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COMMENTARY NUMBER 946

March Retail Sales, Industrial Production, Freight Index, Housing Starts, GDP Outlook

April 22, 2018

First-Quarter 2018 Real GDP Should Slow Much More Sharply Than Expected

Nothing Supports the Existing Purported Post-Recession GDP Expansion of 15.3%, Including Headline Production and Manufacturing, Retail Sales, Construction, Payroll Employment and Civilian Employed, Trade Deficit, Credit Growth, Freight Activity and Domestic Petroleum Consumption

April Consumer Outlook Took a Hit, Amidst Faltering Earnings and Credit

First-Quarter 2018 Real Retail Sales Contraction of 2.6% (-2.6%) Was Deepest Since Depths of the Great Recession

Real Sales Growth Backed Off from Fourth-Quarter Natural-Disaster Boosts, Yet, Annual Real Growth Also Fell Deep into Recession-Warning Territory, versus First-Quarter 2017, Which Was Not Disaster-Impacted

March Freight Index Continued Higher with Strong Annual Growth, Still Shy of Recovering Its Pre-Recession Peak Activity by 7.4% (-7.4%)

Given a Record 41 Quarters, 123 Months of Economic Non-Expansion, March Manufacturing Still Held Shy of Its Pre-Recession Peak by 5.4% (-5.4%)

Continuing in Nonsensical Monthly Booms and Busts, March 2018 Housing Starts Gained 1.9% on Top of Sharp Upside Revisions to February, Still in Low Level, Non-Recovering Stagnation and Shy by 42.0% (-42.0%) of Beginning Its Economic Expansion

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PLEASE NOTE: The next regular Commentary, planned for Friday, April 27th, will cover March 2018 New Orders for Durable Goods, New- and Existing-Home Sales and the first or "advance" estimate of First-Quarter 2018 GDP.

Best wishes — John Williams (707) 763-5786

Today's (April 22nd) *Opening Comments and Executive Summary.* The ***Opening Comments*** discusses current economic conditions, the outlook for the initial estimate of First-Quarter 2018 GDP and an early outlook for the annual GDP revisions on July 27th. Separately updated is the March 2018 Cass Freight Index™. The ***Executive Summary*** (page 4) provides highlights of March 2018 Retail Sales (real and nominal), Industrial Production and New Residential Construction (Housing Starts and Building Permits).

The ***Reporting Detail*** reviews March Retail Sales, Production and Housing Starts in greater depth (page 22).

The ***Consumer Liquidity Watch*** (page 52) updates current liquidity conditions for the initial estimate of University of Michigan Consumer Sentiment in April 2018.

The ***Week, Month and Year Ahead*** (page 66) provides background on recent *Commentaries* and previews the reports of next week's March New Orders for Durable Goods, New- and Existing-Home Sales and the "advance" or first estimate of First-Quarter 2018 GDP.

OPENING COMMENTS

"Advance" Initial Real First-Quarter 2018 GDP Growth Below 1.0% Is a Fair Bet. My expectations that the headline detail for March 2018 Retail Sales and Industrial Production had a good shot of pushing consensus expectations on First-Quarter 2018 Gross Domestic Product (GDP) real growth to an outright quarterly contraction, did not pan out. Nonetheless a headline quarterly contraction likely remains in the works for the next several months of headline first-quarter GDP reporting and revisions, up to and including the comprehensive benchmark revisions to the series on July 27th.

Noted in the *Executive Summary* and *Reporting Detail*, real First-Quarter 2018 Retail Sales contracted at an annualized pace of 2.6% (-2.6%), the worst quarterly contraction since the depths of the Great Recession. Such was consistent with a drop in first-quarter GDP, but Industrial Production did not come along, despite the broad downside revisions to, and weakening in, the series with its March 23rd revisions (see *Commentary No. 942-B*), and despite the relative pullback that still looms with some reversal of recent disaster-recovery bloating in production activity.

The consensus outlook for the headline "advance" estimate of GDP appears to be at 2.0%, as we go to press. That is down from 2.9% in the final reporting of third-quarter, and in line with the Atlanta Fed's current "nowcast" for the first-quarter GDP at 2.0%.

Important Headline Details Loom in the Week Ahead. Subsidiary reporting in the week ahead should tend to hit GDP growth expectations hard, with the advance estimates of the March Trade Deficit and Inventories released on Thursday the 26th. Separately March Existing-Home Sales (always something of wildly-random number) will be published on Monday, April 23rd. Those numbers, in theory, get structured into the GDP, and the Trade Deficit is the most important, currently on track for its worst inflation-adjusted reading in history. "Unexpected" trade deterioration—always a good bet here—should soften expectations further, right before the actual headline GDP reporting. Discussed here previously, the BEA often targets its "advance" or first GDP reporting of a quarter at meeting consensus expectations, unless it sees something much weaker or likely downside revisions that are not in the consensus. That circumstance could well be in play. The BEA would bring the headline growth rate in well below consensus, but not negative, say 0.4%, as a heads up to the consensus that forecasts need to be adjusted.

Nothing Supports the Existing Purported Post-Great Recession GDP Expansion of 15.3%. As of the last estimate of real Fourth-Quarter 2017 GDP, the series had expanded by 15.3% above its pre-recession peak of Fourth-Quarter 2007 GDP. If the first-quarter GDP expands as per consensus expectations, the headline expansion would jump to 15.7%.

The issue remains that none of the major series that one might expect to be reflective of, or correlated to GDP activity confirms that level of economic expansion beyond the pre-recession peak activity. Consider, that the real Trade Deficit, which is a subtraction from the GDP, has widened since the pre-recession peak in GDP (see *Commentary No. 944*). Series such as Manufacturing (see the *Reporting Detail*), New Orders for Durable Goods (*Commentary No. 942-B*), real Construction Spending (*Commentary No. 944*), the Cass Freight Index[TM] see the *Opening Comments*, and total Domestic Petroleum Consumption (*Commentary No. 944*), real Consumer Credit Growth (see the *Consumer Liquidity Watch*) all remain shy of ever having recovered their pre-recession peaks.

Those series, which have "recovered," still remain well shy of the headline GDP expansion, which again purportedly is up by 15.3% (see *Commentary No. 943*). First-Quarter 2018 Industrial Production was 1.26% above its pre-recession high (see the *Reporting Detail*). Employment purportedly moves with economic activity, but despite the regular bloating of employment levels (see *Commentary No. 944*), consider that Household Survey Employment is up by 5.93% and Payroll Employment is up by 7.05% since the pre-recession peak. The strongest series I have found is real Retail Sales up by 10.51% (see the *Reporting Detail*), which is bloated by price deflation, with the use of too low an inflation rate (see the *Executive Summary*), a problem as well with the GDP itself (again, see *Commentary No. 943*).

Where are the numbers off? Against detail that has independent preparation, the headline goods area of the GDP, both durable and nondurable consumption has shown exceptional, major growth since the Fourth-Quarter 2007 GDP peak. The problem remains that neither the non-recovered Manufacturing nor deteriorating Trade sectors can account for that strong activity.

Pending Benchmark Revisions. Where the preceding suggests some overstatement of headline real GDP growth, such would likely be corrected, or at least minimally addressed in the comprehensive (back to 1929) annual GDP benchmark revision due for release on July 27th.

In the context of the downside annual benchmark revisions to Industrial Production (see *Commentary No. 942-B*) and likely downside revisions to New Orders for Durable Goods (Manufacturers' Shipments) on May 17th, Retail Sales on May 25th and Construction Spending on July 2nd, the GDP (July 27th) likely

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has some major historical downside revisions looming. Discussed in *Commentary No. 942-B* and the *Reporting Detail*, a recasting of the GDP to reflect a new recession, with its pre-recession peak at fourth-quarter 2014, would not be a surprise.

The Bureau of Economic Analysis (BEA) has just posted its *Background Briefing* on the pending GDP revisions. Some of the factors in play already have hit the production data, in revision. More will follow in a later *Commentary.*

Coverage of the Advance Estimate of First-Quarter 2018 GDP. The *ShadowStats* analysis of the headline detail will follow in *Commentary No. 947* of April 27th. The assessment will include an update of anecdotal economic and financial evidence from the field.

Cass Freight Index™ (March 2018)—Trending Higher, Holding at a High Level of Annual Growth, but Still Non-Expanding; Shy by 10.3% (-10.3%) of Recovering Its Pre-Recession Peak. An independent, reliable private indicator of real-world economic activity and shifting business patterns, the March 2018 Cass Freight Index™ was published April 16th. Although uptrending, the improving series still remains well shy of economic recovery. Unlike some of the better-quality government numbers, such as Industrial Production and New Orders for Durable Goods that still are heavily modeled and gimmicked, the headline detail here remains as published, not seasonally adjusted and not subject to annual benchmark revisions (see *Commentary No. 942-B*).

Although showing a pattern of positive, uptrending activity, the headline, March 2018 Cass Freight Index numbers continued, at least temporarily, in low-level economic non-expansion as otherwise reflected in some elements of broad economic and general business activity. The pace of year-to-year growth, however, remained strong albeit slightly weaker than the near-term January 2018 peak, while the unadjusted monthly level of activity hit a new post-recession high, still holding well below its pre-recession peak activity.

The 12-month trailing average of activity also hit a post-recession high, yet it remained meaningfully shy of recovering its pre-recession peak. Activity reflected in the 12-month trailing average—used to eliminate seasonality in the unadjusted series (see the *General Background to the Freight Index*)—remained in low-level, albeit uptrending stagnation, down by 7.41% (-7.41%) from recovering its formal pre-recession high, and down by 10.34% (-10.34%) from its precursor peak (see *Graph OC-1*).

For the sixteenth consecutive month, the seventeenth month in the last eighteen, year-over-year change in the unadjusted monthly index was positive, having notched minimally higher in March 2018, versus February 2018, slightly weaker than January 2018, which had surged, having started to pick up in year-to-year change with November 2017 after several months of slowing growth (see *Graph OC-3*). Annual growth had hit a near-term peak of 7.06% in May 2017, falling back to 4.77% in June 2017, slowing to 1.35% in July 2017, rebounding to 3.86% in August 2017, falling back anew to 3.24% in September 2017 and to 2.85% in October 2017. Then it began rebounding to 6.26% in November 2017, 7.17% in December 2017, to 12.54% in January 2018, easing back to 11.44% in February 2018, yet moving higher, again, to 11.94% in March 2018.

A consecutive string of nineteen months of annual contraction in the Freight Index began in March 2015 and was consistent with the "new" recession signal following the near-term Industrial Production peak in

November 2014 (just recovered by the post-benchmarking Industrial Production in headline the March 2018 detail). Headline industrial production showed a string of twenty consecutive months of year-to-year contraction beginning April 2015, a pattern never seen outside of formal economic recession in the 100-year history of the Industrial Production series, and such has fair shot now of being recognized as formal recession, based on likely pending GDP benchmark revisions, now that the headline production series has recovered its pre-2015 downturn for the first time.

Headline Production had recovered that peak previously, even before the recent benchmark revisions to Industrial Production (see the *Industrial Production Reporting Detail*). Comparative growth patterns of the Freight Index versus the never-recovered, dominant Manufacturing Sector of Industrial Production are shown here in *Graphs OC-1* and *OC-2* as to level and in *Graphs OC-3* and *OC-4* as to year-to-year change.

The recent, repeating pattern of monthly year-to-year gains in the Cass Index has excited the trucking industry that the recession in freight activity has hit bottom, and that activity is moving higher. That appears to be the case. Even with the high levels of annual gain in January, February and March 2018 activity, though, the current patterns of smoothed levels of activity and year-to-year gains have yet to break out of the non-recovery pattern of the last ten-plus years and to enter a period of new economic expansion, having not broken above its pre-recession peak activity. Again, as shown in *Graphs OC-1* and *OC-2* monthly activity, although not recovered, is uptrending.

No Economic Expansion. Reviewed in *Commentary No. 875* and expanded upon in *Commentary No. 876* on the nature of the business cycle, when economic activity starts to recover, such happy growth traditionally is not clocked formally as new economic "Expansion," until the level of the series breaks above its prior, pre-recession high.

Noted earlier, the ShadowStats smoothed (12-month trailing average) headline reading on the Cass Freight Index, through March 2018 (*Graph OC-1*) remained down by 10.34% (-10.34%) from "Recovering" its preliminary pre-recession peak of September 2006, down by 7.41% (-7.41%) from recovering its formal "Pre-Recession Peak" of December 2007 (Fourth-Quarter 2007), which was coincident the Industrial Production, Manufacturing and GDP series. While the "Recovery" receives the benefit of growth off low levels of activity—the recession "Trough"—the deficit in current activity versus the pre-recession peak has to be overcome, before formal, economic "Expansion" begins.

Economic downturns eventually hit bottom, and the current circumstance will not be an exception. The official collapse in aggregate economic activity (as measured by the inflation-adjusted, real Gross Domestic Product or GDP), which formally has been recognized from peak activity in December 2007 to a trough in June 2009, appears to be accurate in terms of timing the trough.

The official contention remains, though, that the GDP fully recovered thereafter, entering a period of new and ever-expanding economic growth, "Expansion," in second- or third-quarter 2011. ShadowStats contends that the broad economy never recovered fully, moving instead into a period of protracted, low-level stagnation, which began to turn down anew in December 2014, as reflected still in the recent *Industrial Production Benchmarking* and subsequent reporting (see *Commentary No. 942-B* and today's *Reporting Detail*). These charts of freight activity also will be compared to the March 2018 New Orders for Durable Goods in the next *Commentary No. 947*, and as seen with last year's benchmarking of durable goods (*Special Commentary No. 888*), due for a 2018 update on May 17th.

General Background to the Freight Index. *[This section largely is repeated from its prior version in Commentary No. 942-B.]* Beginning with *Commentary No. 782* (further information is available there), ShadowStats published the detail on the Cass Index, a measure of North American freight volume as calculated by, and used with the permission of Cass Information Systems, Inc. Freight activity is a basic, underlying indicator of commercial activity and broad GDP. Of the combined U.S. and Canadian (North American) GDP in 2017, roughly 92% was attributable to the United States.

Graph OC-1 reflects the monthly freight numbers updated through March 2018. While adjusted for factors such as days in a month, the headline monthly detail is not adjusted for broad seasonality patterns, such as retailers stocking for the holiday shopping season. Accordingly, ShadowStats plots the series using a trailing twelve-month average, which tends to neutralize regular seasonal patterns over the period of a year, along with the unadjusted monthly detail plotted in the background. ShadowStats also re-indexed the series to January 2000 = 100, consistent with other graphs used here. The headline Cass Index plot is based on January 1990 = 100. The plot of the trailing twelve-month average of the freight index shows that it hit a near-term peak in February 2015, consistent with the onset of a "new recession" in December 2014, slowing since, through September 2016, then flattening out and turning back to the upside through March 2018, just broaching that February 2015 interim peak, still shy of its pre-recession peak (again, see *Graph OC-1*).

Another approach to assessing not-seasonally-adjusted monthly detail is to look at year-to-year change by individual month, as plotted in *Graph OC-3*. The unadjusted monthly detail had been in continual year-to-year decline since March of 2015, down at an intensified annual rate of 3.05% (-3.05%) in September 2016. It rallied to an annual gain of 2.66% in October 2016, but fell back into year-to-year contraction of 0.05% (-0.05%) in November 2016, coming back to the plus-side by 3.46% in December 2016. Annual growth fluctuated thereafter in direction until rebounding to 6.26% in November 2017, 7.17% in December 2017, 12.54% in January 2018, with a notch backwards to 11.44% in February 2018 and a notch higher to 11.94% in March 2018.

Again, consider for comparison purposes *Graphs OC-1* and *OC-2* of freight and manufacturing activity, all smoothed with twelve-month moving averages and the comparative *Graphs OC-3* and *OC-4* of the monthly, not-smoothed, year-to-year changes in freight and manufacturing. With the headline, smoothed freight numbers through March 2018 down by 7.4% (-7.4%) versus the December 2007 pre-recession high, which on a quarterly basis for first-quarter 2018 was down by 8.1% (-8.1%) from its Fourth-quarter 2007 peak. Again, that is the growth deficit that still has to be overcome, ten-plus years after the fact, before formal economic "Expansion" in freight activity begins again.

In parallel, seasonally-adjusted March 2018 Manufacturing was down by 5.4% (-5.4%) from its December 2017 pre-recession peak; seasonally-adjusted First-Quarter 2018 Manufacturing was down by 5.6% (-5.6%) from its Fourth-Quarter 2007 peak. Discussed earlier in the *Opening Comments*, in happy, ever-incredulous conflict, headline fourth-quarter 2017 real GDP detail was up by 15.3%, over the same period, against its fourth-quarter 2007 pre-recession peak. If consensus expectations for 2.0% annualized real growth are met in the initial First-Quarter 2018 GDP estimate on April 27th, the GDP's headline real expansion would jump to 15.7%.

