures in the 2016 presidential race. The post-election environment showed a near-term surge in both the consumer confidence and sentiment measures to levels generally not seen since before the formal onset of the recession in 2001, let alone 2007. Yet, underlying liquidity conditions, economic reality and lack of

positive actions out of the government to turn the economy meaningfully, so far, all have continued to remain shy of consumer hopes, and those numbers have begun to stumble in recent detail.

A temporary liquidity boost fueled by recent disaster effects, such as insurance payments or savings drawdowns to fund replacement of storm-damaged assets, are of a one-time nature and short-lived in terms of ongoing economic impact. The underlying, fundamental longer-term liquidity issues remain in place. Nonetheless, mirroring the disaster-fueled economic hype in the popular press, consumer optimism had rallied strongly, albeit, again, now faltering or mixed, as discussed shortly.

Including the various consumer-income stresses discussed in [Special Commentary No. 888](#), broad, underlying consumer-liquidity fundamentals simply have not supported, and still do not support a fundamental turnaround in general economic activity—a post “Great Recession” expansion—and broadly are consistent with a “renewed” downturn in that non-recovered economic activity. Indeed, never truly recovering post-Panic of 2008, limited growth in household income and credit have eviscerated and continue to impair broad, domestic U.S. business activity, which is driven by the relative financial health and liquidity of consumers. These underlying liquidity conditions and reality—particularly income and credit—remain well shy of average consumer hopes and needs, irrespective of the new tax laws.

The combined issues here have driven the housing-market collapse and ongoing, long-term stagnation in consumer-related real estate sales and construction activity, and have constrained both nominal and real retail sales. Related, personal-consumption-expenditure and residential-construction categories accounted for 73.1% of the headline real, fourth-quarter 2017 U.S. GDP.

Net of short-lived disaster distortions (insurance payments, savings liquidations), with the better-quality economic indicators and underlying economic reality never having recovered fully from the collapse into 2009, consumers increasingly should pull back on consumption in the months ahead. Underlying reality is evident in more-meaningful economic indicators—not the GDP—irrespective of the transient boosts from disasters or political gimmicks, discussed recently in [General Commentary No. 929](#) and the *Executive Summary* of [Commentary No. 928](#).

Anecdotal Evidence of Business and Consumer Uncertainty Continue to Indicate a Seriously-Troubled Economy and Very Dangerous Financial Markets. Against what appears to be a headline economic consensus that all is right again, with the U.S. economy and financial markets, underlying real-world common experience suggests a much different outlook. Regularly discussed here, ongoing non-recovery, low-level stagnation and signs of renewed downturn remain patterns common to key elements of headline U.S. economic activity. Consider factors ranging from housing sales and broad construction activity, to headline reporting of domestic manufacturing, as well as those series that are heavily gimmicked, such as the Gross Domestic Product (GDP), also regularly discussed and dissected here.

Similar signals of such economic stress are seen in patterns of activity that move along with the real-world broad economy. They range from indicators such as freight volume and domestic consumption of petroleum to factors such as levels of real consumer debt outstanding, real average weekly earnings and measures of employment stress in the broad economy. Those stresses are reflected in historically-low levels of the employment-population ratio and the labor-force participation rate. With the liquidity-starved U.S. consumer driving three-quarters of the GDP, there is no way for the broad economy to boom—happy Retail Sales headlines aside—without some meaningful shift in underlying consumer circumstances. Links to background discussions in these various areas are found in the *Recent*

Commentaries section of the *Week, Month and Year Ahead*, along with links to background discussions on the quality of the more-politicized GDP ([Commentary No. 928](#)) and employment/unemployment details discussed in the *Supplemental Labor-Detail Background* of [Commentary No. 930-B](#).

Beyond assessing headline economic numbers, ShadowStats also looks at anecdotal evidence, including comments by subscribers and clients, who live in the real world. Two broad observations have come from a number of recent conversations. First, real estate activity appears to be slowing in recently strong areas. Second, a number of major companies are “sitting on their hands,” holding back on issuing new contracts to third-party vendors in areas such as upgrading computer systems and other consulting. The companies cite the slowdown in contracts as “due to uncertainty,” an issue, as well with the U.S. consumer, where that uncertainty encompasses:

- Unfolding circumstances in the Washington, D.C. political arena.
- Where the manic financial markets are headed.
- Ultimately, what is, or will be, happening to near-term business activity?

Economic reporting, and business and financial-market stories sometimes receive happy year-end spikes in the press. That circumstance was supplemented in late-2017 by near-term hurricane boosts to, and distortions of, some current economic activity, such as the November Retail Sales reporting. The latter circumstance should prove fleeting. The underlying, broadly-faltering U.S. economy should be dominating headline economic reporting, once again, and all too soon, most likely in the next couple of months. That said, albeit reflecting some of the headline economic hype in the popular press, headline consumer optimism remains strong.

Consumer Optimism: Consumer Sentiment and Confidence Continue to Boom. On top of the December 2017 readings pulling back sharply for both The Conference Board’s Consumer-Confidence Index[®] (Confidence), and the University of Michigan’s Consumer Sentiment Index (Sentiment), January 2018 Confidence and Sentiment (February 2nd) readings were minimally-positive and down, with the February numbers rising anew, and with a renewed surge in the “advance” March 2018 Sentiment. Such is despite faltering home sales in January (see [Commentary No. 937 Reporting Detail](#)). The latest consumer numbers were just updated for Confidence (February 27th) and Sentiment (March 16th).

Reflected in *Graphs CLW-1* and *CLW-2*, Confidence and Sentiment monthly readings had jumped sharply, respectively to multi-year highs in November and October. Yet, the December Confidence reading plunged, more than offsetting the November gain and most of the October gain, in context of a downside revision to the November reading. Similarly, November and December Sentiment readings, and now January also pulled back sharply or only minimally recovered, largely offsetting the October surge there.

Nonetheless, both measures turned higher in February 2018, despite mounting financial-market uncertainties, with early-March Sentiment jumping anew. Following a downside revision to the January 2018 reading, Confidence jumped to its highest level since November 2000, when both series were then falling into the 2001 recession. The rising numbers here for both Confidence and Sentiment are at their highest levels since 2000, above their pre-2007 recession peaks. They remain down from their early-2000 peaks, however, by 9.6% (-9.6%) for Confidence and by 8.3% (-8.3%) for Sentiment.

For both the Conference Board's seasonally-adjusted [unadjusted data are not available] Consumer-Confidence Index[®] (*Graph CLW-1*), and the University of Michigan's not-seasonally-adjusted Consumer-Sentiment Index (*Graph CLW-2*), the three-month moving averages also were above pre-2007 recession highs, yet the still-high moving averages have flattened out, having begun to falter in September 2017, before the storm-distorted, unusual headline surges in October and November activity.

On a monthly as well as smoothed bases (see *Graphs CLW-1 to CLW-3*), both series continued above their pre-2007 recession peaks. On a monthly basis, the Confidence measure at its highest level since May 2000, as it had been plummeting into the onset of 2001 recession, with the current February 2018 reading down from its interim May 2000 peak level by 9.6% (-9.6%).

On a monthly basis the “advance” March 2018 Sentiment measure is at its highest level since January 2004, currently down by 1.1% (-1.1%) from that interim January 2004 peak.

Pre-election, September 2016 Confidence and Sentiment jumped and then plunged in October 2016, likely reflecting concerns as to the direction of the presidential race. Post-election, both measures rallied sharply, reflecting surges in consumer optimism into early-2017. Both series then topped and pulled back, with mixed numbers into August and September 2017, but with the October 2017 Sentiment measure showing a large jump, purportedly because consumers were willing to accept diminished prospects for their living standards (see [Commentary No. 916](#))? Nonetheless, the Sentiment measure retrenched in November and December. The Conference Board blamed hurricane impact in Texas and Florida for its downturn in September 2017 Confidence, but those numbers exploded into October and November 2017, again reversing largely with December's headline downturn.

Showing the Consumer Confidence and Consumer Sentiment measures on something of a comparable basis, *Graphs CLW-1 to CLW-3* reflect both measures re-indexed to January 2000 = 100 for the monthly reading. Standardly reported, the Conference Board's Consumer Confidence Index[®] is set with 1985 = 100, while the University of Michigan's Consumer Sentiment Index is set with January 1966 = 100.