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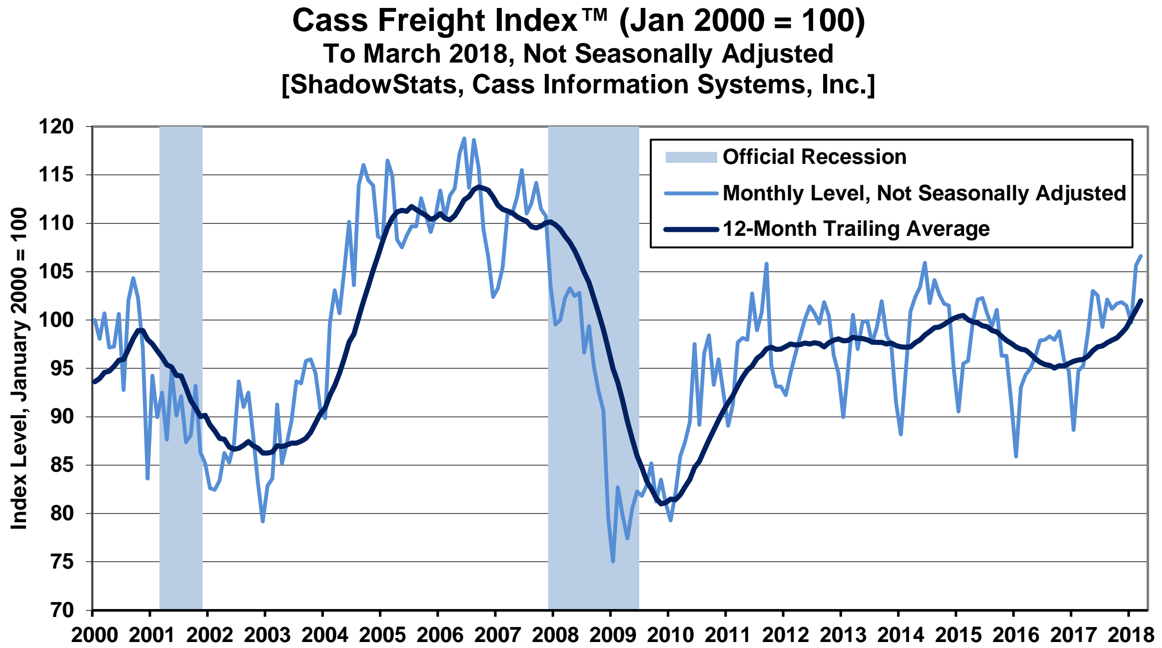
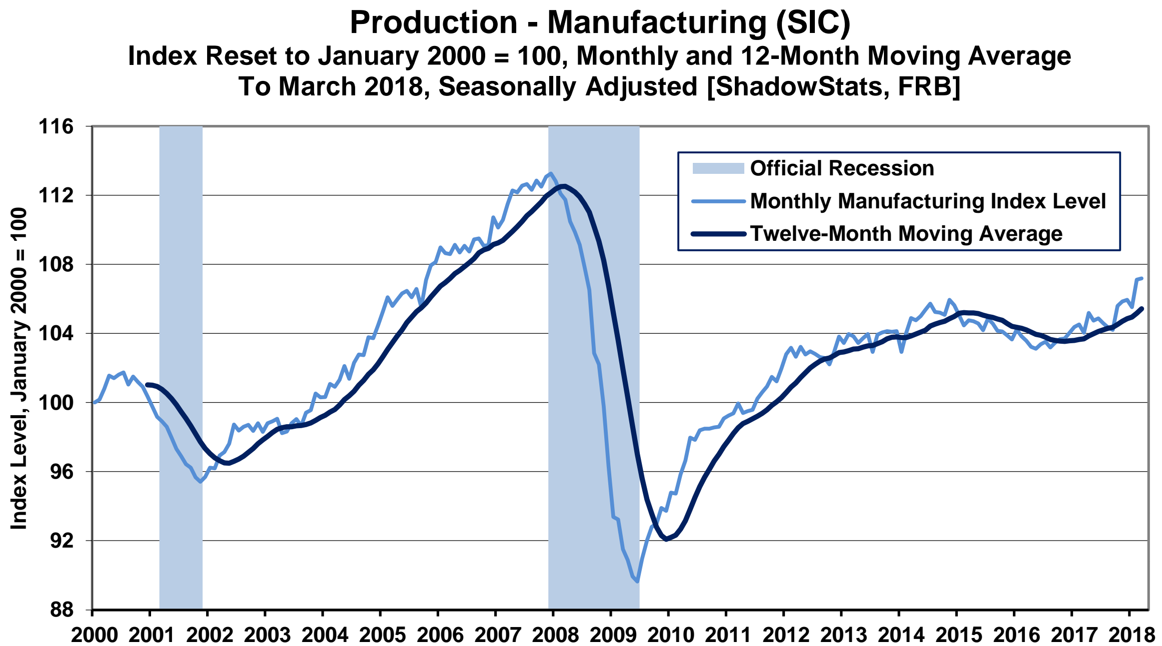
Graph OC-1: CASS Freight Index ™ Moving-Average Level (2000 to March 2018)



Graph OC-2: Industrial Production-Manufacturing, 12-Month Moving-Average Level (2000 to March 2018)



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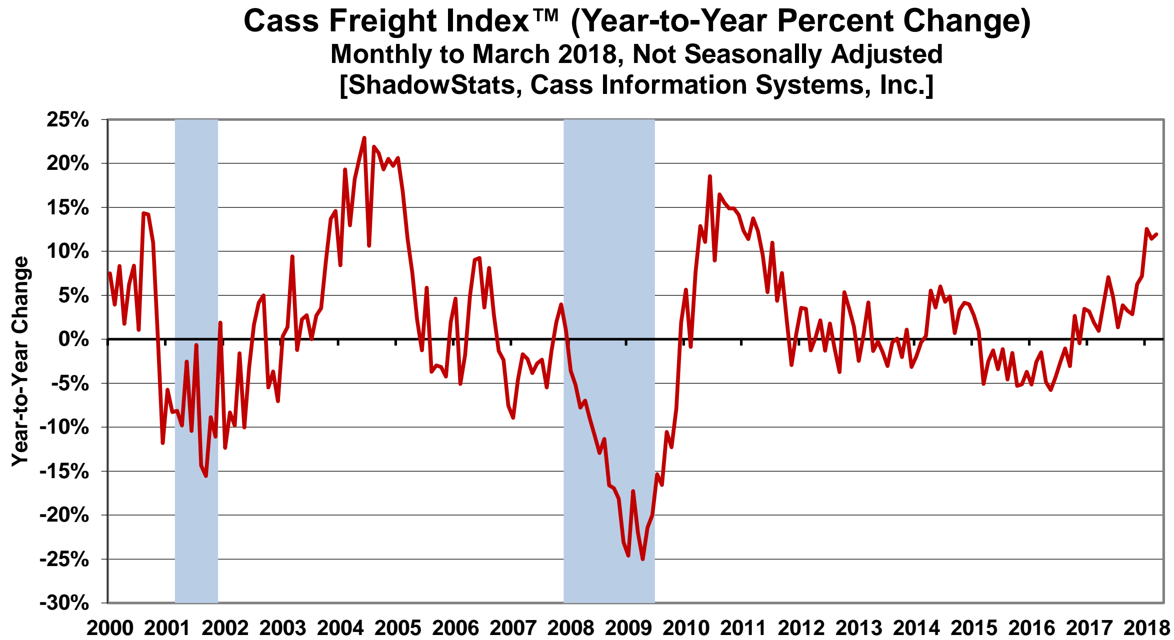
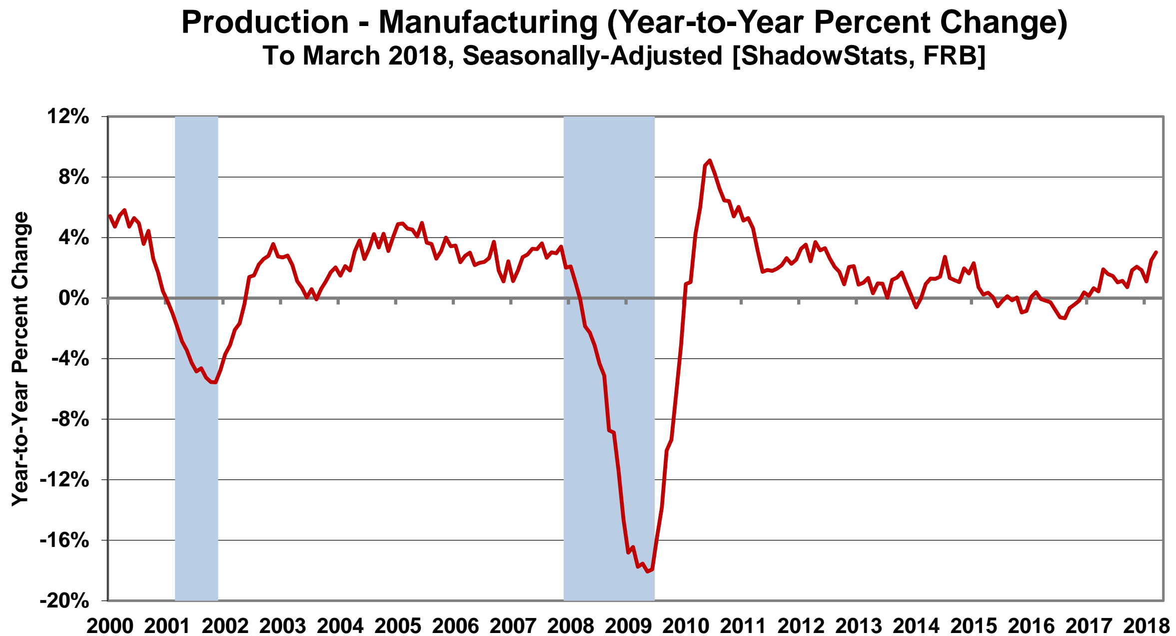
Graph OC-3: CASS Freight Index, Monthly Year-to-Year Percent Change (2000 to March 2018)



Graph OC-4: Manufacturing, Year-to-Year Percent Change (2000 to March 2018)
(Same as Graph 25 in the Reporting Detail)



In combination, *Graphs OC-1* to *OC-4* remain consistent with a pattern of collapsing economic and business activity into 2009, low-level, non-recovering stagnation thereafter and a renewed downturn effectively coincident with a "new" recession, which, again, likely will be timed from December 2014,

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whether or not it has bottomed. There was nothing in recently-published benchmark revisions to the manufacturing-sector in industrial production that alters that story, other than perhaps to intensify it (again, see *Commentary No. 942-B* and today's *Reporting Detail*).

EXECUTIVE SUMMARY: Retail Sales (Nominal and Real)—March 2018—Real First-Quarter Sales Contracted at Pace Not Seen Since the Depths of the Great Recession. Inflation-adjusted real Retail Sales gained 0.62% month-to-month in March 2018, on top of now-deeper monthly contractions in real January and February activity. As a result, real First-Quarter 2018 Retail Sales fell at an annualized quarterly pace of 2.61% (-2.61%), the deepest quarterly downturn since a drop of 5.80% (-5.80%) in first-quarter 2009, at the depths of the Great Recession. Annual real growth also dropped sharply below 2%, to 1.83% in first-quarter 2018, generating a revised recession-warning signal.

While the contraction in quarterly real growth reflected an easing from fourth-quarter 2017 natural-disaster-recovery boosts, discussed regularly here, the slowing of first-quarter 2018 annual real growth to 1.83%—deep into recession-signal territory—versus 2.50% in first-quarter 2017 was based solely on the relatively merits of first-quarter 2018 activity, which likely still was spiked by some lingering disaster-recovery effects. The comparison with year-ago annual growth bypasses the comparative issues with the latter-2017 disaster distortions.

Nominal March Sales Rose in the Month, Reflecting Some from Gains from Downside Revisions and Shifted Seasonal Adjustments. Headline, nominal March 2018 Retail Sales rose by a headline 0.6% in the month, following downside revisions to already-contracting February and January monthly activity. About half the monthly March gain reflected a combination of the downside prior-period revision plus a relative monthly boost from inconsistently-applied, seasonal-adjustment calculations affecting headline March and February details.

Month-to-month, March 2018 nominal Retail Sales rose by 0.56%, at the second decimal point, versus revised contractions of 0.08% (-0.08%) in February and 1.51% (-1.51%) in January, and an unrevised decline of 0.05% (-0.05%) in December. Seasonally-adjusted annual growth in the nominal series was 4.49% in March 2018, 4.07% in February 2018, 3.83% in January 2018 and 5.11% in December 2017.

Adjusted for inflation, with May 2018 CPI-U declining by 0.06% (-0.06%), real monthly sales rose by 0.62%, versus revised contractions of 0.23% (-0.23%) in February, 0.69% (-0.69%) in January, and an unrevised decline of 0.25% (-0.25%) in December. Seasonally-adjusted real annual growth was 2.08% in March 2018, 1.77% in February 2018, 1.65% in January 2018 and 2.94% in December 2017.

After several months of post-hurricane-spiked sales boosts from replacement and repair activity in late 2017 and some later revisions, February 2018 nominal retail sales had declined month-to-month for the third consecutive month. What now has become clear in these inflation-adjusted sales data is that what had been hyped initially as a booming 2017 Holiday Shopping Season was in fact a bust.

Real Retail Sales Graphs, Corrected and Otherwise. In the *Reporting Detail*, *Graphs 13* and *15* show the level of real retail sales activity (deflated by the CPI-U), while *Graphs 14* and *16* show year-to-year percent change. The apparent "recovery" and subsequent "expansion" of headline real retail sales shown in the following *Graph 1* (see *Graph 13* in the *Reporting Detail*) generally continued into late-2014.

Although headline reporting turned down in December 2014, into first-quarter 2015, it turned higher into the third-quarter 2015, slowed to a near-standstill in fourth-quarter 2015 and contracted in first-quarter 2016, with an uptick in second-quarter 2016, renewed slippage into third-quarter 2016, then an uptick in fourth-quarter 2016 and ongoing upturn into 2017. A post-hurricane-induced or related surge of activity followed in September through November, where it peaked. Real sales declined in December 2017 and dropped at an accelerating pace in January 2018, declining again in February. Although real monthly sales gained in March 2018, that activity remained below the level of monthly real sales seen in each of the months of October, November and December 2017.

Nonetheless, headline real growth in retail sales continues to be overstated heavily, due to the understatement of CPI-U inflation used in deflating the retail sales series. Discussed more fully in *Chapter 9* of *2014 Hyperinflation Report—Great Economic Tumble – Second Installment* and *Public Commentary on Inflation Measurement*, deflation by too-low an inflation number (such as the CPI-U used here) results in the deflated series overstating inflation-adjusted economic growth.

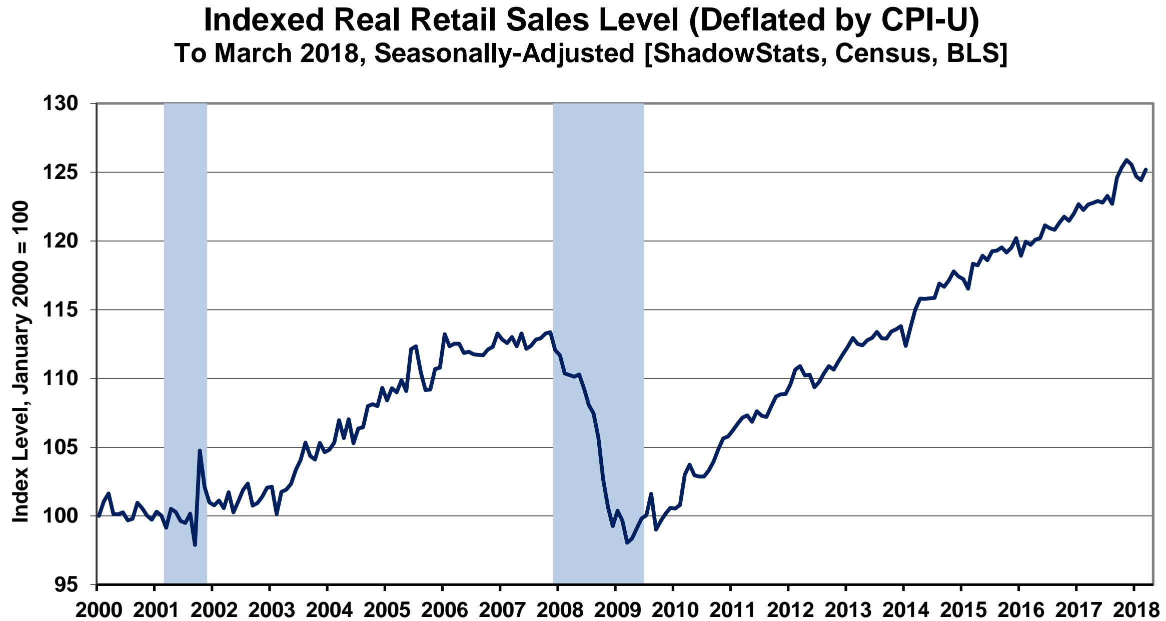
Both of the accompanying graphs are indexed to January 2000 = 100.0 to maintain consistency in the series of graphs related to corrected inflation-adjustment. Parallel, regular plots of the ShadowStats "corrected" Industrial Production Index are found in the next subsection (see *Graphs 3* and *4*) and in *Commentary No. 942-B* and *Commentary No. 943* for graphs of "corrected" New Orders for Durable Goods and the "corrected" GDP.

The first graph here reflects the official Real Retail Sales series, except that it is indexed, instead of being expressed in dollars. The plotted patterns of activity and rates of growth are exactly the same for the official series, whether the series is indexed or expressed in dollars, again, as is evident in a comparison of *Graph 1* with *Graph 13* in the *Retail Sales—Nominal and Real* in the *Reporting Detail* section.

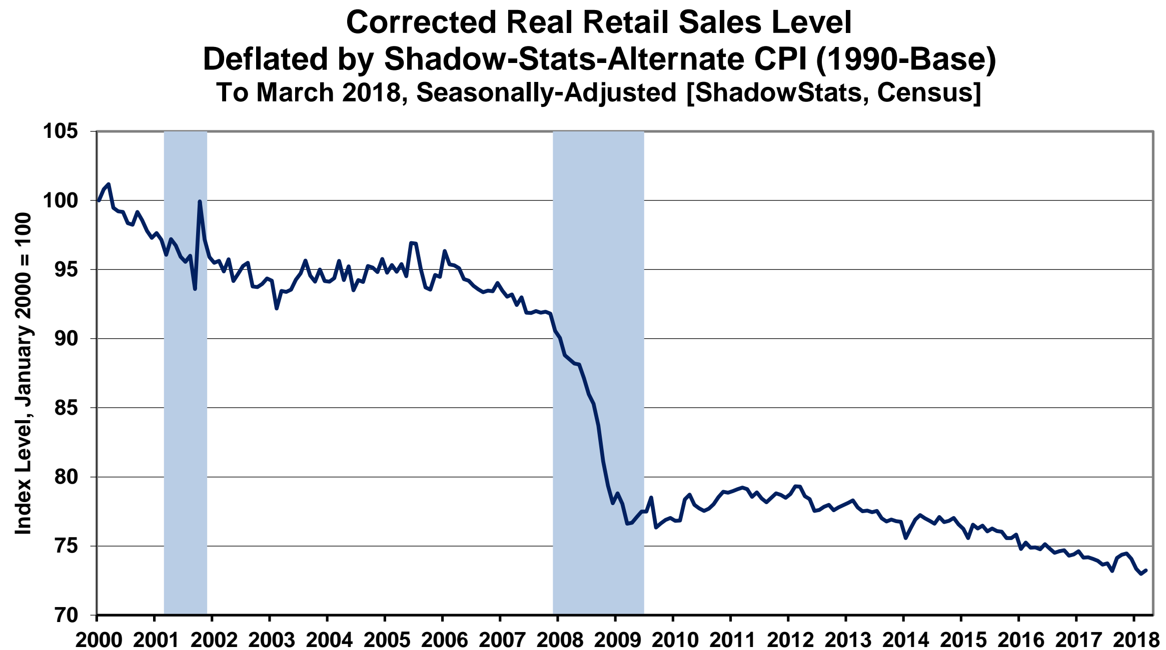
Instead of being deflated by the CPI-U, the "corrected" Real Retail Sales numbers—in *Graph 2*—use the ShadowStats-Alternate Inflation Measure (1990-Base) for deflation. With the higher inflation of the ShadowStats measure, the revamped numbers show a pattern of plunge and stagnation and renewed downturn. That pattern generally is more consistent with consumer indicators such as Real Average Weekly Earnings (see *Graph CLW-7* in the *Consumer Liquidity Watch*) and faltering consumer liquidity conditions (again, see the *Consumer Liquidity Watch*) than is seen with headline Real Retail Sales detail. Extended coverage of March Retail Sales is found in the *Reporting Detail*.

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

Graph 1: Headline Real Retail Sales Level, Indexed to January 2000 = 100



Graph 2: "Corrected" Real Retail Sales Level, Indexed to January 2000 = 100



Note: More-extensive analysis and graphs of Retail Sales follows in the *Reporting Detail.*

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Industrial Production—March 2018—Boosted by Oil Production and Weather-Driven Utilities, Production Jumped 0.5%; Stagnant Manufacturing Completed 123 Months of Non-Expansion. In a month where headline growth was dominated by a winter-weather-driven utility surge, first-quarter 2018 activity in aggregate Industrial Production minimally regained its fourth-quarter 2014 post-recession peak, for the second time, having just lost that level in the March 23rd annal benchmark revisions.

That benchmarking sharply reduced the historical growth rates and activity levels of headline Industrial Production and its dominant Manufacturing sector, much as ShadowStats had anticipated. The revisions are detailed in *Commentary No. 942-B* and discussed in the *Reporting Detail*. First-quarter 2018 Manufacturing now is shy by 5.6% (-5.6%) of recovering its fourth-quarter 2007 pre-recession peak, having completed an unprecedented 123 months, or 41 quarters, of economic non-expansion.

Monthly and Annual Activity. In the context, again, of the March 23rd publication of downside annual benchmark revisions through February 2018, headline March 2018 production (published April 17th) rose by 0.51% month-to-month, following a downwardly-revised gain of 1.00% in February and a narrowed contraction of 0.20% (-0.20%) in January.

Net of prior-period revisions (again, all post-benchmarking), March 2018 industrial production gained 0.62%, instead of the headline 0.51%. Year-to-year, March 2018 industrial production gained 4.33%, versus 4.37% in February 2018 and 2.95% in January 2018.

Growth by Major Sector. Detailed by major industry group, the March 2018 aggregate industrial production monthly gain of 0.51% reflected monthly gains of 0.07% in the dominant Manufacturing Sector, 1.01% in the Mining Sector (including oil and gas production) and a weather-induced gain of 3.02% in Utilities. The bad-winter-weather spike to Utilities dominated the otherwise soft monthly growth.

For the same sectors, the March 2018 year-to-year aggregate industrial production gain of 4.33% encompassed annual gains of 3.03% in the dominant Manufacturing Sector, 10.82% in Mining (including oil and gas production) and 5.34% in Utilities.

Production Activity and Graphs—Corrected and Otherwise. Reflecting the broadly-negative, March 23rd annual benchmark revisions to Industrial Production (again, see extended detail and graphs in *Commentary No. 942-B*), and the subsequent, regular monthly reporting on April 17th for March 2018 production, index-level and annual-growth production details are found in and plotted in the *Reporting Detail* (*Graphs 20* to *23*), along with the drill-down graphs of major subcomponents of the production series (*Graphs 24* to *37*).

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 into second-quarter 2016, 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. Looking at the accompanying post-benchmarking *Graph 3*, and the longer-term *Graphs 20* and *21* in the reporting detail, it looks like there is a missing recession call beginning at the end of 2014.

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With the reporting of quarterly details in 2017 and first-quarter 2018, production showed both annual and quarterly gains, except for a hurricane-disrupted quarterly contraction in the third-quarter. 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.

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 reporting recovered the monthly pre-recession high, for a second time, with a reset to December 2017, in the context of the recent benchmark revisions. Given that benchmarking and subsequent headline March 2018 detail, fourth-quarter 2017 Industrial Production now has regained the fourth-quarter 2007 pre-recession peak for a third time, up by 1.26%. With first-quarter 2018, it regained the fourth-quarter 2014 recovery peak for second time, having lost that status in the benchmarking. It regained that peak with the March 2018 detail, but only by 0.12%.

The following *Graphs 3* and *4* address reporting-quality issues tied just to the overstatement of headline growth in the total Industrial Production 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 3 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 *Graphs 1* and *2* in the prior subsection), and covered and in *Commentary No. 942-B* and *Commentary No. 943* for graphs of "corrected" real New Orders for Durable Goods and the "corrected" real GDP. The indexing does not affect the appearance of the graph or reported growth rates (as can be seen with a comparison of *Graph 3* here to *Graph 22* in the *Reporting Detail* section.

Graph 4 is a recast version of *Graph 3*, 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 4* 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 *Special Commentary No. 935*). Unlike the headline Industrial Production data and the headline GDP numbers, corrected Industrial 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 in last month's benchmarking, only to recovery the 2014 highs again with the headline March 2018 detail. That said, the dominant manufacturing sector of industrial production never has recovered its December 2007 pre-recession peak, a record period of 10-plus years of economic non-expansion in the 100-year history of the Industrial Production series.

As of March 2018, the now 123 straight months of economic non-expansion, indeed remains unprecedented in its duration within the 100-year history of the Industrial Production series. While fourth-quarter 2017 real GDP reporting showed that series to have expanded by 15.3% above its pre-

recession peak, the dominant manufacturing sector of industrial product still held shy of shy of recovering its pre-recession high by 5.6% (-5.6%) as of first-quarter 2018.

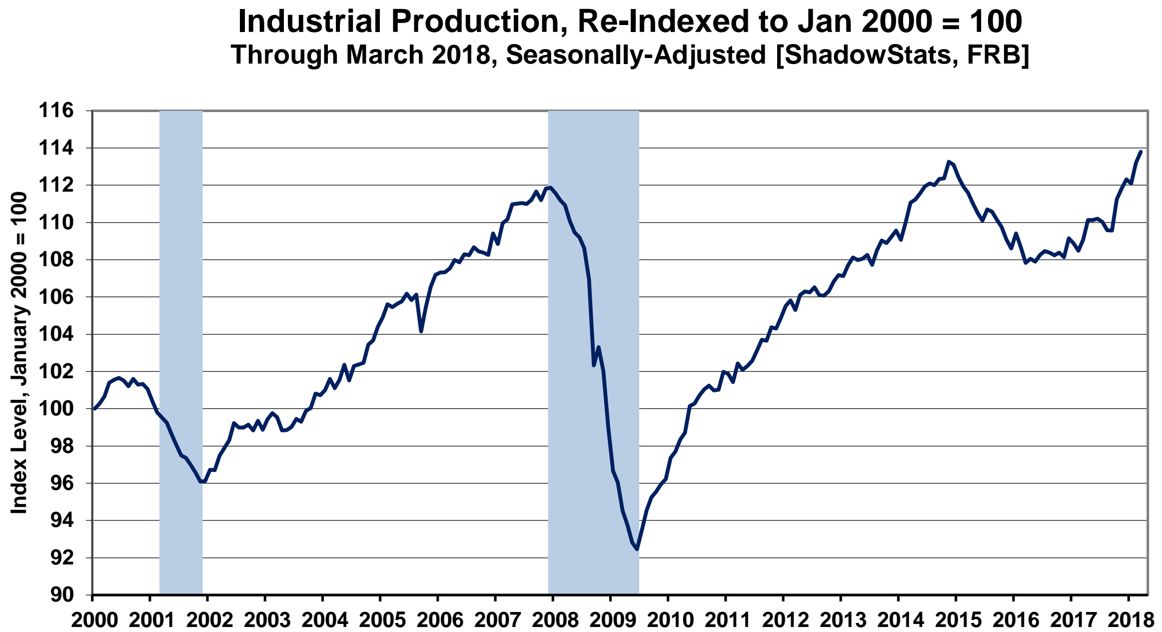
Instead, the "corrected" production series here entered a period of protracted low-level, but up-trending, stagnation in 2010, with irregular quarterly contractions seen through 2013, an irregular uptrend into 2014, a topping-out in late-2014, generally turning lower through fourth-quarter 2016 and into 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 March 2018. Increasingly post-disaster recovery boosts have been working out of the system with later data and the benchmark revisions.

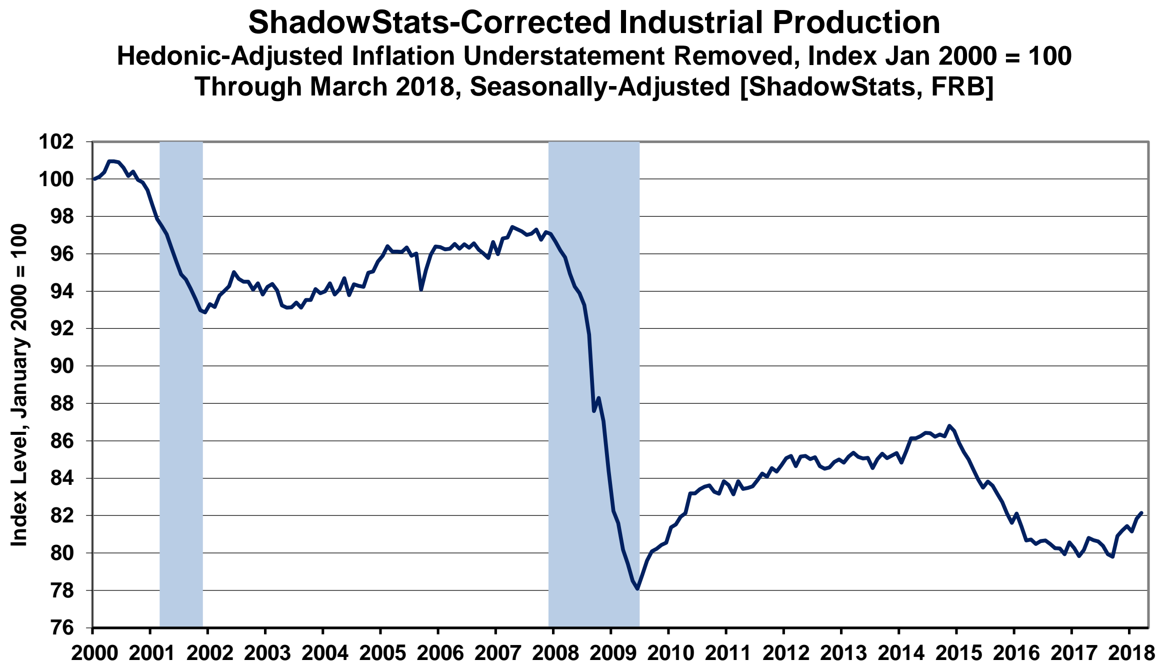
On a corrected basis, headline First-Quarter 2018 Industrial Production remained shy of recovering its pre-recession peak by 15.8% (-15.8%), ironically about a direct opposite of the headline "recovery" currently in play for the GDP. Let's see where that GDP number stands post 2018 benchmarking.

[Graphs 3 and 4 follow on the next page.]

Graph 3: Indexed Headline Level of Industrial Production (Jan 2000 = 100)



Graph 4: 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)—March 2018—Starts and Permits Still Shy by 42.0% (-42.0%) and 40.2% (-40.2%) of Recovering Pre-Recession Peaks. In the context of continuing nonsense monthly volatility, the headline reporting-quality of this series remains as bad as it gets, with none of the headline monthly or annual changes in March 2018 Housing Starts or its major components statistically-significant at the 95% confidence level. Where that is the usual monthly experience, pending changes to reporting methodology may improve the data quality as discussed in the *Reporting Detail*.

The always-unstable and highly-volatile reporting in aggregate Housing Starts has been exacerbated in recent headline activity by hurricane-recovery effects. Those distortions most likely largely have worked out of the system, despite ongoing data gyrations, although recovery from the late-2017 California wildfires still could be kicking in.

That said, headline aggregate Housing Starts rose month-to-month by 1.9% in March 2018, on top of upwardly-revised aggregate February numbers. February detail now shows a revised monthly decline of 3.3% (-3.3%) [previously down by 7.0% (-7.0%)]. Though without much meaning, the gain 1.9% gain in Housing Starts encompassed a monthly drop in Single-Unit starts (one-unit structures) of 3.7% (-3.7%) and a statistically-insignificant gain of 14.4% in the multiple-unit structures category (two-units-or-more, including the five-units-or-more category). By itself, the headline five-units-or-more category gained 16.1% in the month.

With the headline March reporting, the six-month smoothed trends are now relatively flat to uptrending, across-the-board for the housing starts and building permits. Nonetheless, those still-broadly stagnant New Construction activity series, showed headline March 2018 Building Permits activity down by 40.2% (-40.2%) from recovering its pre-recession peak (see *Graphs 38* and *39* in the *Reporting Detail*). Aggregate Housing Starts activity (see *Graphs 7* and *8*) is down similarly by 42.0% (-42.0%), with Single-Unit Starts (*Graphs 9* and *10*) down by 47.6% (-47.6%).

Multiple-Unit Starts (*Graphs 11* and *12*) had fallen back sharply, after first having recovered its 2005 pre-recession peak in early-2015. A temporary jump in January 2018 monthly activity wiped out virtually all of the most-recent deficit. That fell off sharply with initial reporting of the February 2018, which reversed again, on the upside, with the level of March 2018 total multiple-unit starts now 0.4% above its pre-recession peak.

These headline numbers are reflected in accompanying *Graphs 5* to *12* and are reviewed in the *Reporting Detail.* Broadly, the various 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 1,319,000 in March 2018, versus a revised 1,295,000 [previously 1,236,000] in February 2018. The scaling used in the aggregate housing starts and building permits *Graphs 38* to *43* 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.

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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 109,917 units in March 2018, instead of the annualized headline level of 1,319,000 units, is used in the scaling (monthly units in thousands) of accompanying *Graphs 5* to *12*. 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 7* versus *Graph 39* 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 March 2018 headline monthly number was up by 175%, but it still was down by 42% (-42%) 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 42* and *43* at the end of the *Reporting Detail*. In fact, as can be seen there in *Graph 43*, 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 5 to 12 begin on the next page.]

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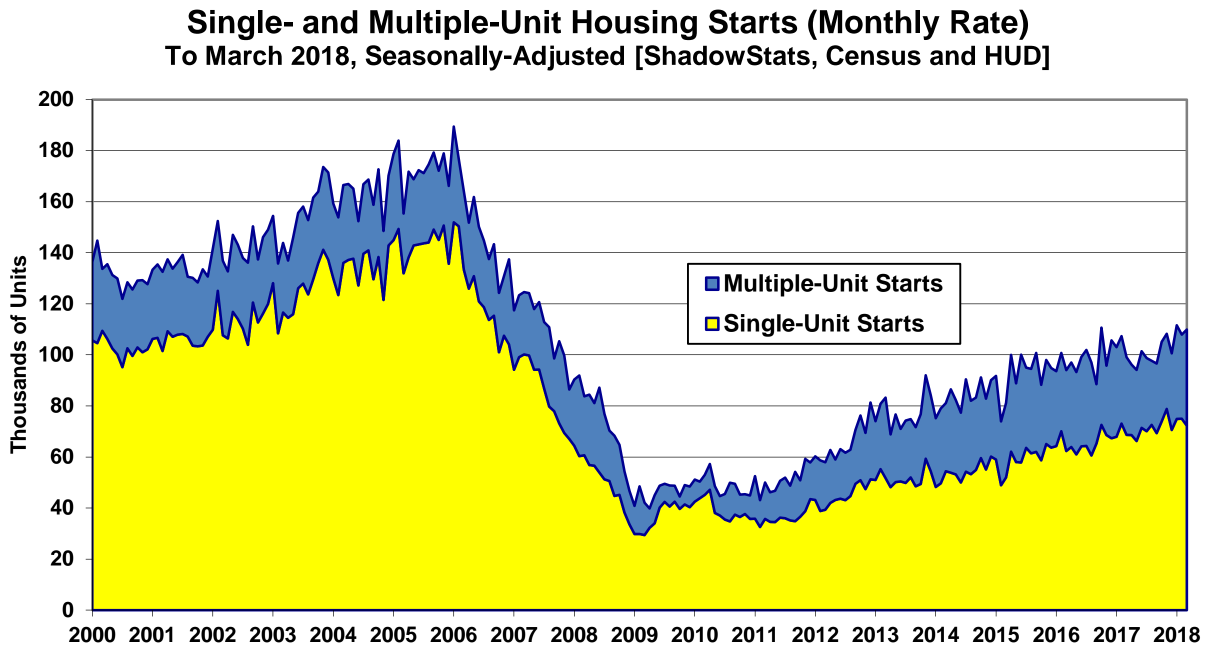
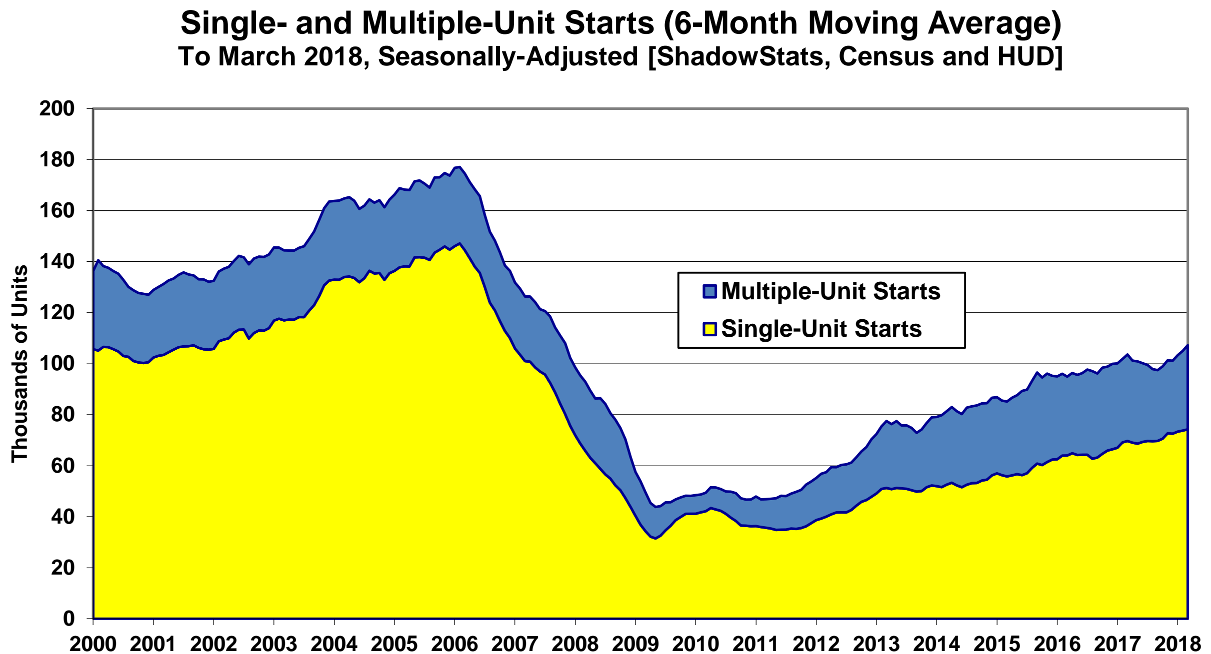
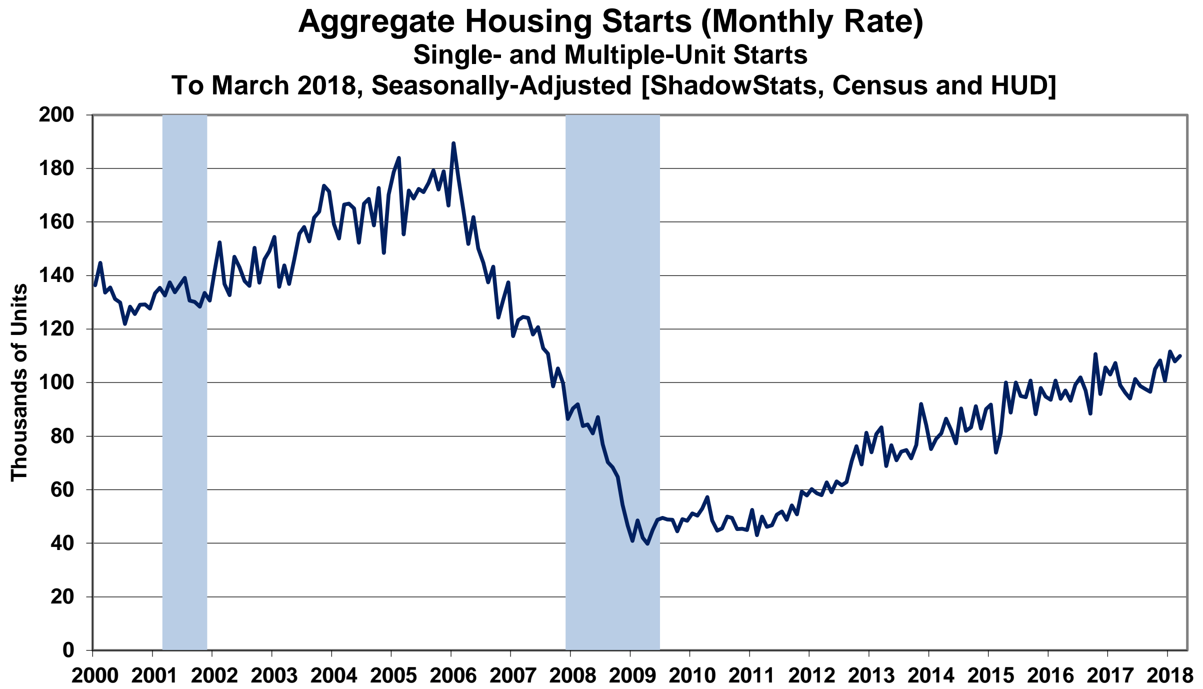
Graph 5: Single- and Multiple-Unit Housing Starts (Monthly Rate of Activity)