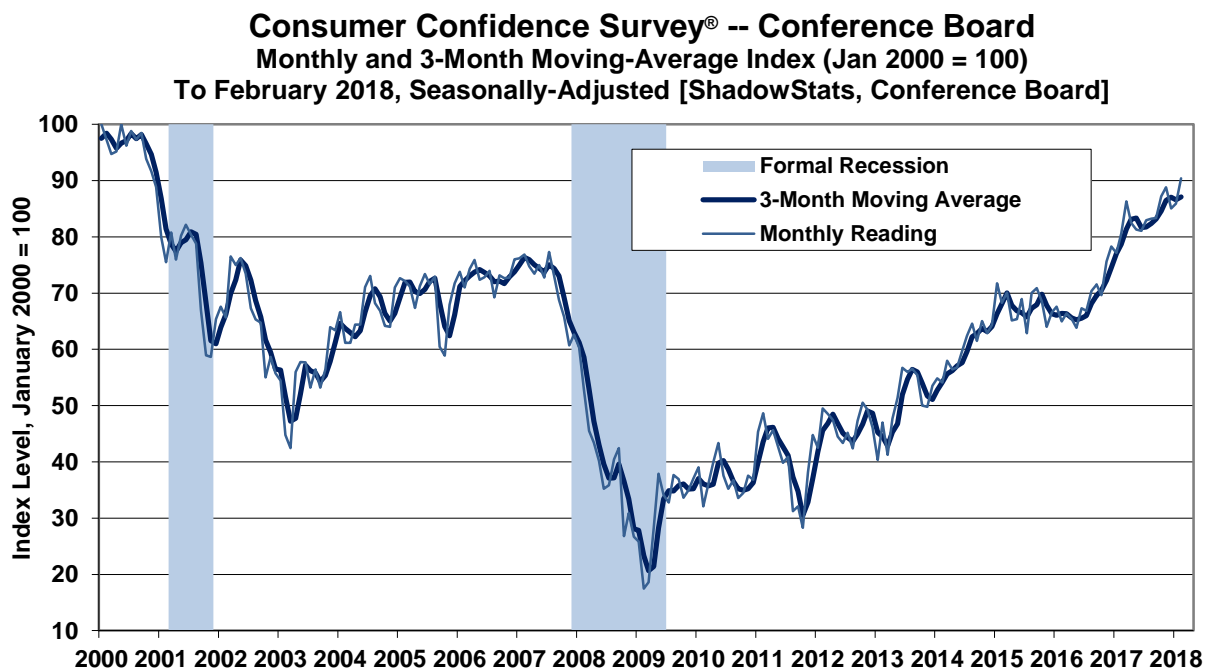
The Confidence and Sentiment series tend to mimic the tone of headline economic reporting in the press (see discussion in [Commentary No. 764](#)), and often are highly volatile month-to-month, as a result. Recent press has been highly positive on the headline economic and employment news, reflecting short-lived hurricane boosts to activity particularly on unemployment (not payroll employment), retail sales and industrial production. As headline financial and economic reporting in the next month or two turn increasingly-negative and unstable, so too should the surging “optimism.” Increasingly, a downturn in consumer outlook should take hold, despite any euphoric headlines, reflecting some deep-seated consumer liquidity issues.

Broadly, though, the harder, financial consumer measures remain well below, or are inconsistent with, periods of historically-strong economic growth as suggested by headline GDP growth in 2014, for second-and third-quarter 2015 and for third-quarter 2016 and into third-quarter 2017. In current environment of surging optimism, beyond having happy feelings about the future, consumers still need actual income, cash-in-hand or credit in order to increase their spending.

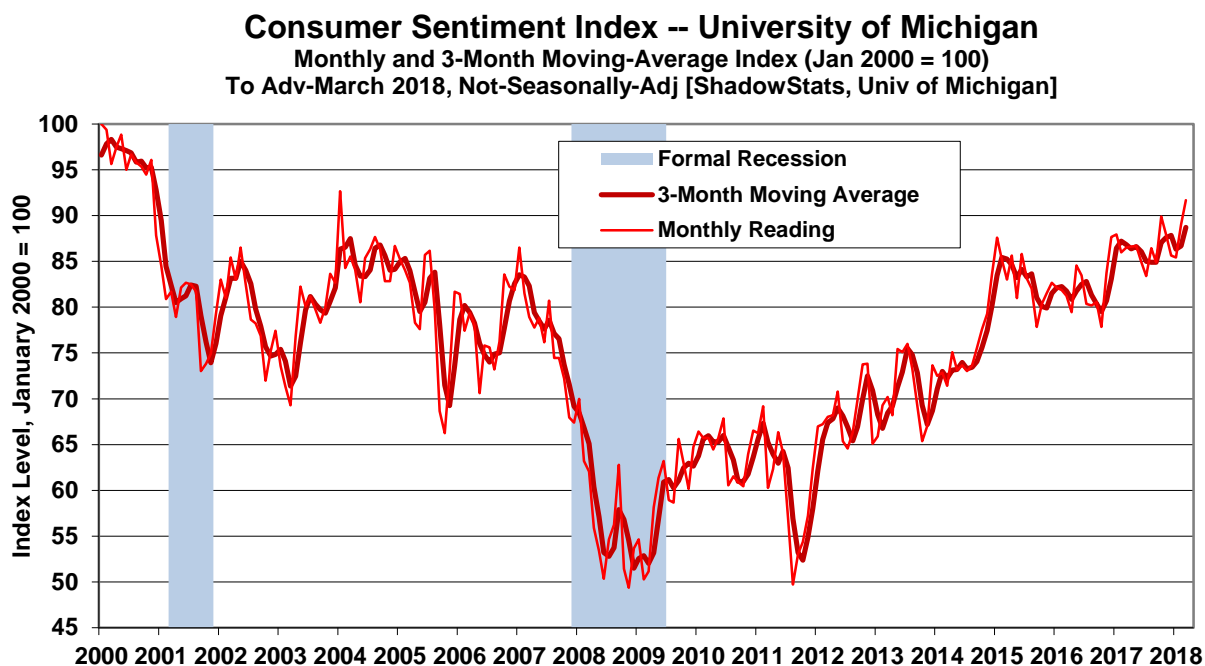
Smoothed for irregular, short-term volatility, the two series still generally had held at levels seen typically in recessions, until the post-2016 election circumstance. Suggested in *Graph CLW-3*—plotted for the last 48 years—the latest readings of Confidence and Sentiment recently have recovered levels seen in periods

of normal, positive economic activity of the last four decades, with their six-month moving averages at levels last seen going into the 2001 recession, although increasingly, they appear to be topping out.

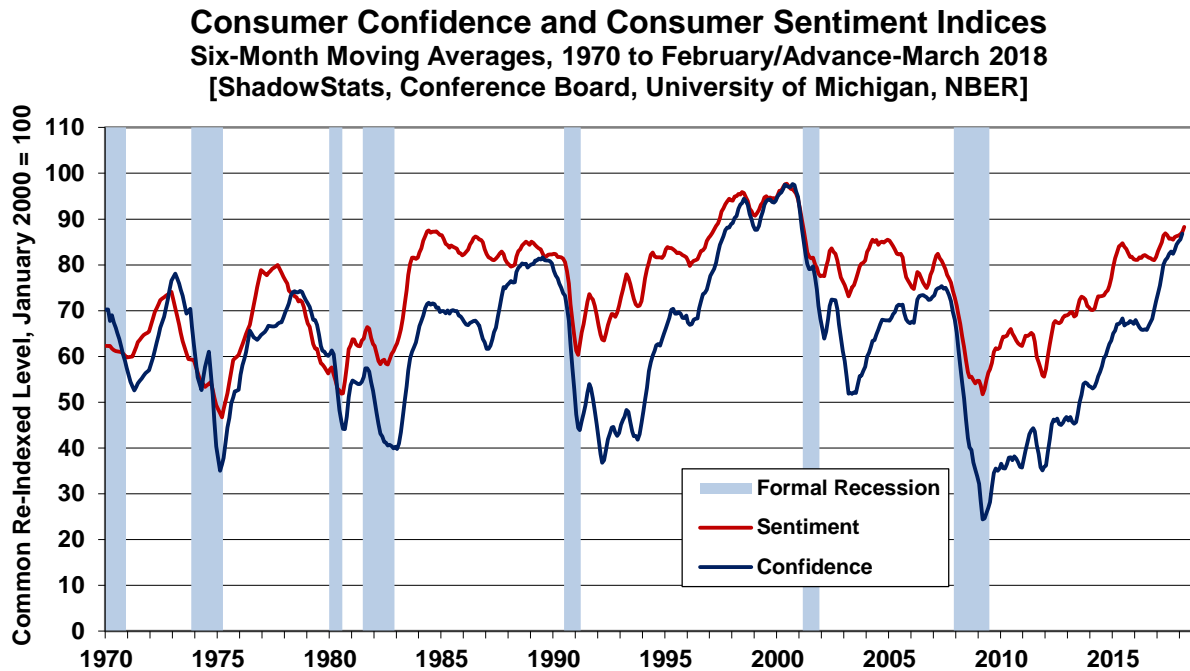
Graph CLW-1: Consumer Confidence (2000 to 2018)



Graph CLW-2: Consumer Sentiment (2000 to 2018)

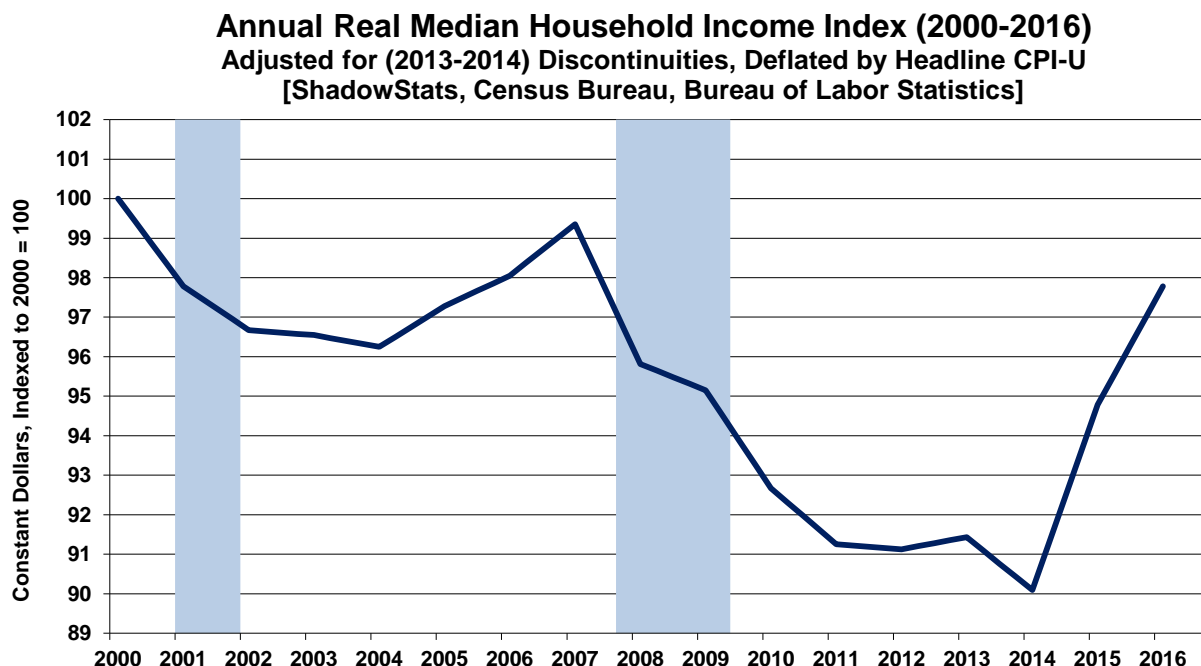


Graph CLW-3: Comparative Confidence and Sentiment (6-Month Moving Averages, 1970 to 2018)