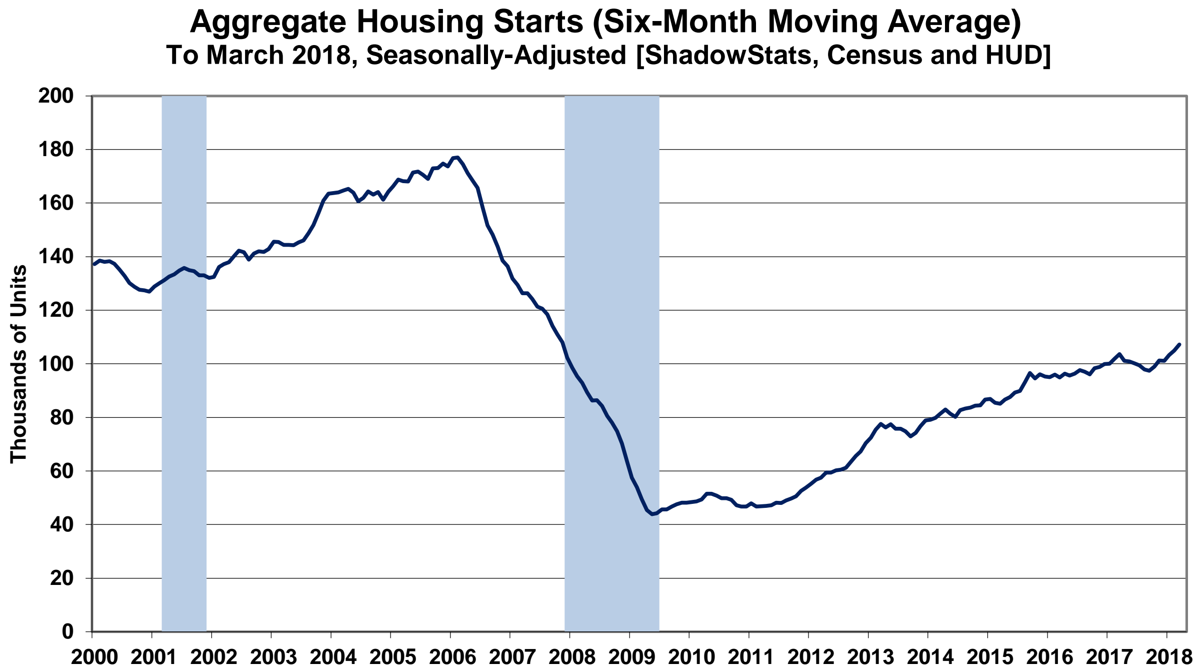
Graph 6: Single- and Multiple-Unit Starts (Six-Month Moving Average, Monthly Rate of Activity)



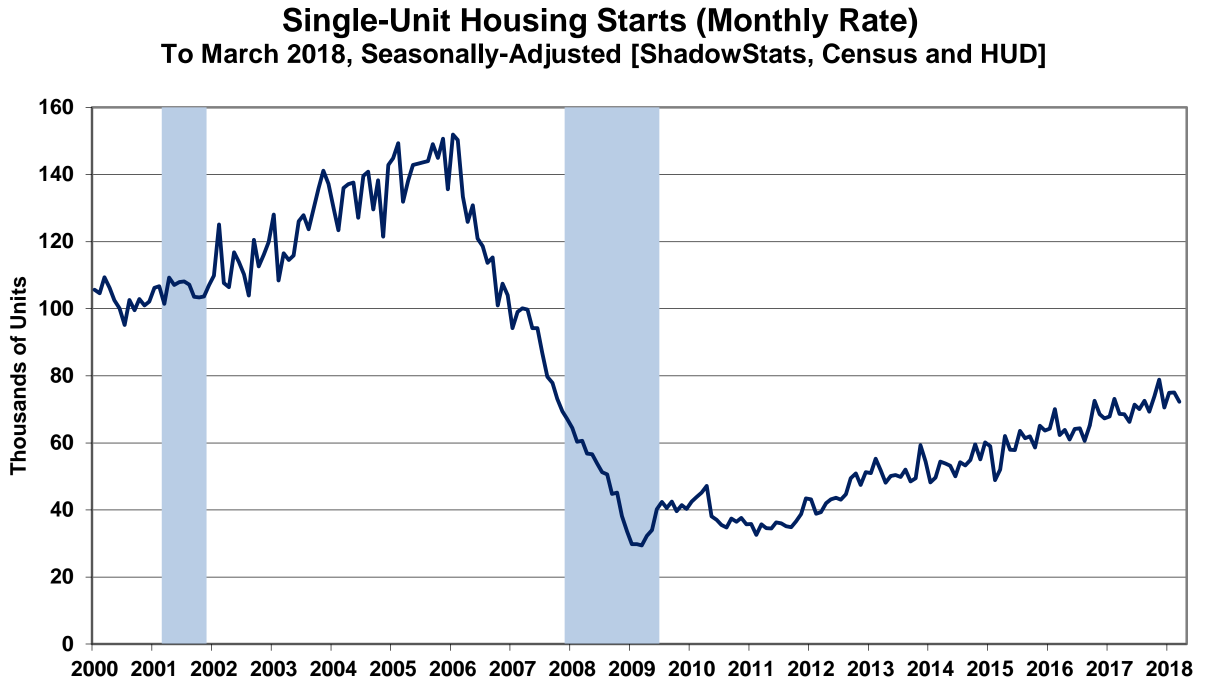
Graph 7: Aggregate Housing Starts (Monthly Rate of Activity)



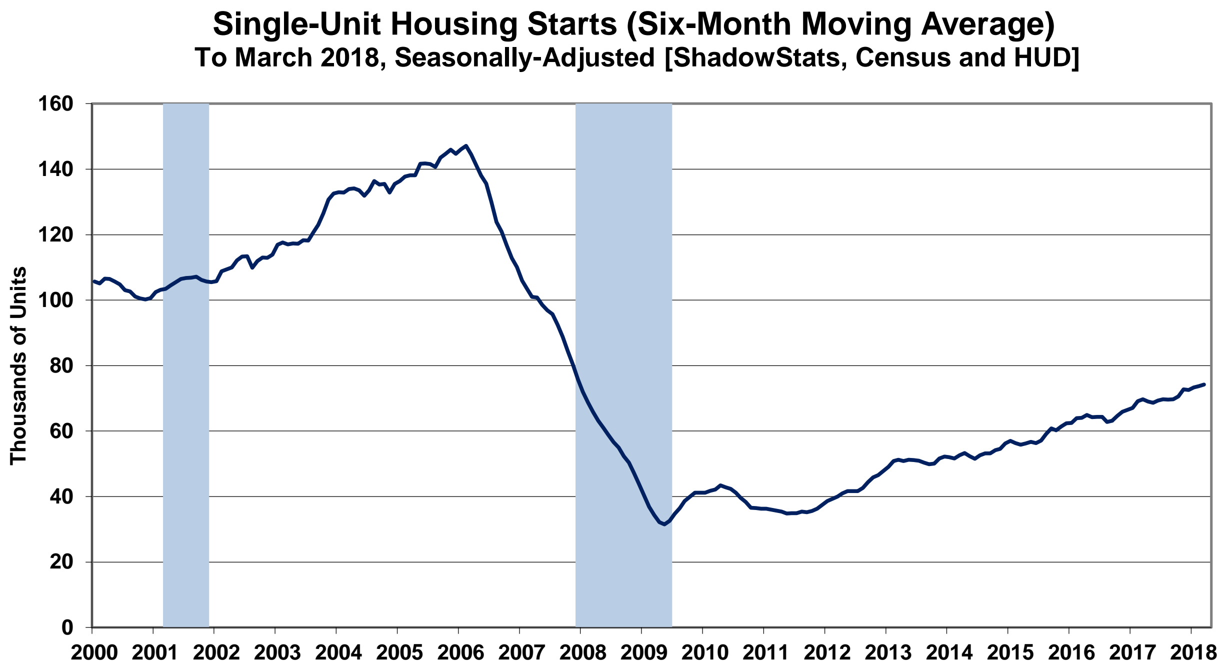
Graph 8: Aggregate Housing Starts (Six-Month Moving Average, Monthly Rate of Activity)



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



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



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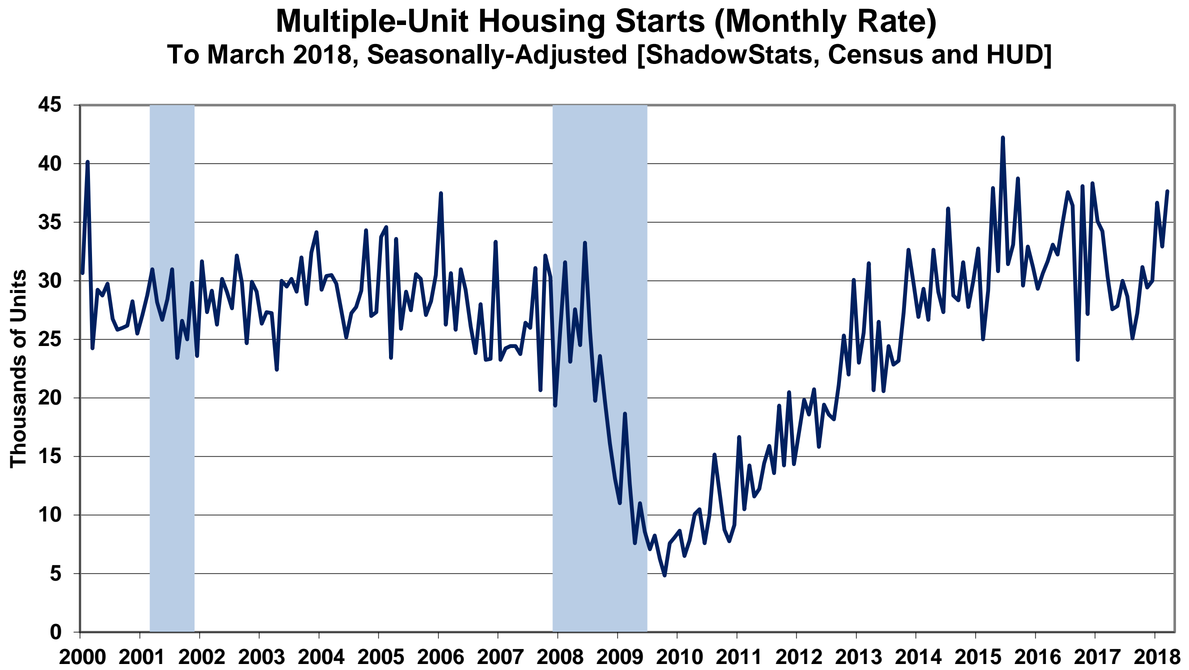
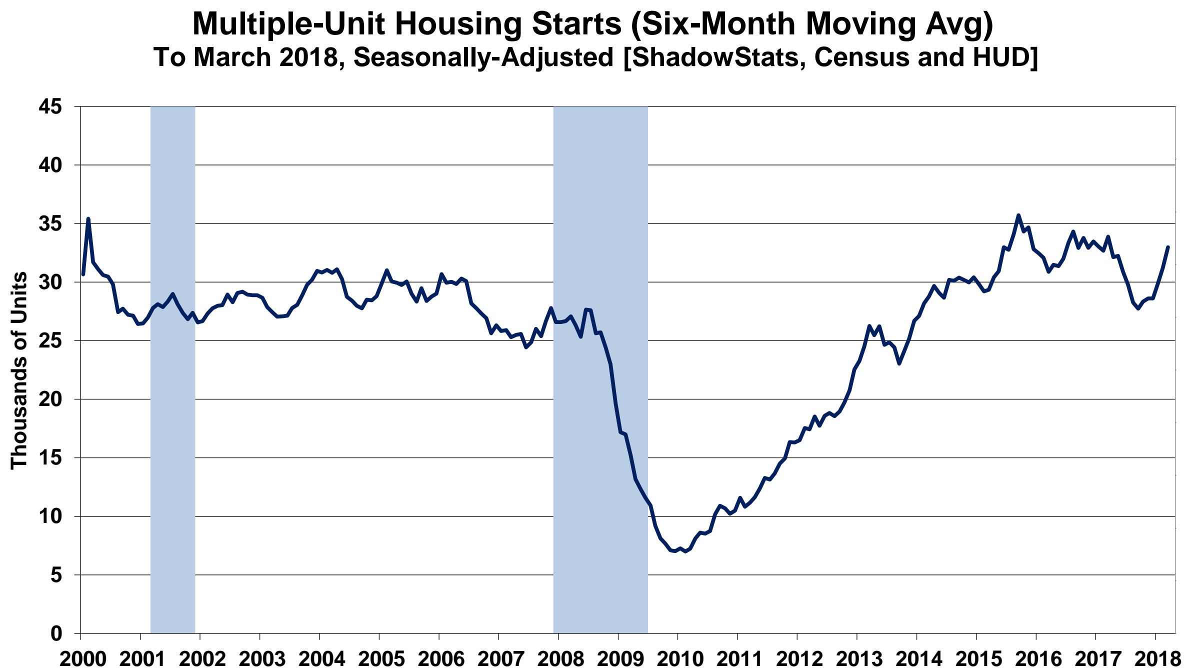
Graph 11: Multiple-Unit Housing Starts (Monthly Rate of Activity)



Graph 12: Multiple-Unit Housing Starts (Six-Month Moving Average, Monthly Rate of Activity)



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

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REPORTING DETAIL

RETAIL SALES—Nominal and Real (March 2018)

First-Quarter Real Retail Sales in Sharpest Quarterly Contraction Since the Depths of the 2007 Recession, with a Meaningful Recession Signal Generated by Slowing Real Year-to-Year Growth. Headline March 2018 Retail Sales rose month-to-month by 0.6% (0.56% at the second decimal point), which beat out consensus expectations for a gain of 0.3%, but that headline detail was net of downside revisions to February and January 2018 activity. It also was in the context of inconsistently recast seasonal-factor adjustments for March and February 2017, which implicitly boosted relative month-to-month nominal growth for March 2018 by 0.18%. Net of revisions, that 0.6% headline monthly gain was 0.5% (0.52%), and net of the revisions and the adjustment gimmicks it was a gain of 0.3% (0.34%).

Separately, due to unusually distorted CPI-U seasonal adjustments in March 2018 gasoline prices (see the *Seasonal-Factor Inconsistencies* section and *Commentary No. 945*), headline inflation contracted by 0.06% (-0.06%) month-to-month, which boosted the headline, real monthly gain in March sales to 0.62%.

Inflation-Adjusted Series Showed a Severe Quarterly Contraction, and a Deepening Recession Signal, Even Allowing for Relative Boosts to Fourth-Quarter Activity from Natural-Disaster Recovery. As reported by the Saint Louis Federal Reserve in its regular deflation of nominal retail sales using the CPI-U (*Commentary No. 945*), the headline, inflation-adjusted or real First-Quarter 2018 Retail Sales contracted at an annualized quarterly pace of 2.61% (-2.61%). That was the deepest quarterly downturn since the depths of the Great Recession, when first-quarter 2009 real retail sales contracted at an annualized pace of 5.80% (-5.80%). Separately, first-quarter 2018 real annual growth slowed sharply to 1.83% from 3.17% in fourth-quarter 2017, triggering a recession warning.

The contraction in quarter-to-quarter real growth at least partially reflected a sharp easing from fourth-quarter natural-disaster-recovery boosts, discussed regularly here. Ignoring the disaster-boosted annual real growth in fourth-quarter 2017, for the moment, the slowing of annual first-quarter 2018 real growth to 1.83%, deep into recession signal territory, from 2.50% in the disaster-free first-quarter 2017, was based solely on the relative merits of first-quarter 2018 activity. Even so, first-quarter 2018 retail sales activity likely included some lingering spike from disaster-recovery effects.

Irrespective of traditional Holiday Season shopping patterns, real retail sales peaked in November 2017, contracting month-to month in December, January and February, with a monthly jump in March. Despite the gain in March sales, the level of real sales activity in each of January, February and March 2018 held below the level of real retail sales in each of October November and December 2017.

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With no revisions this month to headline November or December 2017 retail sales, as noted with last month's (*Commentary No. 940*):

> "What now is clear in these data is that the [2017] Holiday Shopping Season boom was anything but. As discussed in the *Opening Comments*, the headline payroll jobs surge in January and February, which helped to generate such a strong February payroll survey, likely did not take place [indeed those jobs-gain aberrations largely disappeared with the March payroll survey and prior months' revisions (see *Commentary No. 944*)]."

Evolving patterns of real growth have left intact the indication of a November 2017 peak in real retail sales activity, again, boosted by the replacement and repair of hurricane destruction and disruption, discussed previously in *Commentary No. 936* and *Commentary No. 940*.

Seasonal-Factor Inconsistencies. As to the regular concurrent seasonal-adjustment instabilities (see *Headline Distortions from Shifting Concurrent-Seasonal Factors* in *Commentary No. 944*, *Supplemental Labor-Detail Background*), only the headline retail sales data for January 2018 to March 2018, and February to March 2017 were published on a consistent basis, using the concurrent seasonal factors based on March 2018. The new seasonal adjustments for the February and March 2018 data showed the impact of the new seasonals lowering sales estimates for a downside revision to February 2017 and an upside revision to March 2017, which, again, had the effect of boosting the headline, relative, seasonally-adjusted month-to-month growth for March 2018 by 0.18%.

Nominal Retail Sales—March 2018. The Census Bureau reported its "advance" estimate of March 2018 Retail Sales on Monday, April 16th. Headline nominal activity gained by 0.56% in March 2018, having declined month-to-month in the prior three months of reporting. Although consensus expectations had been disappointed in recent months, the headline March gain topped expectations for a 0.3% gain, again, in the context of negative prior-period revisions and the inconsistent uses of seasonal adjustments.

The headline, seasonally-adjusted March 2018 nominal monthly gain of 0.56% +/- 0.59% was just shy of being statistically-significant (all confidence intervals are expressed at the 95% level). The revised headline February 2018 decline of 0.08% (-0.08%) +/- 0.23% also was not statistically significant.

The March gain was on top of the revised monthly decline in February of 0.08% (-0.08%) [previously 0.07% (-0.07%)], following a revised decline of 0.15% (-0.15%) [previously 0.12% (-0.12%), initially down by 0.26% (-0.26%)] in January, which followed an unrevised contraction of 0.05% (-0.05%) in December. Net of the prior-month's revision, the March 2018 monthly sales gain was 0.52%.

Year-to-Year Annual Change. The March 2018 nominal year-to-year change in Retail Sales showed a statistically-significant increase of 4.49% +/- 0.82%, versus an upwardly revised 4.07% [previously 3.99%] in February. Again, keep in mind that the adjusted annual growth rates for March 2018 and February 2018 headline numbers were based on inconsistent, adjusted reporting versus January 2018. Revised annual growth in January 2018 was 3.83% [previously 3.86%, initially 3.65%] and an unrevised annual gain of 5.11% in December 2017.

March 2018 "Core" Retail Sales, Net of Food and Gasoline. In theory, the March 2018 environment should have been positive for grocery stores, with seasonally-adjusted food prices gaining 0.13%, but negative for gasoline stations, with seasonally-adjusted gasoline prices collapsing by 4.89% (-4.89%), per the Bureau of Labor Statistics (BLS). Yet, while adjusted retail sales grocery-store sales gained month-to-month by 0.18%, per the Census Bureau, seasonally-adjusted gasoline-station sales were down by only

0.33% (-0.33%), close to what people were paying at the pump, not-seasonally-adjusted, a decline of 0.24% (-0.24%), per the BLS, not down by anything close to the headline-adjusted 4.89% (-4.89%)

One has to wonder as to the nature and consistency of headline reporting and seasonal adjustments being used in these two series, combined by the Saint Louis Fed in its monthly calculations of Real Advance Retail Sales. If the adjusted gasoline pricing reflected the narrower decline in monthly March gasoline prices, the headline CPI-U would have gained 0.16% instead of dropping by 0.06% (-0.06%), with a parallel downside adjustment to the headline monthly gain in real retail sales.

That said, under normal conditions, the bulk of non-seasonal variability in fundamental food and gasoline sales is in pricing, instead of demand. Consistent with the Federal Reserve's historical preference for ignoring food and energy prices (as though people can live without consuming same), when "Core" inflation is lower than full inflation (at times when the Fed is looking to downplay inflation), "Core" retail sales are estimated using two approaches:

Version I: Nominal March versus February 2018 seasonally-adjusted retail sales series—net of total grocery store and gasoline-station sales—rose by 0.71%, versus the official headline aggregate sales gain of 0.62%.

Version II: Nominal March versus February 2018 seasonally-adjusted retail sales series—net of the monthly *change* in grocery store and gasoline-station revenues—rose by 0.60%, versus the official headline aggregate sales gain of 0.62%.

Real Retail Sales—March 2018—Minimized by an Inconsistent Monthly Decline in the CPI-U, Real Sales Gained by 0.62% with Annual Growth at 2.08%. The March 2018 Consumer Price Index showed the seasonally-adjusted CPI-U down month-to-month by 0.06% (-0.06%) in March 2018, versus gains of 0.15% in February, 0.54% in January 2018 and 0.20% in December 2017 (see the *Consumer Price Index* section of prior *Commentary No. 945* for detail). Some potential issues with adjusted-gasoline-price distortions are discussed in the prior *March 2018 "Core" Retail Sales, Net of Food and Gasoline* section.

Deflated by CPI-U, March 2018 Real Retail Sales gained by 0.62% month-to-month, following real monthly declines of 0.23% (-0.23%) in February, 0.69% (-0.69%) in January and 0.25% (-0.25%) in December. That headline real monthly gain in March 2018 Retail Sales at 0.62%, was a gain of 0.58% net of prior-period revisions. That gain would shrink to 0.40%, net of the shifting and inconsistent seasonal-factor adjustments.

In the context of year-ago revisions for March and February 2017, year-to-year real growth was 2.08% in March 2018, versus 1.77% in February 2018, 1.69% in January 2018 and 2.94% December 2017 and what had been a three-year high of 3.62% in November 2017. Accordingly, as discussed in *Commentary No. 936*, the upside boost to real retail sales activity from the late-2017 natural-disaster-recovery distortions appeared to have peaked in November 2017. The underlying ShadowStats outlook of non-recovering broad economic activity and renewed downturn has not changed, as discussed in today's *Opening Comments*.

Recession Signal Intensifies. During normal economic times, annual real growth in Retail Sales at or below 2.0% signals an imminent recession. That signal broadly had been in play since February 2015 (a "new" recession likely still will be timed from December 2014, based on industrial production, retail sales

and other indicators), suggesting a deepening, broad economic downturn. Disaster-recovery boosts since October 2017 had pushed that signal into abeyance, for a second time, but that abeyance ended with the initial January 2018 detail.

When that annual growth signal had moved higher, close to three-percent earlier in 2017, ShadowStats viewed the signal as in temporary abeyance. Post-2017 benchmarking (*Commentary No. 882* of April 27, 2017), however, annual growth rates shifted lower, towards two-percent, and then below, reviving the signal. In the context of volatile near-term revisions, 1.22% year-to-year real growth reported initially in August 2017 was the most-solid recession signal since the economy crashed anew into early-2015.

That August 2017 reading has revised to 1.56%, in the context October 2017 monthly retail sales revisions and the annual CPI-U revisions in January 2018. As a result, June 2017 stands now at the near-term low of 1.35%. In the context of the most-recent reporting and revisions, with March 2018 up by 2.08%, February 2018 at 1.77% and January 2018 at 1.65%, the more-significant real annual changes by quarter are as follows: 1q2018 = 1.83%, 4q2017 = 3.17% [disaster-recovery spiked], 3q2017 = 2.07%, 2q2017 = 1.95%, 1q2017 =2.50%. Real annual growth likely will revise lower, again, with the pending 2018 retail sales benchmarking of May 25th.

Importantly, the return of the largely post-disaster annual real quarterly growth to below 2.0% is a recession signal, where, if anything, the first-quarter's real annual growth still may be seeing lingering overstatement from the disaster-recovery boosts.

Annualized Real First-Quarter 2018 Contraction of 2.61% (-2.61%). Reflecting revisions, and inconsistent seasonal adjustments to retail sales, first-quarter 2017 annualized (with year-ago adjustment shifts) revised to 2.60 % [previously 2.66%, 2.68%, initially 1.89%], second-quarter 2017 revised to 1.00% [previously 0.94%, 0.92% and 1.68%], third-quarter 2017 was unrevised at 2.30%, with fourth-quarter 2017 unrevised at 6.88%.

Based on initial headline detail for first-quarter 2018, annualized real quarterly change was a contraction of 2.61% (-2.61%), the steepest quarterly drop since a drop of 5.80% (-5.80%) in first-quarter 2009, at the depths of the Great Recession. Previously, based on headline detail through February 2018, first-quarter 2018 activity had been on early track for an annualized contraction of 3.12% (-3.12%).

Structural Liquidity Issues Continue to Impair Retail Sales. An extreme consumer-liquidity bind increasingly constrains retail sales and other consumer activity (see particularly the earnings and consumer credit details in the *Consumer Liquidity Watch*, page 52). Without sustainable growth in, and with intensified patterns of consecutive quarterly contractions in real earnings, and without the ability and/or willingness to take on meaningful new credit in order to make up for the income shortfall, the U.S. consumer remains unable to sustain positive growth in domestic personal consumption, including retail sales, real or nominal. That circumstance—in the last ten-plus years of economic collapse and stagnation—has continued to prevent a normal recovery in broad, inflation-adjusted U.S. economic activity, 73.1% of which (fourth-quarter 2017 real GDP activity) is dependent on personal spending and residential real estate.

As headline consumer inflation continues its upside climb in the year ahead, and as overall headline Retail Sales continue to suffer from the ongoing consumer liquidity squeeze, real Retail Sales growth should continue trending meaningfully lower. That likely still will gain recognition as a formal "new" recession,

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another down-leg in the economic collapse that began in 2006, known formally as the 2007 recession or the Great Recession.

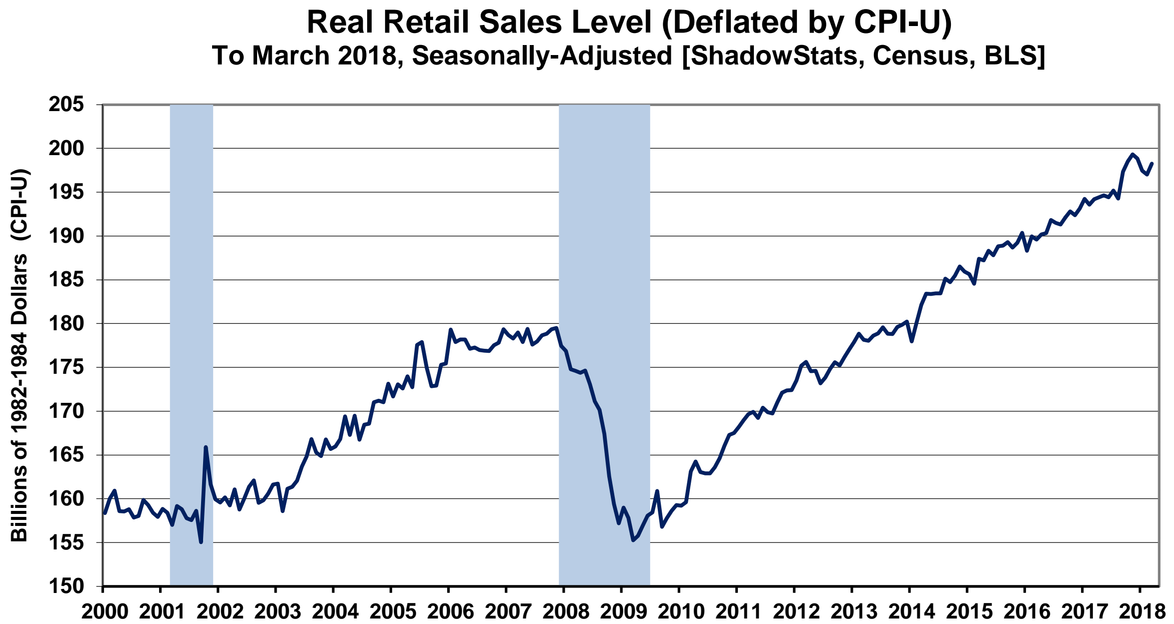
Real Retail Sales Graphs. The first of the four graphs following, *Graph 13* shows the level of real retail sales activity (deflated by the CPI-U) since 2000; *Graph 14* shows the year-to-year percent change for the same period. Annual real growth had slowed markedly into fourth-quarter 2015 and 2016, generating an intense recession signal. Again, with recent volatility, including natural-disaster-recovery activity and the near-term peak in annual real growth in November 2017, that recession signal had been put in temporary abeyance. Yet, with first-quarter 2018 real annual growth dropping to 1.8%, a solid recession signal has been restored. *Graphs 15* and *16* show the level of, and annual growth in, real retail sales (and its predecessor series) in full post-World War II detail.

The relative strength seen in the real retail series since the economic trough in 2009 largely has reflected the understatement of the rate of inflation used in deflating the series. Discussed more fully in *Chapter 9* of *2014 Hyperinflation Report—Great Economic Tumble – Second Installment*, deflation by too low an inflation number (such as the CPI-U) results in the deflated series overstating inflation-adjusted, real economic growth. Shown in the latest "corrected" real retail sales—*Graph 2* in the *Executive Summary* section—with the deflation rates corrected for the understated inflation reporting of the CPI-U, the recent pattern of real sales activity had turned increasingly negative, before the hurricane-related spikes of late-2017, and appears headed lower, once again, as the disaster distortions have waned. The corrected graph shows that the post-2009 period of protracted stagnation ended, and a period of renewed and ongoing contraction began in second-quarter 2012 and continues to date. The corrected real retail sales numbers use the ShadowStats-Alternate Inflation Measure (1990-Base) for deflation instead of the CPI-U (see *Commentary No. 945*).

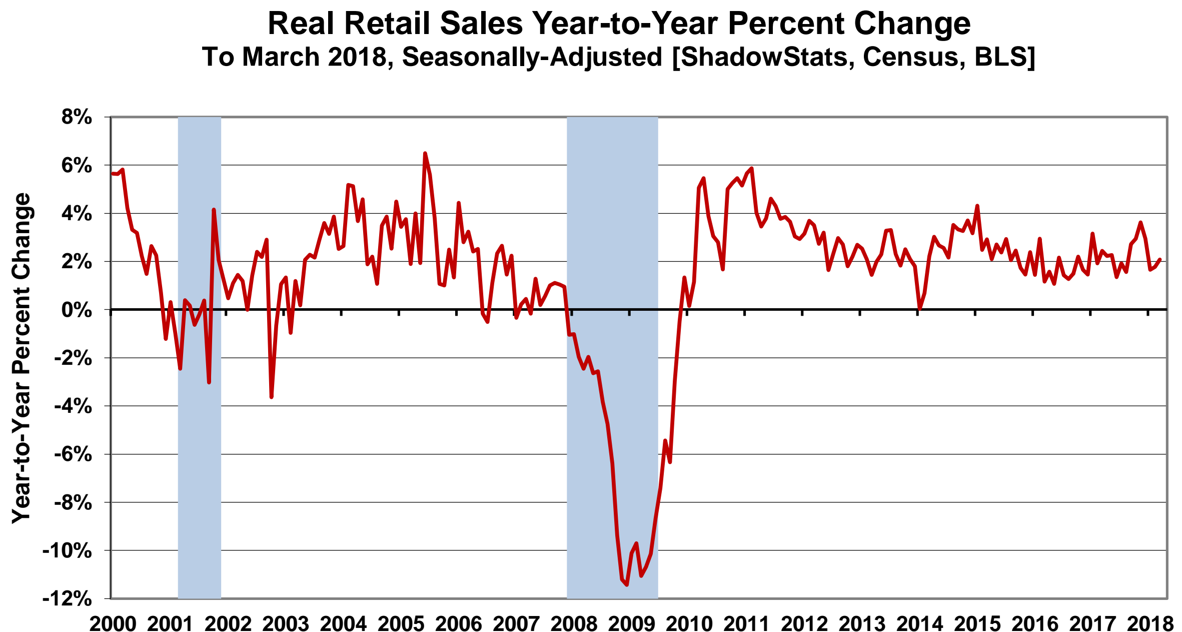
Annual Benchmark Revision Set for May 25th. Noted in its April 16th *Press Release*, the Census Bureau will publish its annual benchmarking to the Retail Sales series on May 25, 2018 "to reflect the introduction of a new sample, new seasonal factors, and the results of the 2016 Annual Retail Trade Survey." Such will follow the release of the pre-benchmarking headline April 2018 monthly detail on May 15th. As with the recent Industrial Production benchmarking of March 23rd, most series going 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 production benchmarking discussion in *Commentary No. 942-B*).