2016 Annual Real Median Household Income Still Was Below Its 2007 Pre-Recession High, Below Activity in the Late-1990s, About Even with the Mid-1970s. The measure of real monthly median household income, which was provided by www.SentierResearch.com, generally can be considered as a monthly version of the annual detail shown in *Graph CLW-4*, based on the most-recent annual detail released by the Census Bureau and as discussed the *Opening Comments* of [Commentary No. 909](#).

Graph CLW-4: Annual Real Median U.S. Household Income (1967 to 2016)



Last Monthly Estimate Showed Stagnating Monthly Real Growth. Last reported by Sentier Research, in what appears to have been the final estimate for the series, May 2017 Real Median Household Income was statistically unchanged, despite a boost from falling gasoline prices. Discussed in [General Commentary No. 894](#), and in the contexts of then-faltering gains in post-election consumer optimism, and inflation-adjusted activity boosted by declining headline Consumer Price Index (CPI-U) inflation (weakened by seasonally-adjusted gasoline price declines), May 2017 Real Median Monthly Household Income was “statistically unchanged” (a statistically-insignificant monthly gain of 0.10%). That followed a statistically-significant monthly gain of 1.00% in April 2017. Shown in *Graph CLW-4*, such enabled May 2017 real monthly median household income to hold a level regained in April and otherwise last seen in February 2002. Year-to-year real median household income rose to 2.44% in May 2017, the highest level since June 2016, following an annual gain of 1.57% in April 2017 (see *Graph CLW-5*).

Where real monthly median income plunged into the headline trough of the economic collapse in 2009, it did not then rebound in tandem with the headline GDP activity. When the GDP purportedly started its solid economic recovery in mid-2009, the monthly household income numbers nonetheless plunged to new lows, hitting bottom in 2011. The income series then held in low-level stagnation, until collapsing gasoline prices and the resulting negative CPI-U inflation drove a post-2014 uptrend in the inflation-adjusted monthly income index. The index approached pre-recession levels in the December 2015 reporting, but it remained minimally below the pre-recession highs for both the formal 2007 and 2001 recessions until recent months. Real median household income had the potential to resume turning down anew, as the headline pace of monthly consumer inflation picked up anew, with the August 2017 CPI.

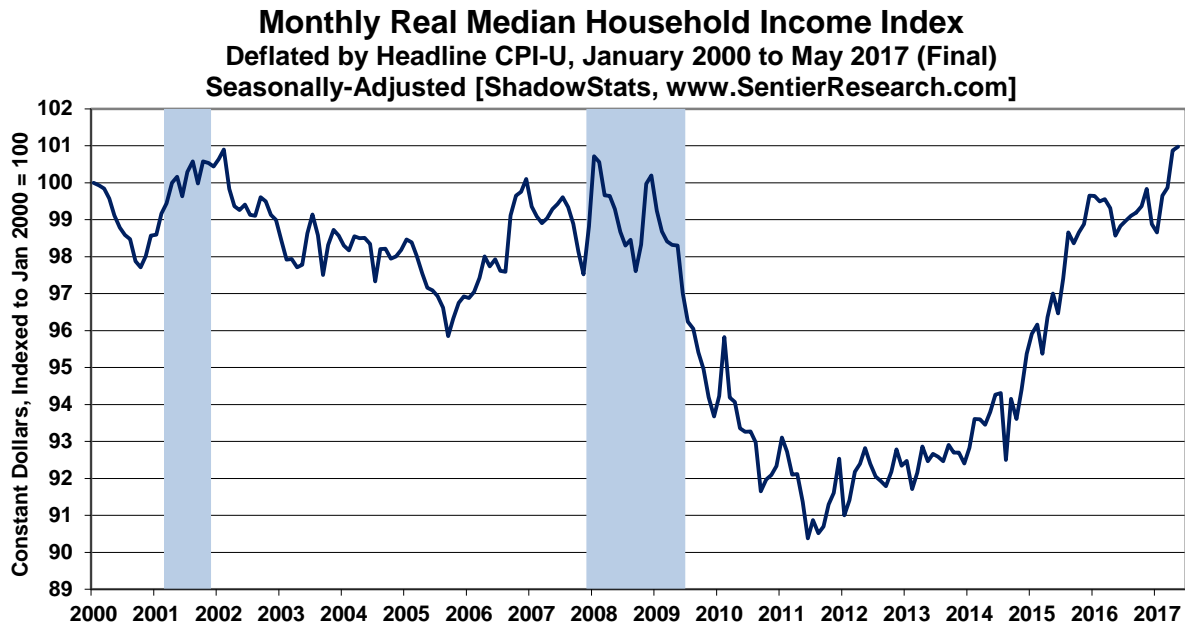
Nonetheless, the most-recent recent “rebound” reported in the series still left consumers financially strapped. Where lower gasoline prices had provided some minimal liquidity relief to the consumer, indications are that any effective extra cash largely was used to help pay down unsustainable debt or other obligations, not to fuel new consumption. Except for mixed gyrations in first-half 2017, the effects of changing gasoline prices in the headline CPI-U generally had reversed, pushing headline consumer inflation higher and beginning to push real income lower.

Differences in the Monthly versus Annual Median Household Income. The general pattern of relative monthly historical weakness has been seen in the headline reporting of the annual Census Bureau numbers, again, shown in *Graph CLW-4*, with 2014 real annual median household income having hit a ten-year low, and, again, with the historically-consistent 2015 and 2016 annual number still holding below the 2007 pre-recession high.

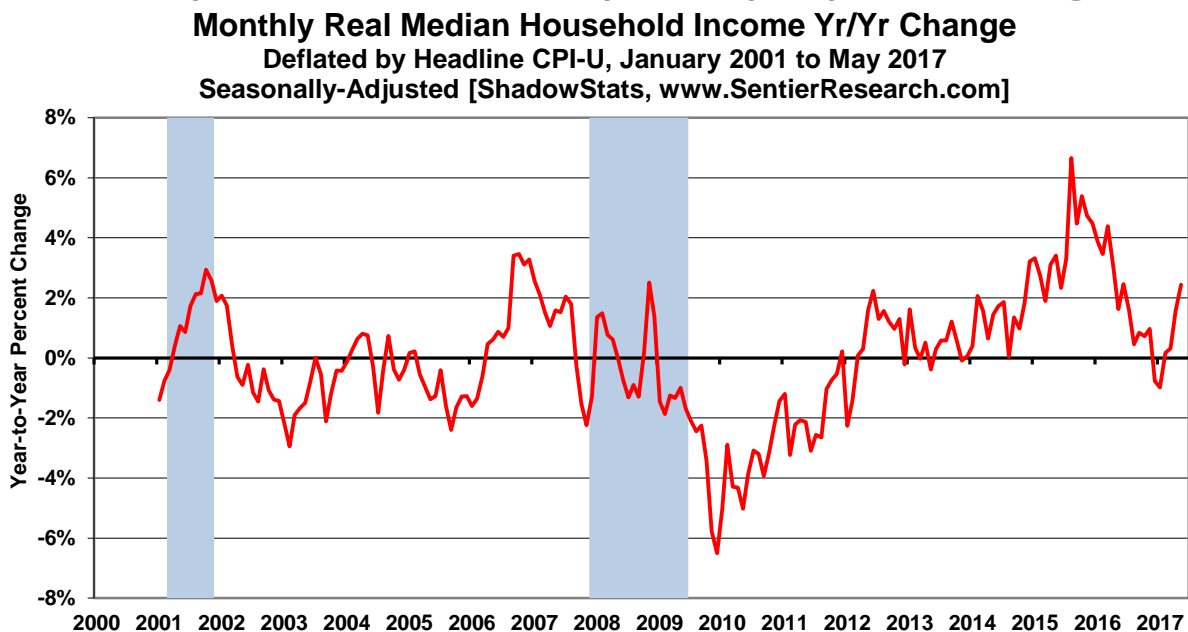
The Sentier numbers had suggested a small increase in 2014 versus 2013 levels, low-inflation induced real increases in 2015 and 2016. Allowing for the direction difference in 2014, and continual redefinitions and gimmicks in the annual series (again, see the *Opening Comments* of [Commentary No. 909](#)) the monthly and annual series had remained broadly consistent, although based on separate questions within the Consumer Population Series (CPS), as conducted by the Census Bureau.

Where Sentier used monthly questions surveying current annual household income, the headline annual Census Bureau detail is generated by a once-per-year question in the March CPS survey, as to the prior year’s annual household income. The Median Household Income surveying results are broadly consistent with Real Average Weekly Earnings.

Graph CLW-5: Monthly Real Median Household Income (2000 to May 2017) Index, January 2000 = 100



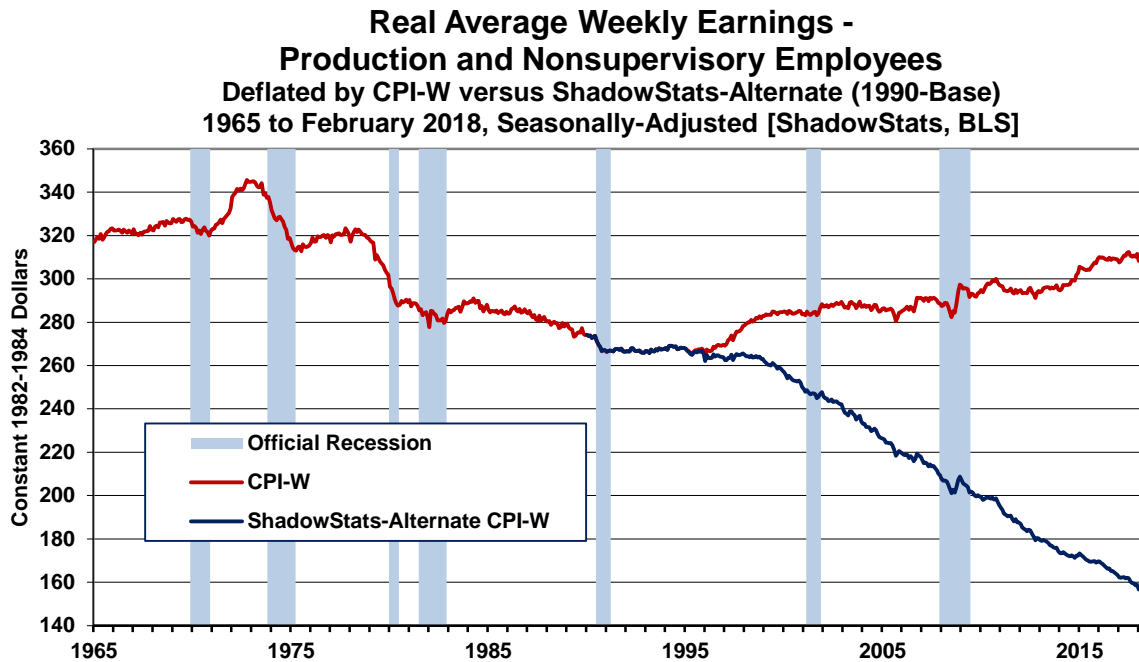
Graph CLW-6: Monthly Real Median Household Income (2000 to May 2017) Year-to-Year Change



Real Average Weekly Earnings—February 2018—Headed for a Third-Consecutive, Quarterly Contraction. For the production and nonsupervisory employees category—the only series for which there is a meaningful history (see today’s *Executive Summary* comments and *Graph 3* on page 6), real average weekly earnings gained by 0.8% in February 2018, but declined in January 2018 by a deeper, revised 1.1% (-1.1%), setting up first-quarter 2018 as a likely, third-consecutive quarter of contraction in real earnings. Based on the latest detail, the early trend for first-quarter 2018 is for an annualized

contraction pace of 1.8% (-1.8%). That also would be the fifth real quarterly contraction of the last six quarters. See the *Reporting Detail* for further information.

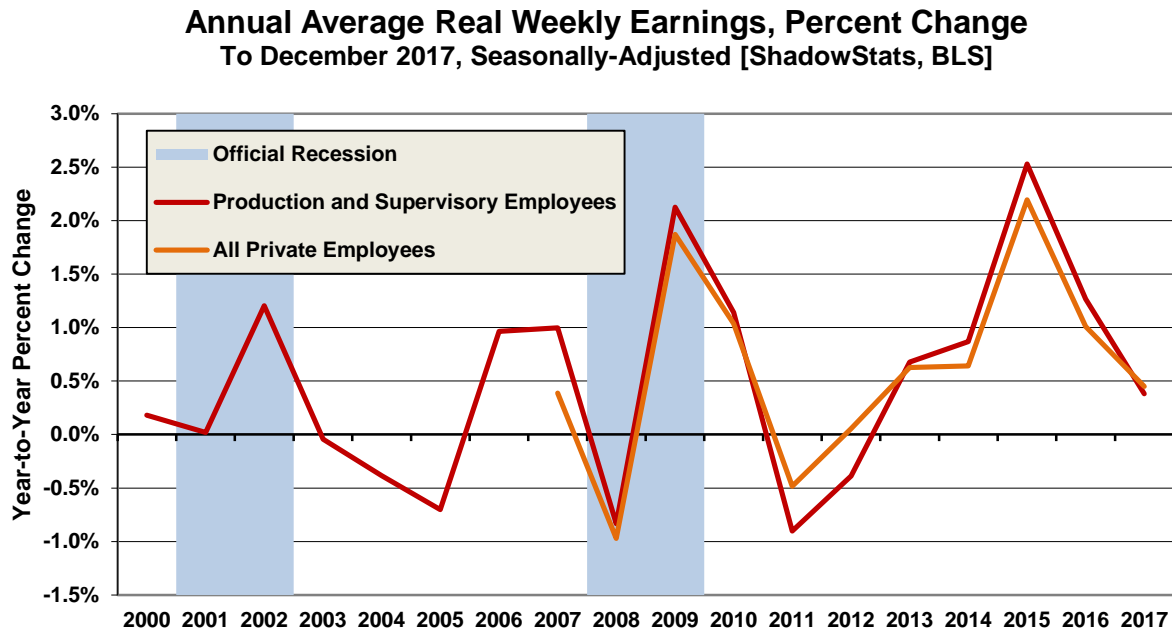
Graph CLW-7: Real Average Weekly Earnings, Production and Nonsupervisory Employees, 1965-to-Date



Graph CLW-7 plots the seasonally-adjusted earnings as officially deflated by the BLS (red-line), and as adjusted for the ShadowStats-Alternate CPI Measure, 1990-Base (blue-line). When inflation-depressing methodologies of the 1990s began to kick-in, the artificially-weakened CPI-W (also used in calculating Social Security cost-of-living adjustments) helped to prop up the reported real earnings. Official real earnings today still have not recovered their inflation-adjusted levels of the early-1970s, and, at best, have been in a minimal uptrend for the last two decades (albeit spiked recently by negative headline inflation). Deflated by the ShadowStats (1990-Based) measure, real earnings have been in fairly-regular decline for the last four decades, which is much closer to common experience than the pattern suggested by the CPI-W. See the [Public Commentary on Inflation Measurement](#) for further detail.

Shown in Graph CLW-8, and as discussed in [Commentary No. 931](#), both the “all-employees” and “production and nonsupervisory employees” categories showed a sharply slowing pace in annual growth in 2017. Presumably coming off more-positive economic circumstances, the patterns there are consistent with a renewed economic downturn, not with a new economic boom, and the current pace of decline is greater than the average tax reduction to be seen by consumers in the year ahead.

Not all economic downturns are reflected in the headline economic data. For example, industrial production indicated the U.S. economic downturn intensified in fourth-quarter 2014, enough to qualify as a new recession, which is consistent with the plot in Graph CLW-8. See the related discussions in [Commentary No. 928](#) and [Commentary No. 936](#).

Graph CLW-8: Annual Average of Weekly Earnings, Annual Percent Change (2000 to 2017)

When income growth is inadequate to support consumption growth, consumers often make up the difference in debt expansion. Yet, real Consumer Credit Outstanding has shown a patterns of declining annual real growth for the last several quarters, irrespective of the specific series, as reflected in the plots of real monthly year-to-year change in *Graph CLW-13*.