[Graphs 13 to 16 begin on the next page.]

Graph 13: Level of Real Retail Sales (2000 to Date)



Graph 14: Real Retail Sales (2000 to Date), Year-to-Year Percent Change



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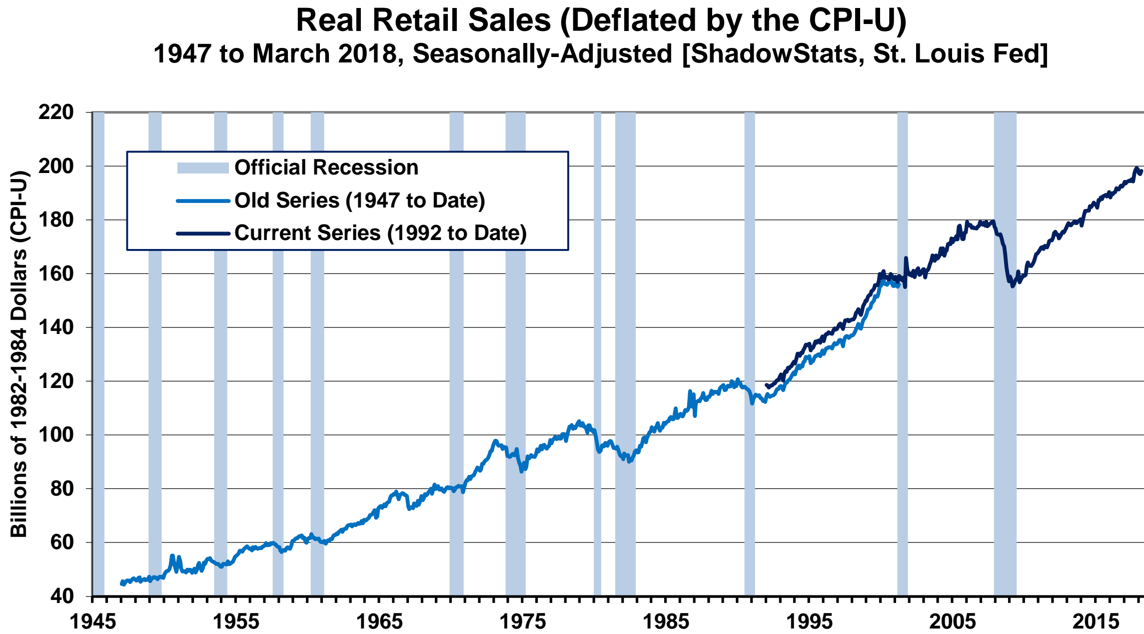
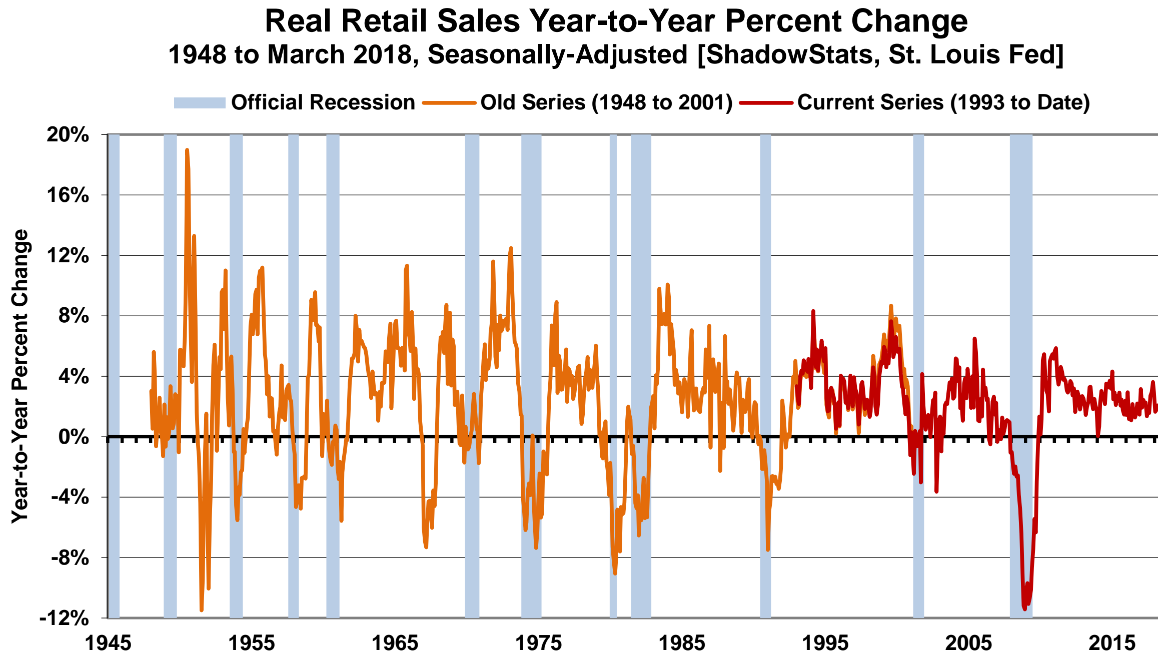
Graph 15: Level of Real Retail Sales (1947 to Date)



Graph 16: Real Retail Sales (1948 to Date), Year-to-Year Percent Change

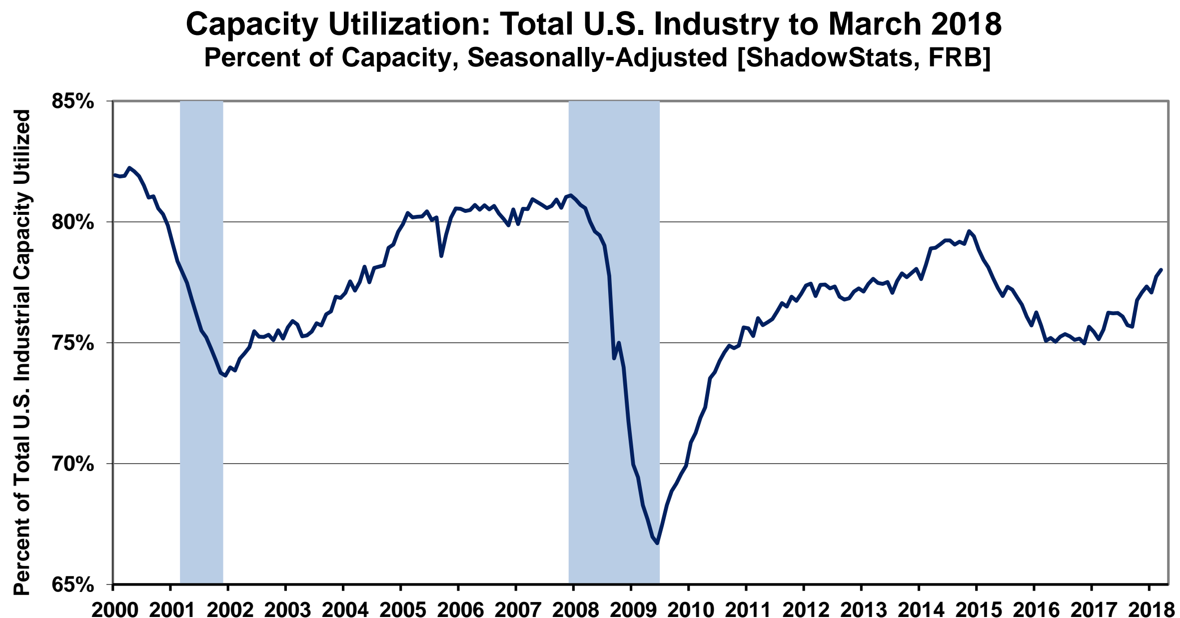


INDUSTRIAL PRODUCTION (March 2018)

Monthly March 2018 Production Increased by 0.51% (0.62% Net of Revisions), Reflecting Miserable Winter Conditions (Utility Gains), Softer Mining Growth and Flat Manufacturing. In the context of the broadly-based, major-downside revisions to the Industrial Production series in its annual benchmarking of March 23rd, through February 2018 reporting (see the *Opening Comments* of *Commentary No. 942-B*), minimal revisions were reflected in headline March 2018 detail reported on April 17th (updated in *Graphs 18* and *19*). Headline Industrial Production rose month-to-month by 0.51% in March 2018, versus a 1.00% gain in February and a monthly contraction of 0.20% (-0.20%) in January. Corresponding annual growth showed gains of 4.33% in March 2018, 4.37% in February 2018 and 2.95% in January 2018.

March Manufacturing gained 0.07% in the month, with Mining up by 1.01% and Utilities up by 3.02%, in the context, again, of minimal revisions to the previously benchmarked major production sectors. Spiked by bad weather, Utilities provided the bulk of the monthly growth of the aggregate March series.

Graph 17: Utilization of Total U.S. Industrial Production and Manufacturing Capacity (2000 to Date)



Though Improved in March, Total U.S. Industrial Capacity Utilization Still Showed No Economic Expansion. 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, as reinforced by the revised plots of Capacity Utilization in last month's benchmark revisions (see *Graphs Benchmark-5* and *6* on page 8 of *Commentary No. 942-B*). The series has been updated for the March 2018 detail in *Graph 17*.

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, as indicated by the Industrial

Production series. That is the ShadowStats' estimate for the timing of what likely will gain formal recognition of a new or deepening multiple-dip downturn, in the economic crisis that formally began at the end of December 2007. That recognition could come out of the pending comprehensive benchmark revisions—back to 1929—for Gross Domestic Product (GDP), due for release on July 27th. Contrary to the consensus hype of a fully recovered and expanding economic activity, however, as seen with the Manufacturing Sector, much of the U.S. economy never has recovered fully from that downturn.

Reported along with the headline March 2018 Industrial Production, Capacity Utilization rose to 78.02% from a revised 77.66% [previously 77.73%] in February. Against its benchmarked December 2007 pre-recession peak level of 81.10%, the March 2018 Capacity Utilization reading—still spiked in level by hurricane disruptions and boosts from weather-distorted utility usage—held shy of recovering that peak *level* by 3.80% (-3.80%), or by 308 (-308) basis points in terms of the *percentage number*. That is despite March 2018 Industrial Production holding at 1.77% above, and with Manufacturing remaining shy of recovering its pre-recession peak level of December 2007 by 5.36% (-5.36%).

Manufacturing Sector Has Continued in Non-Expansion for a Record 123 Months, 41 Quarters. In the March 23rd benchmark revisions to the Industrial Production series, activity in both the aggregate Production series and the dominant Manufacturing series revised meaningfully lower for recent years (see accompanying *Graphs 18* and *19*). That is a pattern of downside revisions seen repeatedly, benchmarking after benchmarking, as shown in the *Opening Comments* of *Commentary No. 942-B*, which covered the latest benchmarking detail (see *Graph Benchmark-1* and *Graph Benchmark-2* on pages 4 and 11, there, and the accompanying text).

Despite March 2018 Industrial Production holding above its pre-recession peak of December 2007 by 1.77%, and above its November 2014 interim peak by 0.47% (it had dropped back below November 2014 in last month's benchmarking, then never having recovered that level), the dominant Manufacturing sector (75.5% of aggregate production) in March 2018, again, remained shy by 5.36% (-5.36%) of recovering its pre-recession peak of December 2007. Before the downside benchmarking, February 2018 Manufacturing had been shy recovering its pre-recession high by 3.73% (-3.73%).

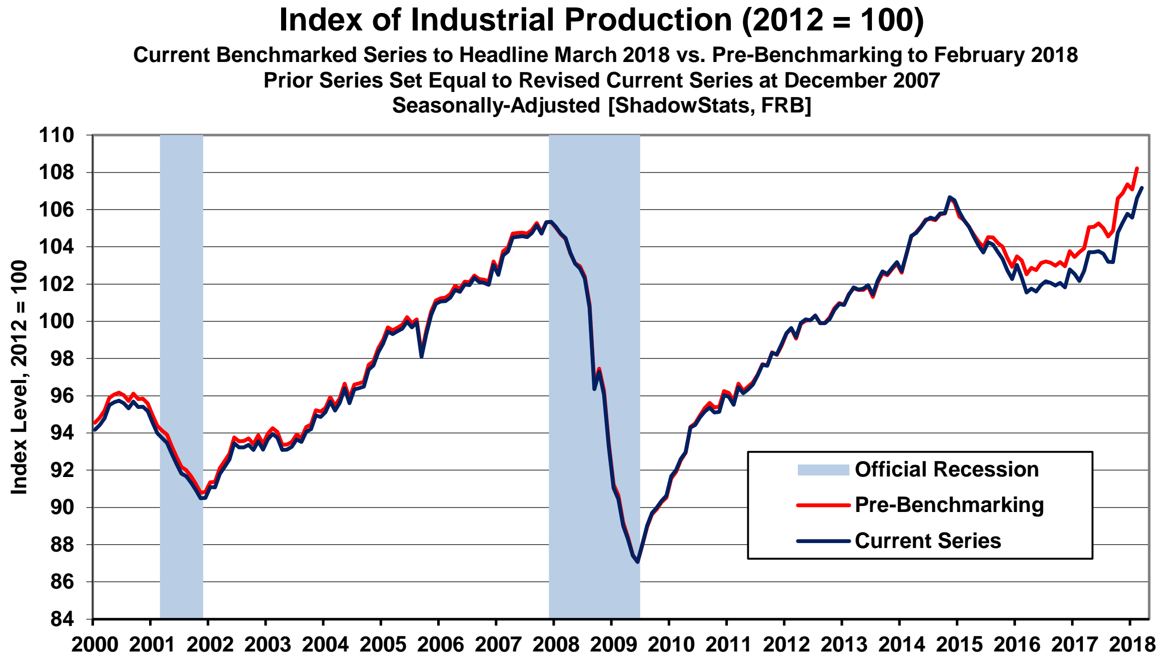
On a quarterly basis, First-Quarter 2018 Manufacturing held shy of recovering its Fourth-Quarter 2007 pre-recession peak by 5.61% (-5.61%), with First-Quarter 2018 Industrial Production 1.26% above its pre-recession high. In contrast, headline real Fourth-Quarter 2017 GDP stood 15.31% above its pre-recession high of Fourth-Quarter 2007, a circumstance not matched by any other major economic series, including artificially bloated series such Payroll Employment (up by 7.05%) and Real Retail Sales (up by 10.51%), as reviewed in the *Opening Comments*.

The Manufacturing Sector is in the longest stretch of economic non-expansion seen in the 100-year history of Industrial Production, now at 123-months and counting, 41 quarters, a full 10-plus years. In contrast, the second-longest period of non-expansion 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.

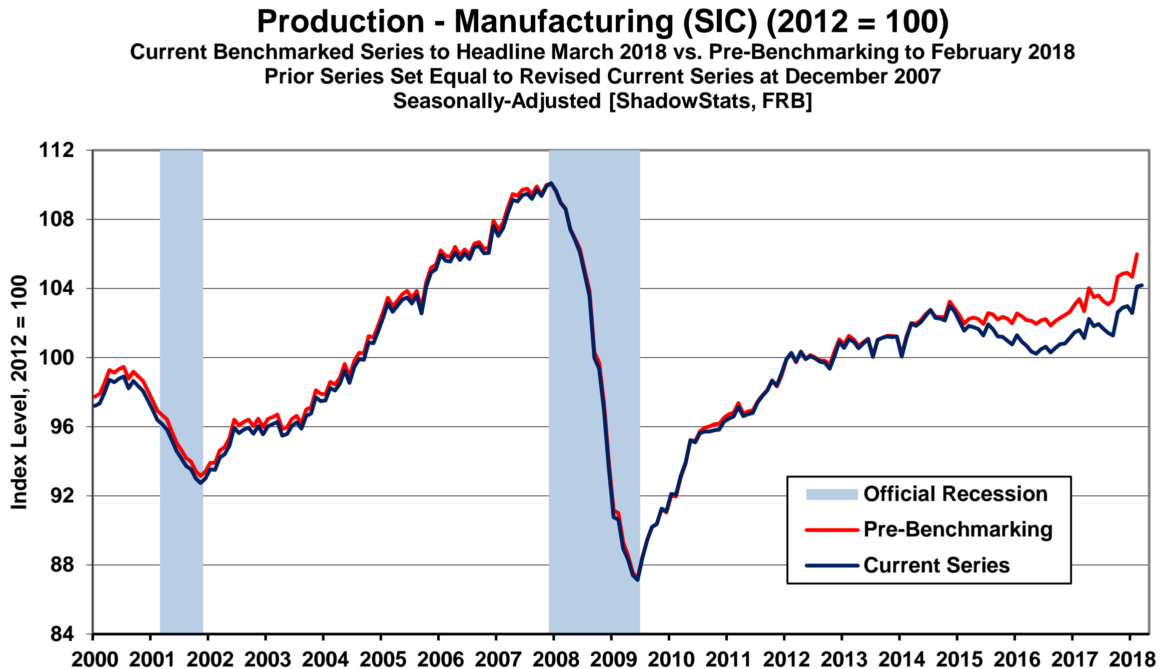
Benchmarking Graphs. Following *Graphs 18* and *19* reflect the March 23rd benchmark revisions to Industrial Production and Manufacturing, with the Pre-Benchmarking lines in red showing the headline February 2018 detail as initially published on March 16th, and the Current Series lines in blue showing the benchmark revisions of March 23rd updated for the headline March 2018 details of April 17th.

Again, the *Opening Comments* of *Commentary No. 942-B* detail the original graphics and extended commentary on the benchmarking.

Graph 18: Current Industrial Production versus Prior Reporting (pre-March 23, 2018 Benchmarking)



Graph 19: Current Manufacturing Activity versus Prior Reporting (pre-March 23, 2018 Benchmarking)



One of the Better-Quality Series, Industrial Production Still Overstates Headline Activity. Irrespective of annual benchmark revisions, and despite recent years' downside revisions, which hit historical

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production detail hard, current headline production reporting still overstates economic activity tied to understated inflation (see *Graph 4* and related comments in the *Executive Summary*). With the benchmarked 2017 industrial production, including work-in-progress, representing 51% of the nominal value of Gross Domestic Product (GDP), the broad economy likely remains in the harsh reality of ongoing recession or economic non-expansion, a circumstance that has continued from somewhat before 2007. In particular, headline production remains troubled by its dominant Manufacturing Sector (75.5 % of aggregate production), which, again, never has recovered its pre-recession peak, continuing in low-level, non-recovered economic stagnation (see *Graph 24*).