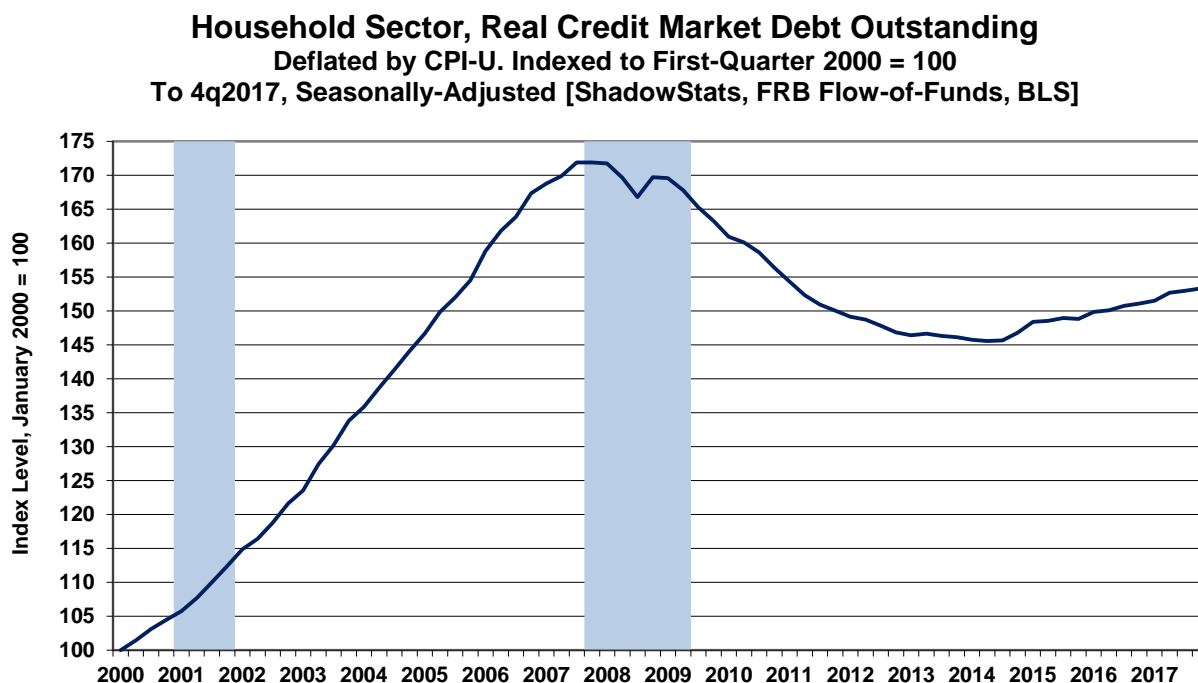
Consumer Credit: Lack of Expansion in Real Consumer Credit Constrains Economic Growth. The final five graphs on consumer conditions address consumer borrowing. Where debt expansion can help make up for a shortfall in income growth, expansion of consumer debt, which would help fuel expansion in personal consumption, has been nonexistent.

Quarterly Series. Consider *Graph CLW-9 of Household Sector, Real Credit Market Debt Outstanding*. The level of real household debt declined in the period following the Panic of 2008, reflecting loan defaults and reduced banking lending, and it has not recovered fully, based on the Federal Reserve's flow-of-funds accounting through fourth-quarter 2017, released on March 8th. Household Sector, Real Credit Market Debt Outstanding in fourth-quarter 2017 still was down by 10.8% (-10.8%) from its pre-recession peak of third-quarter 2007. That was against a revised third-quarter 2017 decline of 11.0% (-11.0%) [previously 10.9% (-10.9%)]. The flattened visual uptick at the latest point in *Graph CLW-9* reflected a slowing in real year-to-year change from 1.72% [previously 1.70%] in second-quarter 2017, to 1.48% [previously 1.55%] in third-quarter 2017 and to 1.47% in fourth-quarter 2017. Such completes 41 straight quarters—a full decade-plus—of credit non-expansion, versus its pre-recession peak.

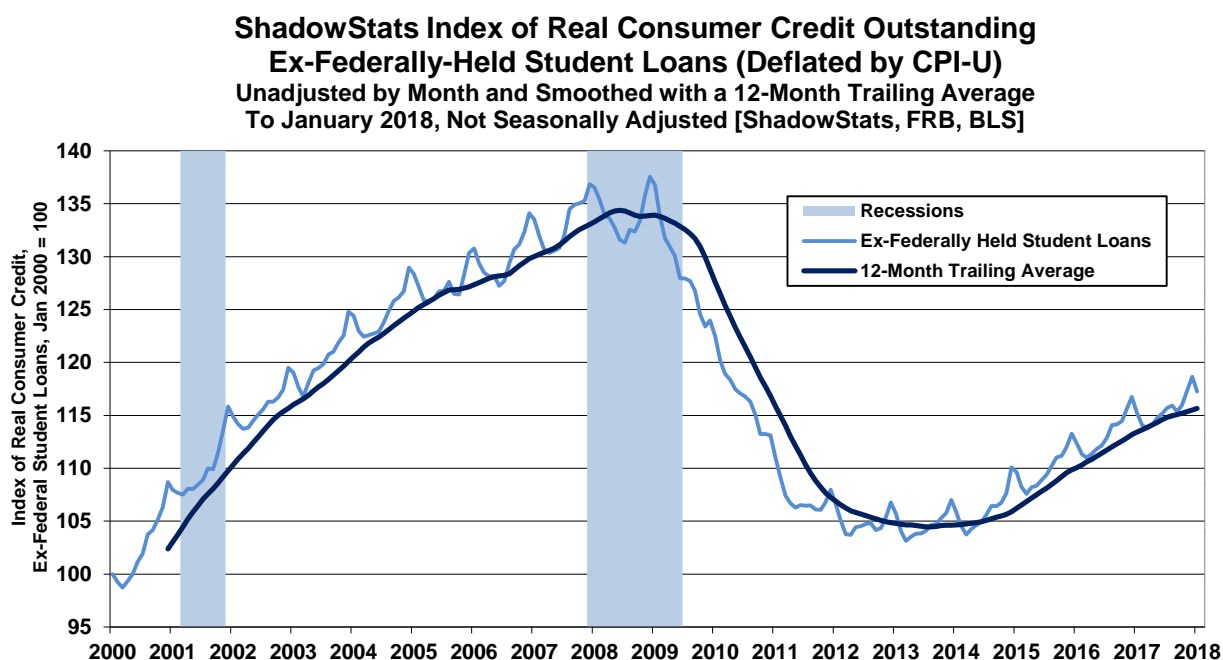
The series includes mortgages, automobile and student loans, credit cards, secured and unsecured loans, etc., all deflated by the headline quarterly CPI-U. The level of real debt outstanding has remained stagnant for several years, reflecting, among other issues, lack of normal lending by the banking system

into the regular flow of commerce. The slight upturn seen in the series through 2015 and into 2016 was due primarily to gasoline-price-driven, negative CPI inflation, which continued to impact the system through second-quarter 2016 and intermittently into fourth-quarter 2017. Current activity also has reflected continuing relative strength from student loans, as shown in the *Graphs CLW-10 to CLW-13*.

Graph CLW-9: Household Sector, Real Credit Market Debt Outstanding (2000 through Fourth-Quarter 2017)



Graph CLW-10: Real Consumer Credit Outstanding, Ex-Federal Student Loans (2000 to 2018)



Shown for comparative purposes is *Graph CLW-10*, real, not-seasonally-adjusted Consumer Credit Outstanding, Ex-Federally-Held Student Loans, has not recovered on a monthly, let alone the 12-month trailing-average basis used as a surrogate for seasonal adjustment. Discussed in the next section, this measure of consumer credit now has been through 121 months 40-plus quarters of non-expansion. That is reflected on a parallel basis through fourth-quarter 2017 reporting shown in *CLW-9*. Please note that the scale in *Graph 10* is indexed to Consumer Credit Outstanding Ex-Federal Student Loans equal to 100 in January 2000. In *Graphs 11 to 13*, that indexing is applied to the total Consumer Credit Outstanding number, which is greater in amount than its dominant Ex-Federal Student Loans subcomponent.

Monthly Series. Indeed, the ShadowStats analysis usually focuses on the particular current and continuing weakness in monthly levels of consumer credit, net of what has been rapidly expanding government-sponsored student loans. Where detail on that series only is available not-seasonally-adjusted, the following three related graphs and the preceding *Graph CLW-10* are so plotted.

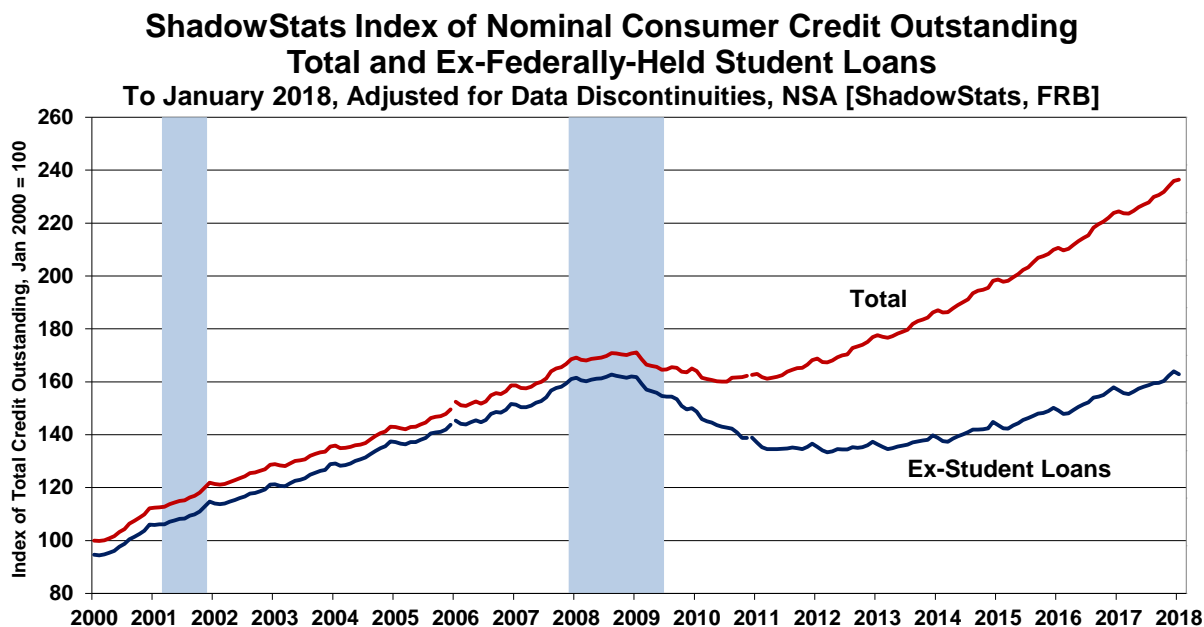
Shown through the January 2018 reading (released March 7th), the headline nominal monthly Consumer Credit Outstanding (*CLW-11*) is a subcomponent of the nominal Household Sector debt. Where *Graph CLW-12* reflects the real or inflation-adjusted activity for monthly Consumer Credit Outstanding terms of both level (*Graph CLW-12*) and year-to-year change (*Graph CLW-13*). *Graphs CLW-12* and *CLW-10* are comparable to the inflation-adjusted Household Sector plot in *Graph CLW-9*.