Headline Industrial Production—March 2018. The Federal Reserve Board released its first estimate of seasonally-adjusted March 2018 Industrial Production on April 17th. The new detail reflected a series of parallel, albeit minimal upside revisions to the recently benchmarked monthly production index levels of December 2017 through February 2018. Headline March 2018 Industrial Production gained 0.51% month-to-month. Detailed by major industry group (see *Graphs 22*, *24*, *29* and *31*) the aggregate Production reflected effectively flat Manufacturing (up 0.07%), versus a softening gain in the Mining (oil and gas production) sector (up 1.01%) and the impact of a savage winter on the Utilities sector (up 3.02%). The bad weather (Utilities) was the dominant growth factor, accounting for 60% of the headline monthly production gain.

In like manner (see *Graphs 23*, *25*, *30* and *32*), the March 2018 the annual aggregate Industrial Production gain of 4.33% was composed of monthly gains of 3.03% in the dominant Manufacturing Sector, 10.82% in the Mining Sector (including oil and gas production) and 5.34% in Utilities.

Month-to-Month Change. Month-to-month March 2018 industrial production gained 0.51%, versus a revised gain of 1.00% [previously 0.95%] in February, an unrevised contraction of 0.20% (-0.20%) in January and a revised gain of 0.45% [previously 0.43%] in December 2017.

Year-to-Year Change. Year-to-year March 2018 industrial production gained 4.33%, versus a revised 4.37% [previously 4.26%] in February 2018, a revised 2.95% [previously 2.90%] in January 2018 and a revised 2.91% [previously 2.90%] in December 2017.

Quarterly and Annual Production Changes. In the context of March 23, 2018 benchmark revisions sharply to the downside for annual growth and annualized quarterly growth, and the initial First-Quarter 2018 numbers, year-to-year growth rates in quarterly production had continued to slow and then decline, ranging from a positive 1.76% in first-quarter 2015, to year-to-year declines of 0.92% (-0.92%) in second-quarter 2015, 1.49% (-1.49%) in the third-quarter 2015 and 3.37% (-3.37%) in fourth-quarter 2015.

Annual declines continued, down by 2.99% (-2.99%) in first-quarter 2016, by 2.25% (-2.25%) in second-quarter 2016 and by 1.91% (-1.91%) in third-quarter 2016. Fourth-quarter 2016 production contracted year-to-year for the seventh-straight quarter by 0.55% (-0.55%).

First-quarter 2017 annual change rose by 0.16%, the first annual gain since first-quarter 2015. Second-quarter 2017 production gained year-to-year by 1.93%, with third-quarter 2017 showing a hurricane impaired at annual gain of 1.20%. The fourth-quarter 2017 growth was a hurricane-boosted 2.99%, with initial first-quarter 2018 reporting showing annual growth of 3.88%

Annualized Quarter-to-Quarter. Going back to first-quarter 2015 industrial production contracted at an annualized quarterly pace of 3.22% (-3.22%), having gained by 2.74% in fourth-quarter 2014. That was

followed by a quarterly contraction of 5.04% (-5.04%) in second-quarter 2015, with a third-quarter 2015 contraction of 0.27% (-0.27%) [previously a gain], followed by a fourth-quarter 2015 contraction of 4.71% (-4.71%).

The first-quarter 2016 annualized quarterly contraction was 1.86% (-1.86%), with second-quarter 2016 down at an annualized 2.09% (-2.09%). Third-quarter 2016 gained at an annualized pace of 1.11%, the first quarterly gain in seven quarters, followed by a gain of 0.70% in fourth-quarter 2016.

The first-quarter 2017 annualized quarterly gain was 0.98%. The second-quarter 2017 gain was 5.01%, with hurricane-disrupted third-quarter 2017 growth now showing an annualized quarterly contraction of 1.54% (-1.54%). The fourth-quarter activity up by a disaster-recovery boost of 7.7%, with the initial first-quarter 2018 "easing" back to 4.51%.

Production Graphs. The regular two sets of long- and short-term plots of industrial production levels and annual growth rates (*Graphs 20* to *23*) set the background for the drill-down detail graphs of various components of the aggregate industrial series (*Graphs 24* to *37*).

Graphs 20 and *21,* and *Graphs 22* and *23* show headline industrial production activity to date. *Graph 21* shows the monthly year-to-year percent change in the aggregate series, in historical context since World War II. Post annual benchmarking revisions of recent years, annual growth has slowed consistently as seen in *Graphs Benchmark-1* to *4* in [Commentary No. 942-B](#).

Graph 20 here 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 and now, benchmark-revised into 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 March 2018. Such patterns of monthly and quarterly year-to-year declines post late-2014 to the onset of 2017 (see *Graph 21*) were seen last in the economic collapse into 2009, and historically never seen outside of what would be recognized as formal recessions. *Graphs 22* and *23* 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 first-quarter 2018.

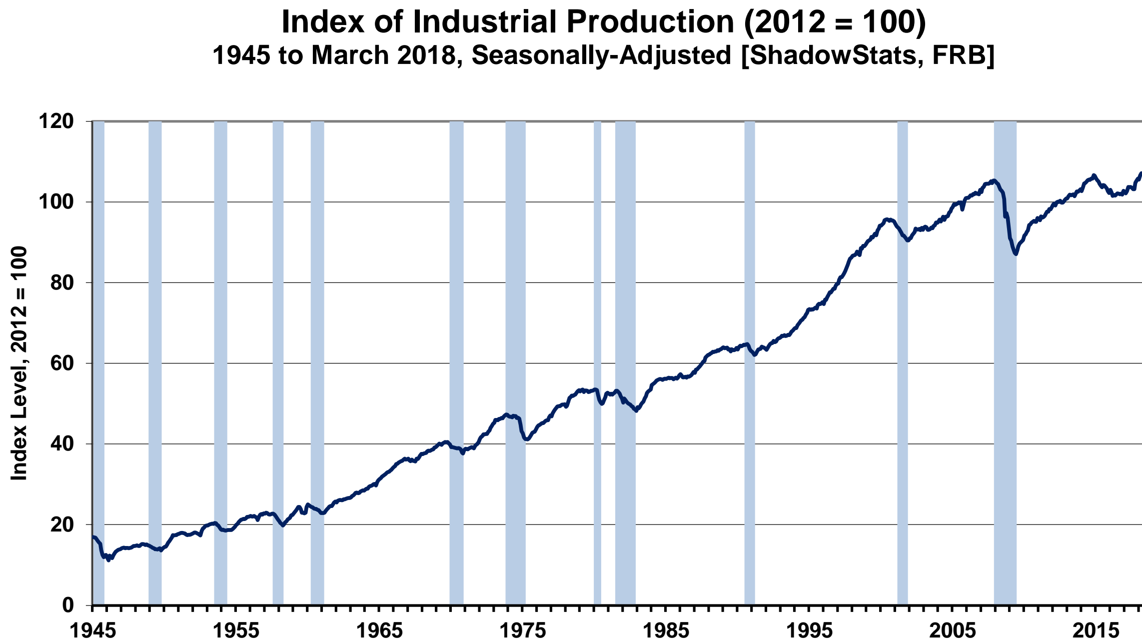
Seen most clearly in *Graph 23*, year-to-year activity dipped anew in 2013, to levels usually seen at the onset of recent recessions, bounced higher into mid-2014, fluctuated thereafter, turning negative, again, into 2015 and through 2016 as seen only in formal recessions. Such suggests a "missing recession call" with a pre-recession peak of fourth-quarter 2014. Such well may surface in the July 27th comprehensive GDP benchmark revisions back to 1929. In the context of the 2018 production benchmark revisions, year-to-year growth remains well off the recent relative peak for the series, which was 8.46% in June 2010 [previously 8.55% in 2017 benchmarking], going against the official June 2009 trough of the economic collapse. Indeed, as shown in *Graph 21*, the June 2009 (the end of second-quarter 2009) year-to-year contraction of 15.33% (-15.33%) [previously 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 4*). That series has shown more of a pattern

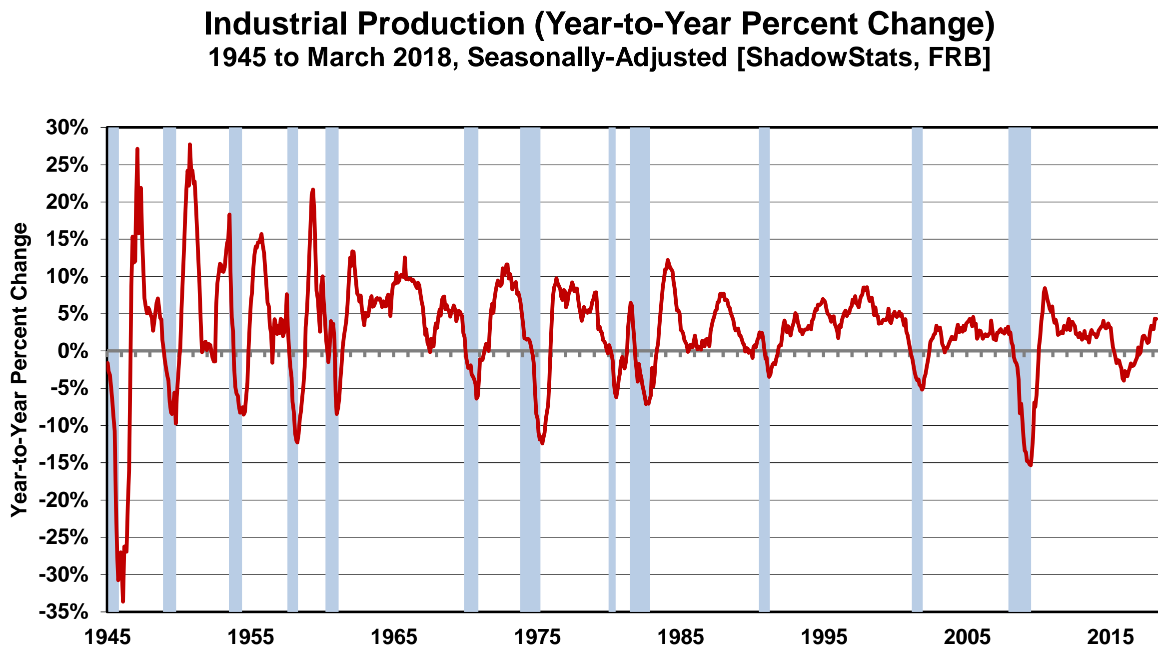
of stagnation with a slow upside trend, since 2009, with irregular quarterly contractions interspersed. The slow uptrend continued into a topping out pattern in late-2014. Headline growth—purportedly already neutered of any inflation impact—contracted in both first- and second-quarter 2015, moved minimally higher into 2016 through mid-2017, then generally boosted into late-year, by hurricane-recovery boosted activity into March 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 upturn in the post-disaster recovery.

[Graphs 20 to 23 begin on the next page.]

Graph 20: Index of Industrial Production (Aggregate), Since 1945

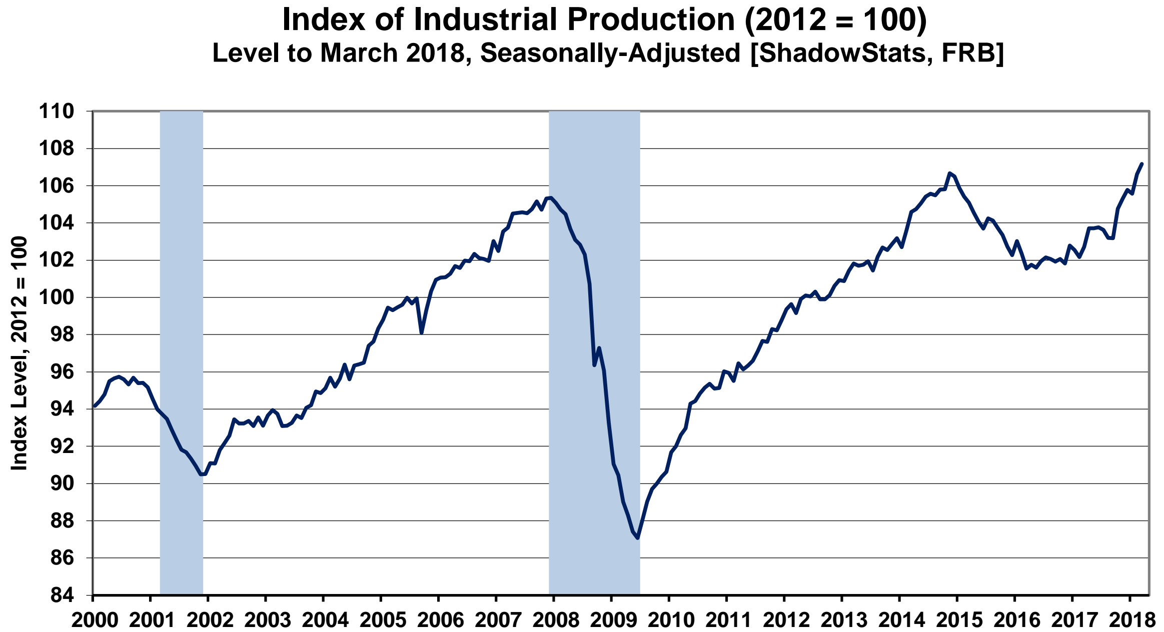


Graph 21: Industrial Production, Year-to-Year Percent Change, Since 1945

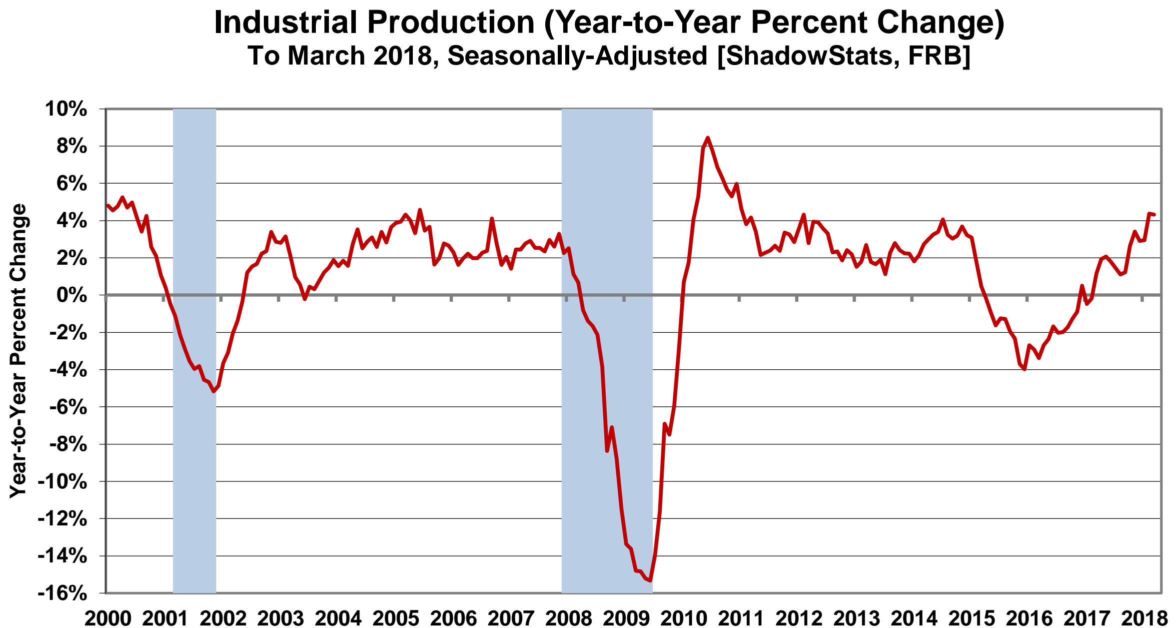


Drilling Down into the March 2018 U.S. Industrial Production Detail. *Graphs 22*, *24*, *29* and *31* show headline reporting of industrial production and its major components.