Post-2008 Panic, growth in outstanding consumer credit has continued to be dominated by growth in federally-held student loans, not in bank loans to consumers that otherwise would have fueled broad consumption or housing growth. Although in slow uptrend, the nominal level of Consumer Credit Outstanding (ex-student loans) has not recovered since the onset of the recession. These disaggregated data are available and plotted only on a not-seasonally-adjusted basis, with the pattern of monthly levels during one year reflecting some regular, unadjusted seasonal dips or jumps.

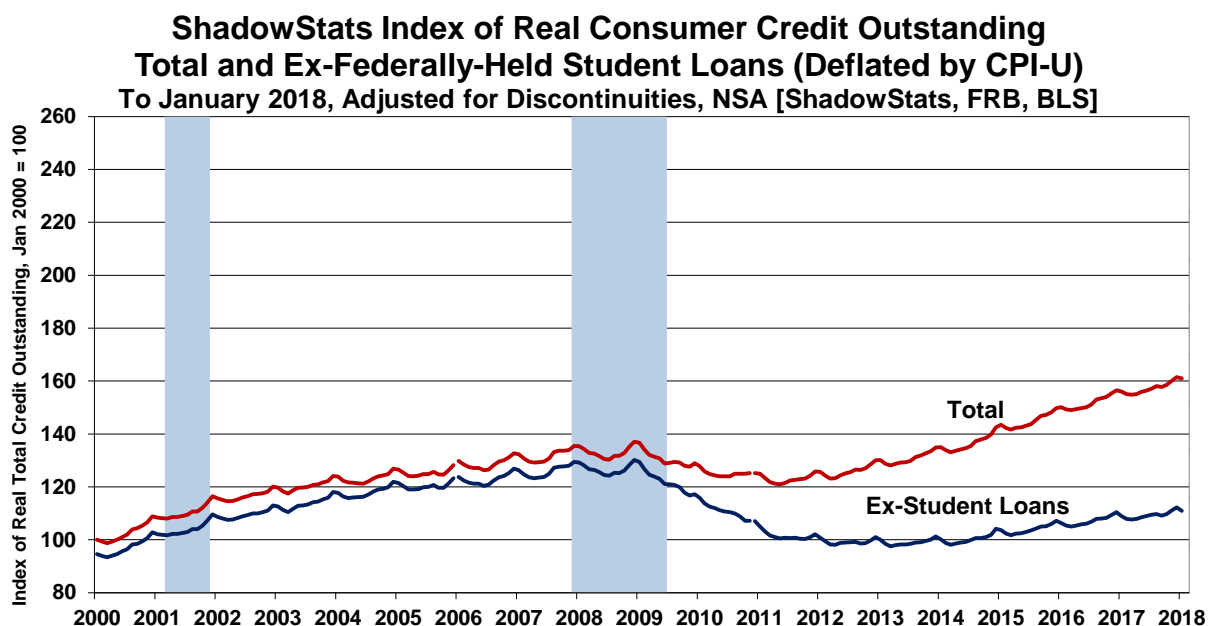
Adjusted for inflation, the lack of recovery in the ex-student loan area is more obvious. Where the recent monthly downside move in the not-seasonally-adjusted real consumer credit reflected a seasonal pattern, the pattern of year-to-year growth has been in downtrend, suggesting some tightening of credit conditions. Adjusted for discontinuities and inflation, ex-student loans, consumer credit outstanding in January 2018 was down from recovering its December 2007 pre-recession peak by 14.3% (-14.3%). That is 121 months or a full, ten-plus years of non-expansion of credit. Year-to-year real growth shown in *Graph CLW-13* tends to resolve most of the monthly distortions in the not-seasonally-adjusted data.

[Graphs CLW-11 to CLW-13 begin on the next page.]

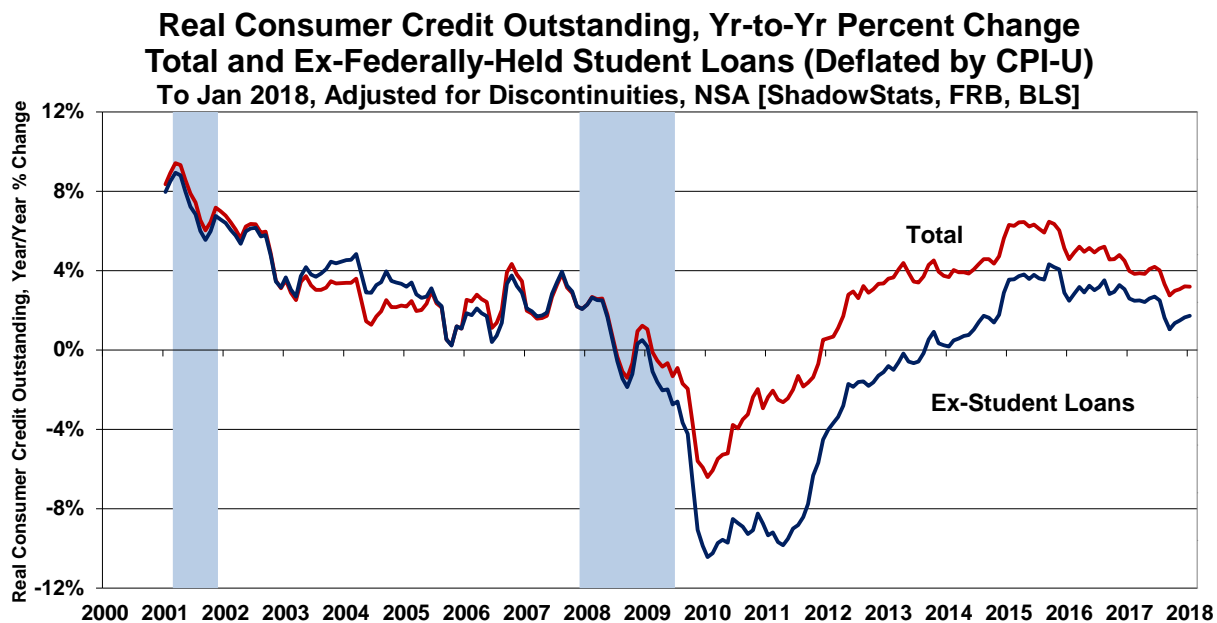
Graph CLW-11: Nominal Consumer Credit Outstanding (2000 to 2018)



Graph CLW-12: Real Consumer Credit Outstanding (2000 to 2018)



Graph CLW-13: Year-to-Year Percent Change, Real Consumer Credit Outstanding (2000 to 2018)



[The Week, Month and Year Ahead begins on the next page.]

WEEK, MONTH AND YEAR AHEAD

Instabilities and Turmoil in the U.S. Dollar and the Financial-Markets Remain at High Risk, in the Context of an Increasingly-Faltering, Non-Expanding Real-World Broad Economic Activity.

Updated outlooks for the U.S. economy, the U.S. dollar, gold, silver and the financial markets were reviewed in [Special Commentary No. 935](#), covered there in the *Executive Summary* beginning on page 2, with *Contents* and links to *Major Sections* and *Graphs* beginning on page 6. Renewed economic faltering also was discussed in today's *Opening Comments*. Related financial market vulnerabilities were reviewed in the *Opening Comments*, *Reporting Detail* and *Hyperinflation Watch* of prior [Commentary No. 940](#).

Conditions Continue to Darken. Natural-disaster-impact from late-2017 continued to unwind in most headline monthly economic reporting of January, and in a pattern that already has started to intensify for February reporting. These elements suggested not only some downside revision for the third estimate of Fourth-Quarter 2017 GDP, but also meaningful risk for an outright quarterly contraction in the initial estimate of First-Quarter 2018 GDP on April 27th, particularly with the deteriorating trade deficit discussed in [Commentary No. 937](#). Increasingly, headline economic details are likely to disappoint consensus expectations (again, see today's *Opening Comments*).

The real-world economy is not recovering or booming as advertised, despite heavy hype in the press of a booming, full-employment economy, and in the context recent FOMC tightening actions.

If not already there, reporting in most series should be back to normal (allowing for hurricane disruptions and recovery) with the headline reporting of February 2018 economic activity, as discussed in [General Commentary No. 929](#). Most series increasingly should reflect “unexpected” downtrending economic activity. Where misleading, recent headline details had contributed to a manic stock market, the mania also should be starting to unwind. The process should accelerate as market perceptions increasing shift towards renewed economic downturn.

An unhappy period of market readjustment to underlying real-world circumstances looms, where Wall Street's proponents of a never-ending stock-market rally have parlayed temporary, nonrecurring economic boosts from natural disasters into a year-end 2017 economic boom. Negative economic “surprises” increasingly should shock the markets and the U.S. dollar on the downside. As the reported economic downturn intensifies in the months ahead, the FOMC—under its new Chairman Jerome H. Powell—eventually should face an “unexpected” policy retrenchment, moving back towards quantitative easing, despite the broadly-anticipated rate hike on March 21st.

In these circumstances, the U.S. dollar and financial markets remain at extraordinarily-high risk of intensified panicked declines, likely in the very near term (see the *Opening Comments* and *Hyperinflation Watch*). Holding physical gold and silver remain the ultimate hedges—stores of wealth—for preserving

the purchasing power of one's U.S. dollar assets, during times of high inflation and currency debasement, and/or political- and financial-system upheaval, Please call (707) 763-5786, if you would like to discuss current circumstances, or otherwise.

Best wishes – John Williams

PENDING ECONOMIC RELEASES: Existing- and New-Home Sales (February 2018). Reporting of February 2018 Existing-Home Sales is due for release on Wednesday, March 21st, from the National Association of Realtors (NAR), while February 2018 New-Home Sales from the Census Bureau is scheduled for Friday, March 23rd. Both series will be covered in *Commentary No. 942* of March 23rd.

Given last month's weaker sales and the extreme nonsense volatility seen in recent months in both these series, tied to unusually-unstable, seasonal-factor distortions and prior-period revisions, consensus expectations likely will be on the plus-side, although almost anything is possible here. Both series should remain well shy of recovering pre-recession levels of activity.

Nonetheless, the extreme liquidity bind besetting consumers continues to constrain residential real estate activity, as discussed the *Consumer Liquidity Watch* and as reviewed in [Special Commentary No. 935](#). Without sustainable growth in real income, and without the ability and/or willingness to take on meaningful new debt in order to make up for income shortfall, the U.S. consumer remains unable to sustain positive growth in domestic personal consumption, including residential real estate activity and related demand for residential construction. That circumstance—in the last ten-plus years of economic collapse and stagnation—has continued to prevent a normal recovery in broad U.S. economic activity.

Where the private housing sector never recovered from the business collapse of 2006 into 2009, there remains no chance of a near-term, sustainable turnaround in home-sales activity, without a fundamental upturn in consumer and banking-liquidity conditions. That does not appear to be in the offing. Smoothed for month-to-month variability, patterns of low-level downtrending stagnation should continue in play for the Existing-Home Sales series. Reporting risks remain to the downside of consensus for both series.

New Orders for Durable Goods (February 2018). The Census Bureau will report February 2018 New Orders for Durable Goods on Friday, March 23rd, to be covered in *Commentary No. 942* of that date. Net of irregular activity in commercial aircraft orders, aggregate orders likely resumed/continued in a pattern of downtrending real stagnation, with any residual positive impact on order activity from hurricane disruptions largely having passed through the system. To the extent that durable goods, ranging from automobiles and furniture to business equipment, were damaged or destroyed in the late-2017 natural disasters and may have helped to boost February Industrial production, such likely was for inventory rebuilding, not for new sales.

Separately, where commercial aircraft orders are booked for the long-term—years in advance—they have only limited impact on near-term production. Further, by their nature, these types of orders do not lend themselves to seasonal adjustment. As a result, the durable goods measure that best serves as a leading indicator to broad production—a near-term leading indicator of broad economic activity and the GDP—is the activity in new orders, ex-commercial aircraft, adjusted for inflation. Expectations appear to be to the

plus-side for the aggregate detail, but the headline change in month-to-month activity is a fair bet to be in contraction, net of the regularly-unstable commercial aircraft orders and net of inflation.

In inflation-adjusted real terms, reflecting PPI-related inflation for “manufactured durable goods,” relative month-to-month and year-to-year order activity will be dampened on a monthly and annual basis, where month-to-month inflation for February 2018 was 0.23%, versus 0.41% in January 2018 and was unchanged at 0.00% in December 2017. Year-to-year annual inflation eased to 1.72% in February 2018 from 1.79% in January 2018 and against 1.67% in December 2017 (see prior [Commentary No. 940](#)).

Annual Benchmark Revisions to Industrial Production. Previewed in the *Opening Comments*, the Federal Reserve will publish its annual 2017 benchmark revisions on Friday, March 23, 2018. Summary details will be published in *Commentary No. 941-A* of that date, with full analysis following in *Commentary No. 941-B* of March 26th. The revisions will encompass recent annual census reporting, redefined series and recast seasonal adjustments, back to 1972. See page 3 of the March 16th [Press Release](#) for full detail.

Traditionally, the Industrial Production benchmarkings suffer net downside revisions to the history of recent years, where underlying reality begins to catch up with usually overly-optimistic assumptions built into initial headline reporting (see the benchmarking discussion of [Commentary No. 877](#)).

Note on Reporting-Quality Issues and Systemic-Reporting Biases. In the context of historical background provided in [Special Commentary No. 885: Numbers Games that Statistical Bureaus, Central Banks and Politicians Play](#), significant reporting-quality problems remain with most major economic series. Beyond pre-announced gimmicked changes to reporting methodologies of the last several decades, which have tended both to understate inflation and to overstate economic activity meaningfully—as generally viewed in the common experience of Main Street, U.S.A.—ongoing, near-term headline reporting issues often reflect systemic distortions of monthly seasonal adjustments.

Data instabilities—induced partially by the still-evolving economic turmoil of the last eleven years—have been without precedent in the post-World War II era of modern-economic reporting. The severity and ongoing nature of the downturn have provided particularly unstable headline economic results, with the use of concurrent seasonal adjustments (as seen with retail sales, durable goods orders, employment and unemployment data). While historical seasonal-factor adjustments are revised every month, based on the latest, headline monthly data, the consistent, revamped historical data are not released or reported at the same time. That issue is discussed and explored in the labor-numbers related [Supplemental Commentary No. 784-A](#) and [Commentary No. 695](#).

Further, discussed in [Commentary No. 778](#), a heretofore unheard of spate of “processing errors” surfaced in 2016 surveys of earnings (Bureau of Labor Statistics) and construction spending (Census Bureau). This is suggestive of deteriorating internal oversight and control of the U.S. government’s headline economic reporting. That construction-spending issue now appears to have been structured as a gimmick to help boost the July 2016 GDP benchmark revisions, aimed at smoothing the headline reporting of the GDP business cycle, instead of detailing the business cycle and reflecting broad economic trends accurately, as discussed in [Commentary No. 823](#).

Combined with ongoing allegations in the last several years of Census Bureau falsification of data in its monthly Current Population Survey (the source for the BLS Household Survey), these issues have thrown into question the statistical-significance of the headline month-to-month reporting for many popular - economic series (see [Commentary No. 669](#)). Investigative-financial/business reporter John Crudele of the *New York Post* has written extensively on such reporting irregularities: [Crudele Investigation](#), [Crudele on Census Bureau Fraud](#) and [John Crudele on Retail Sales](#).

LINKS TO PRIOR COMMENTARIES AND SPECIAL REPORTS

Prior Writings Underlying the Current *Special Commentaries* and a Sampling of Recent *Regular Commentaries*. Underlying the recent [Special Commentary No. 935](#) (*Part One*) and the pending *Special Commentaries* (*Part Two*) on Inflation, and (*Part III*) on the Federal Reserve and U.S. banking system, are [Commentary No. 899](#) and [General Commentary No. 894](#), along with general background from regular *Commentaries* throughout 2017.

These missive also are built upon writings of prior years, including [No. 777 Year-End Special Commentary](#) (December 2015), [No. 742 Special Commentary: A World Increasingly Out of Balance](#) (August 2015) and [No. 692 Special Commentary: 2015 - A World Out of Balance](#) (February 2015). In turn, they updated the long-standing hyperinflation and economic outlooks published in [2014 Hyperinflation Report—The End Game Begins – First Installment Revised](#) (April 2014) and [2014 Hyperinflation Report—Great Economic Tumble – Second Installment](#) (April 2014).

The two *Hyperinflation* installments remain the primary background material for the hyperinflation circumstance. Other references on underlying economic reality are the [Public Commentary on Inflation Measurement](#) and the [Public Commentary on Unemployment Measurement](#).

Recent Commentaries. *[Listed here are Commentaries of the last several months or so, plus recent Special Commentaries and others covering a variety of non-monthly issues, including annual benchmark revisions, dating back through the beginning of 2017. Please Note: Complete ShadowStats archives back to 2004 are found at www.ShadowStats.com (left-hand column of home page).]* These regular weekly *Commentaries* are published at least weekly and update the general outlook, as circumstances develop.

[Commentary No. 940](#) (March 15th) covered February 2018 Retail Sales, CPI, PPI and related Real Average Weekly Earnings, real Annual Growth in M3 and updated financial market prospects.

[Commentary No. 939](#) (March 9th) covered the February 2018 Employment and Unemployment details, the full-reporting of the January 2018 Trade Deficit, February Conference Board Help Wanted OnLine[®] Advertising and February Monetary Conditions.

[Commentary No. 938](#) (March 1st) reviewed January 2018 Construction Spending and the second estimate of Fourth-Quarter 2017 GDP.

[Commentary No. 937](#) (February 27th) covered January 2018, New Orders for Durable, New- and Existing-Home Sales, the “advance” estimate of the January 2018 Merchandise Trade Deficit and the Cass Freight Index[™].

[Commentary No. 936](#) (February 19th) covered the January 2018 CPI and PPI, Retail Sales, Industrial Production and New Residential Construction (Housing Starts and Building Permits).

[Special Commentary No. 935](#) (February 12th) was the first part of a three part-series reviewing economic and financial conditions of 2017 and the year-ahead, inflation and the U.S. government's balance sheet and conditions in the U.S. banking system and Federal Reserve options.

[Commentary No. 934-B](#) (February 6, 2018) provided extended coverage on the January 2018 Employment and Unemployment details, the 2017 benchmark revisions to Payroll Employment and the January annual recasting of population, along with coverage of the December 2017 Trade Deficit.

[Commentary No. 934-A](#) (February 2, 2018) provided initial detail on the January 2018 Employment and Unemployment details and the 2017 benchmark revisions to Payroll Employment, along with coverage of January Conference Board Help Wanted OnLine[®] Advertising, January Monetary Conditions and December 2017 Construction Spending.

[Commentary No. 933](#) (January 26, 2018) covered December New Orders for Durable Goods, the Cass Freight Index[™] and the first estimate of Fourth-Quarter 2017 GDP.

[Commentary No. 932](#) (January 18, 2018) covered December Industrial Production and New Residential Construction (Housing Starts and Building Permits).

[Commentary No. 931](#) (January 15, 2018) reviewed December 2017 Retail Sales and the CPI and PPI, along with an update on the U.S. dollar, the financial markets and gold graphs.

[Commentary No. 930-B](#) (January 8th) expanded upon the December 2017 Employment and Unemployment numbers and Household Survey benchmarking, Conference Board Help Wanted OnLine[®] Advertising, December Monetary Conditions and the November 2017 Trade Deficit and Construction Spending, otherwise headlined in *No. 930-A*.

[Advance Commentary No. 930-A](#) (January 5, 2018) provided a brief summary and/or comments (all expanded in *Commentary No. 930-B*) on December 2017 Employment and Unemployment numbers, Household Survey benchmarking, Conference Board Help Wanted OnLine[®] Advertising, December Monetary Conditions and the November 2017 Trade Deficit and Construction Spending.

[General Commentary No. 929](#) (December 28, 2017) reviewed current economic and market conditions at year-end 2017.

[Commentary No. 928](#) (December 22, 2017) covered November 2017 New Orders for Durable Goods, New- and Existing-Home Sales and the third estimate of Third-Quarter 2017 GDP.

[Commentary No. 927](#) (December 19, 2017) reviewed November 2017 New Residential Construction (Housing Starts and Building Permits) and Cass Freight Index[™], along with an expanded discussion on underlying economic reality and the financial markets.

[Commentary No. 926](#) (December 15, 2017) reviewed the headline November 2017 numbers for Retail Sales (both real and nominal), and Industrial Production, along a discussion on the dampening economic impact of business and consumer “uncertainty.”

[Commentary No. 925](#) (December 13th) reviewed November 2017 headline detail on the CPI and PPI, along with an update on the FOMC actions and the regular U.S. dollar, gold graphs.

[Commentary No. 924](#) (December 8, 2017) discussed the November 2017 Employment and Unemployment details and Conference Board Help Wanted OnLine[®] Advertising, the October Trade Deficit and Construction Spending and updated Monetary Conditions in November.

[Commentary No. 923](#) (November 29, 2017) covered the second estimate of Third-Quarter 2017 GDP, including initial estimates for Third-Quarter GNP, GDI and Per Capita Real Disposable Income, the October Trade Deficit, Cass Freight Index and New-Home Sales.

[Commentary No. 919-B](#) (November 6, 2017) provided more in-depth detail on the October 2017 labor detail.

[Commentary No. 919-A](#) (November 3, 2017) provided initial detail and background on October labor data, and reviewed the October 2017 Conference Board Help Wanted OnLine[®] Advertising, the September Cass Freight Index[™], Trade Deficit and Construction Spending, and updated Monetary Conditions.

[Special Commentary No. 918-B](#) (October 30, 2017) provided a more comprehensive review of the initial third-quarter 2017 GDP detail, along with update versions of the *Hyperinflation Watch* and *Consumer Liquidity Watch*.

[Commentary No. 917](#) (October 26/27, 2017) reviewed September Industrial Production, New Orders for Durable Goods, New Residential Construction (Housing Starts and Building Permits) and New- and Existing-Home Sales.

[Commentary No. 916](#) (October 20th) reviewed the September 2017 Retail Sales details along with the headline Consumer and Producer Price Indices for September.

[Commentary No. 915](#) (October 6, 2017) reviewed the September 2017 Employment and Unemployment details, along with September 2017 monetary conditions.

[Commentary No. 913](#) (September 28, 2017) reviewed the third-estimate of second-quarter 2017 GDP, with a further consideration of some unusual economic reporting in the near future.

[Commentary No. 910](#) (September 15, 2017) reviewed the August 2017 releases of Industrial Production and nominal and real Retail Sales.

[Commentary No. 909](#) (September 14, 2017) assessed the annual release of 2016 Real Median Household Income, along with a review of August Consumer Price Index (CPI) and the Producer Price Index (PPI) and an updated *Alert* on the financial markets

[Commentary No. 908-B](#) (September 6, 2017) provided extended detail of the August 2017 Labor and Monetary conditions and July 2017 Construction Spending, along with coverage of the July 2017 Trade Deficit and the initial estimate of the 2017 Payroll Employment benchmarking.

[Special Commentary No. 904](#) (August 14, 2017) issued an “Alert” on the financial markets (including U.S. equities, the U.S. dollar gold and silver, as well as FOMC policy), in the context of historical activity and unfolding circumstances of deteriorating economic and political conditions. Separately, headline details were reviewed for the July Consumer Price Index (CPI) and the Producer Price Index (PPI).

[Commentary No. 903](#) (August 7, 2017) discussed new signals of economic deterioration in terms of political and FOMC considerations, along with headline coverage of the July labor data, M3 and The Conference Board Help Wanted OnLine[®], and June trade deficit and construction spending.

[Commentary No. 902-B](#) (July 31, 2017) reviewed the 2017 annual benchmark revisions of GDP and related series, along with the “advance” estimate of second-quarter 2017 GDP.

[Commentary No. 900](#) (July 19, 2017) reviewed June 2017 New Residential Investment (Housing Starts and Building Permits), and previewed the upcoming annual GDP benchmark revisions and the coincident “advance” estimate of second-quarter 2017 GDP.

[Commentary No. 897](#) (July 6, 2017) reviewed the headline May 2017 Construction Spending and the annual revisions to same, along the May Trade Deficit, and June The Conference Board Help Wanted OnLine[®] Advertising and the May Cass Freight Index[™].

[General Commentary No. 894](#) (June 23, 2017) reviewed unfolding economic, financial and political circumstances in the context of market expectations shifting towards an “unexpected” headline downturn in broad economic activity, along with headline details on May 2017 Real Median Household Income (Sentier Research) and New- and Existing-Home Sales.

[Commentary No. 890](#) (June 5, 2017) covered the negative-downside annual benchmark revisions to the trade deficit, the May 2017 estimates of labor conditions, ShadowStats Ongoing Money Supply M3, The Conference Board Help Wanted OnLine[®] Advertising and April 2017 estimates of the Cass Freight Index[™], and the monthly trade deficit and construction spending.

[Special Commentary No. 888](#) (May 22, 2017) discussed evolving political circumstances that could impact the markets and the economy, reviewed the annual benchmark revisions to Manufacturers’ Shipments and New Orders for Durable Goods and updated Consumer Liquidity Conditions.

[Commentary No. 887](#) (May 18, 2017) reported on the April 2017 detail for Industrial Production and Residential Construction (Housing Starts), with some particular attention to historic, protracted periods of economic non-expansion, of which the current non-recovery is the most severe.

[Special Commentary No. 885](#), entitled *Numbers Games that Statistical Bureaus, Central Banks and Politicians Play*, (May 8, 2017) reviewed the unusual nature of the headline reporting of the April 2017 employment and unemployment details.

[Commentary No. 882](#) (April 27, 2017) summarized the annual benchmark revisions to Retail Sales and reviewed the March 2017 releases of New Orders for Durable Goods and New- and Existing-Home Sales.

[Commentary No. 877](#) (April 2, 2017) outlined the nature of the downside annual benchmark revisions to industrial production, along with implications for pending annual revisions to Retail Sales, Durable Goods Orders and the GDP.

[Commentary No. 876](#) (March 30, 2017) current headline economic activity in the context of formal definitions of the business cycle (no other major series come close to the booming GDP, which is covered in its third revision to fourth-quarter activity). Also the February 2017 SentierResearch reading on real median household income was highlighted.

[Commentary No. 875](#) (March 24, 2017) assessed and clarified formal definitions of the U.S. business cycle, which were expanded upon significantly, subsequently, in *No. 876*. It also provided the standard review of the headline February 2017 New Orders for Durable Goods, New- and Existing-Home Sales and the Cass Freight Index[™].

[General Commentary No. 867](#) (February 24, 2017) assessed mixed signals for a second bottoming of the economic collapse into 2009, which otherwise never recovered its level of pre-recession activity. Such was in the context of contracting and faltering industrial production that now rivals the economic collapse

in the Great Depression as to duration. Also covered were the prior January 2017 New- and Existing Home Sales.

[*Commentary No. 864*](#) (February 8, 2017) analyzed January 2017 Employment and Unemployment detail, including benchmark and population revisions, and estimates of December Construction Spending, Household Income, along with the prior update to Consumer Liquidity.

[*Commentary No. 861*](#) (January 13, 2017) covered the December 2016 nominal Retail Sales, the PPI, with a brief look at some summary GAAP reporting on the U.S. government's fiscal 2016 operations.

[*No. 859 Special Commentary*](#) (January 8, 2017) reviewed and previewed economic, financial and systemic developments of the year passed and the post-election year ahead.