Graph 22: Index of Aggregate Industrial Production, Since 2000



Graph 23: Aggregate Industrial Production, Year-to-Year Percent Change, Since 2000



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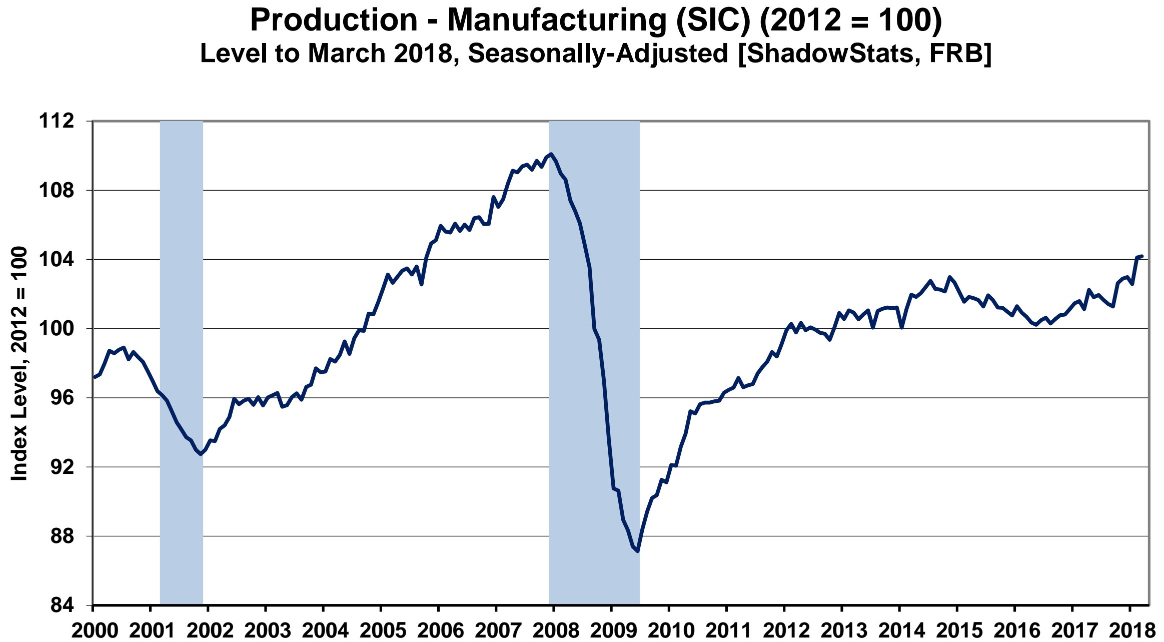
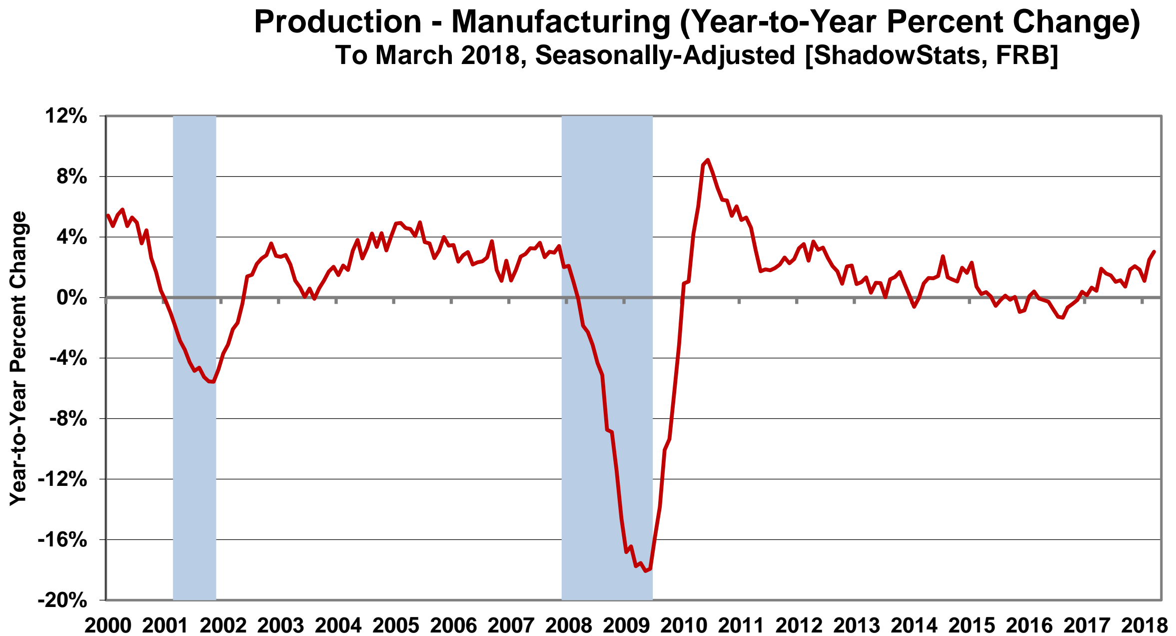
Graph 24: Industrial Production - Manufacturing (75.5% of the IIP in 2017), Since 2000



Graph 25: Industrial Production - Manufacturing, Year-to-Year Percent Change, Since 2000
(Same as OC-4 in the Executive Summary)



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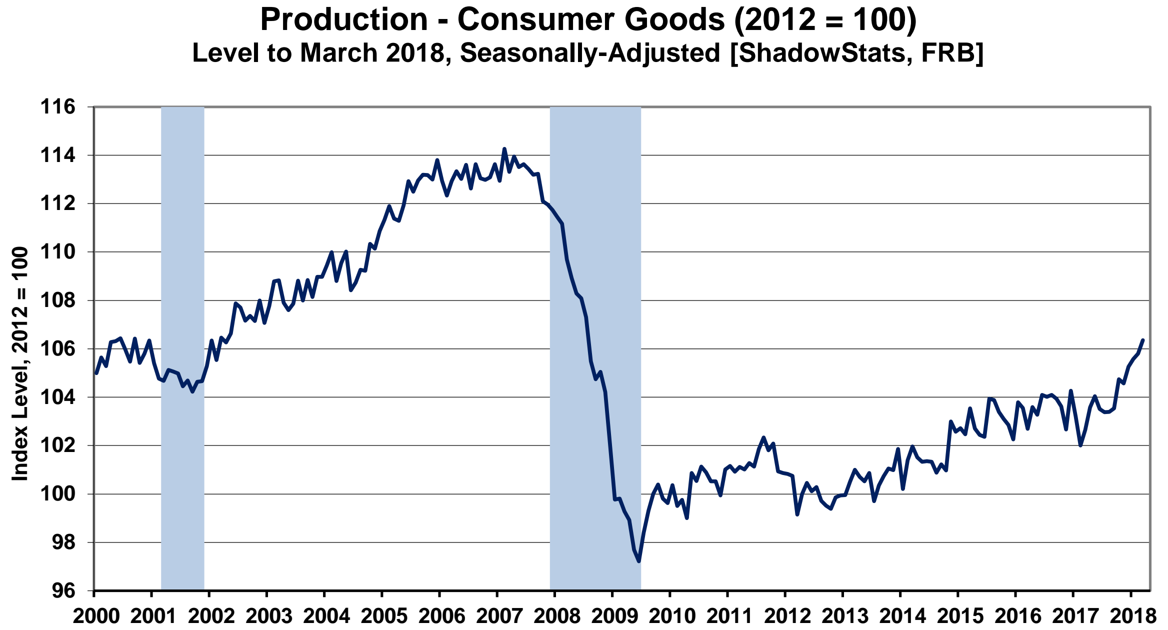
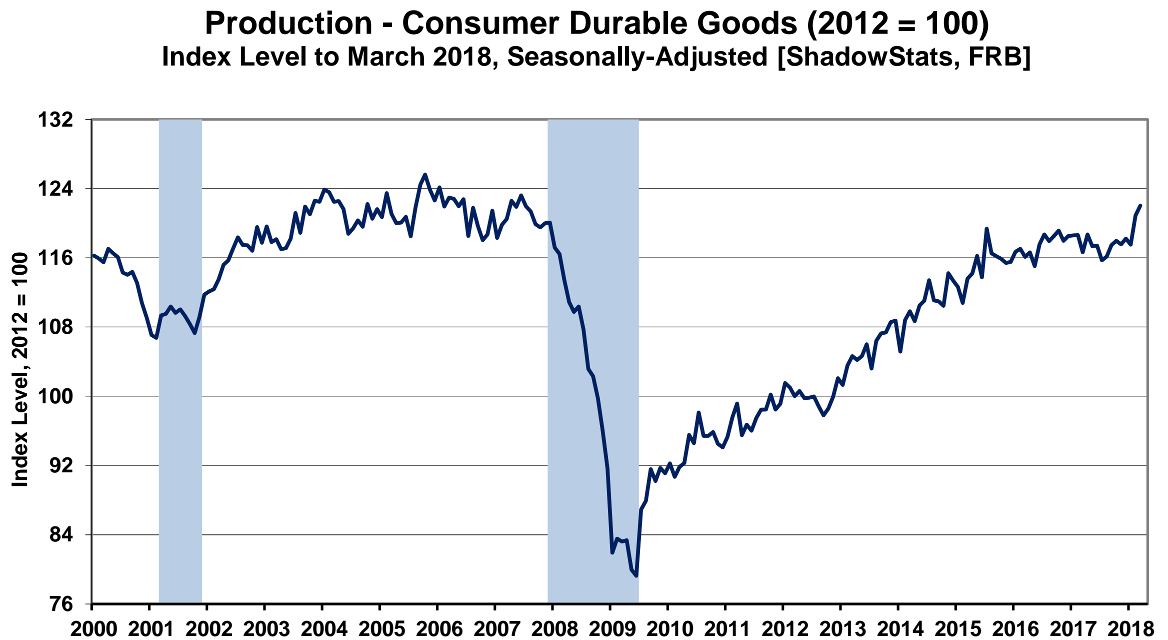
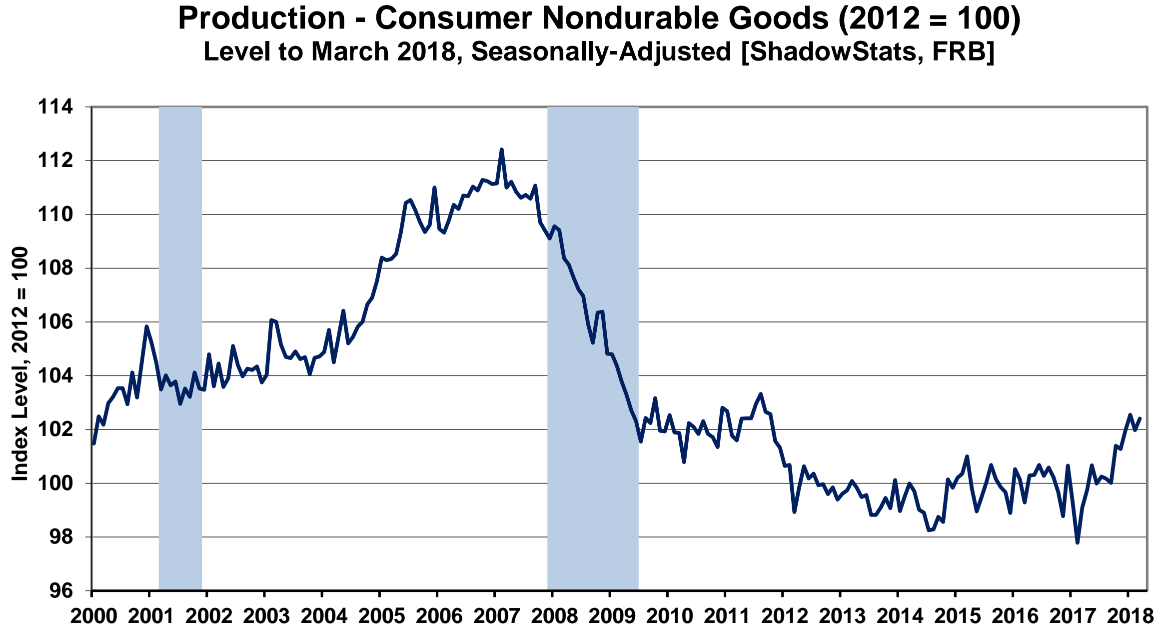
Graph 26: Consumer Goods (28.0% of the Aggregate in 2017), Since 2000



Graph 27: Durable Consumer Goods (6.3% of the Aggregate in 2017), Since 2000



Graph 28: Nondurable Consumer Goods (21.7% of the Aggregate in 2017), Since 2000



The benchmark-revised aggregate production index (*Graph 22*) contracted quarter-to-quarter for six consecutive quarters, from first-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 24, 29* and *32* are the three major industry sectors, Manufacturing, Utilities and Mining. Unusually severe weather spiked utility usage in March by 3.02%, with Utilities accounting for the bulk of the headline 0.51% monthly gain Industrial Production. That was followed in magnitude of relative monthly growth contribution by a 1.01% gain in Mining, largely in oil and gas extraction and exploration, and a relatively flat 0.07% monthly gain in Manufacturing. Where annual change in Industrial Production pulled back minimally in March 2018 to 4.33% from 4.37% in February 2018, Utility usage pulled back to 5.34% in March, from a record 11.52% in February, the only sector showing slower annual growth. Annual growth in Mining notched higher to 10.82% in March, versus 9.98% in February, while annual growth in Manufacturing picked up to 3.03% in March, versus 2.48% in February.

The Manufacturing graphs precede this, while the graphs of Utilities and Mining follow, all updated for the latest detail. *Graphs 25*, *30* and *32*, show the respective plots of year-to-year change for those series. The preceding Manufacturing *Graphs 24* to *28* include various levels of consumer goods production (*Graphs 26* to *28*).

The next two *Graphs 29* and *30* reflect Utilities activity massively distorted by unseasonably-cold weather this winter, reaching near-record levels of monthly activity in January and record annual growth in February 2018.

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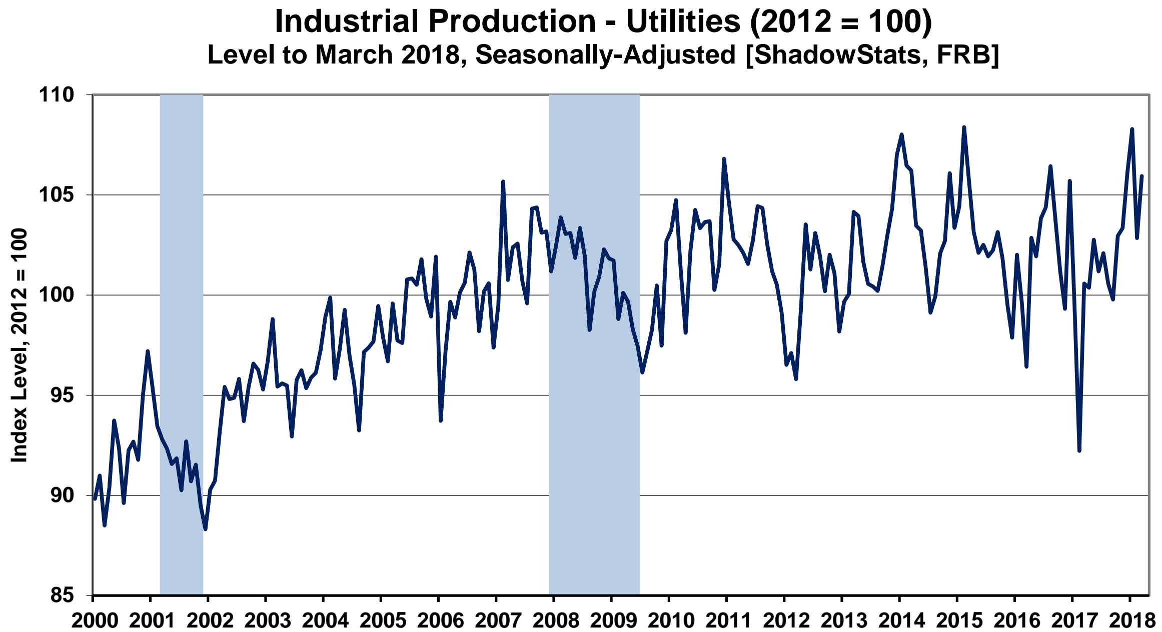
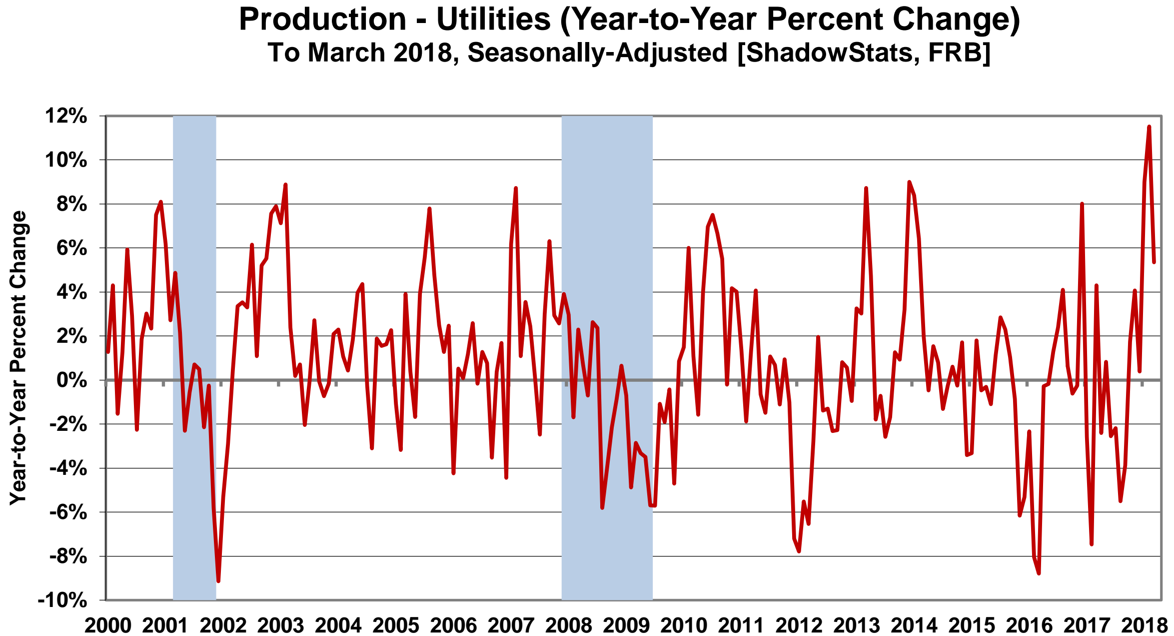
Graph 29: Industrial Production - Utilities (10.4% of the Aggregate in 2017), Since 2000



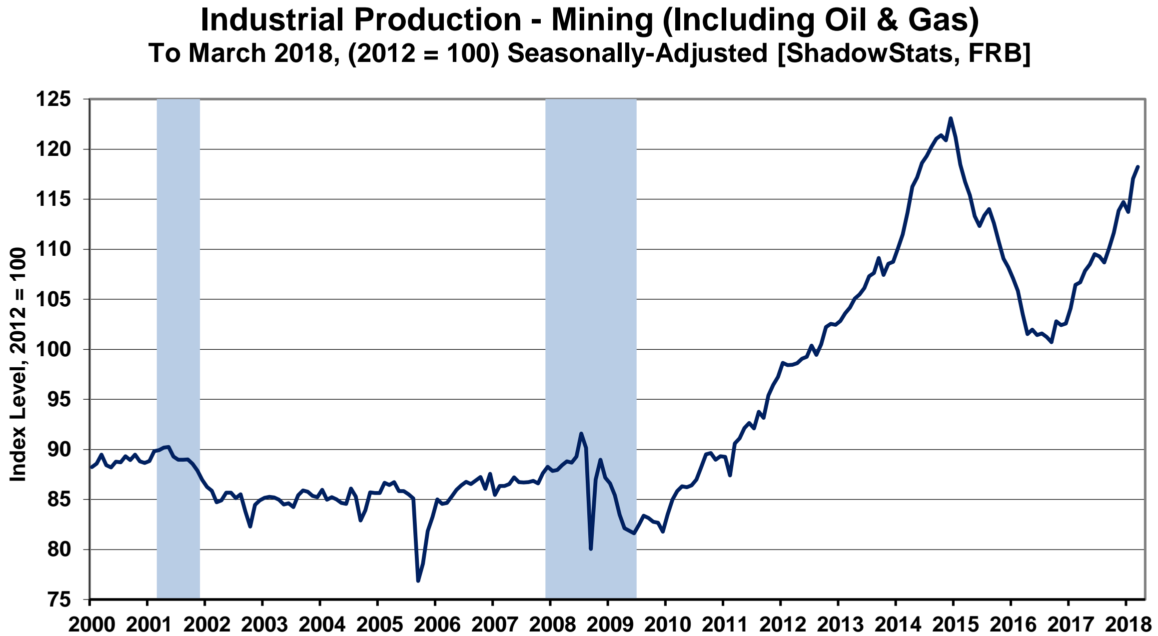
Graph 30: Industrial Production - Utilities, Year-to-Year Percent Change, Since 2000



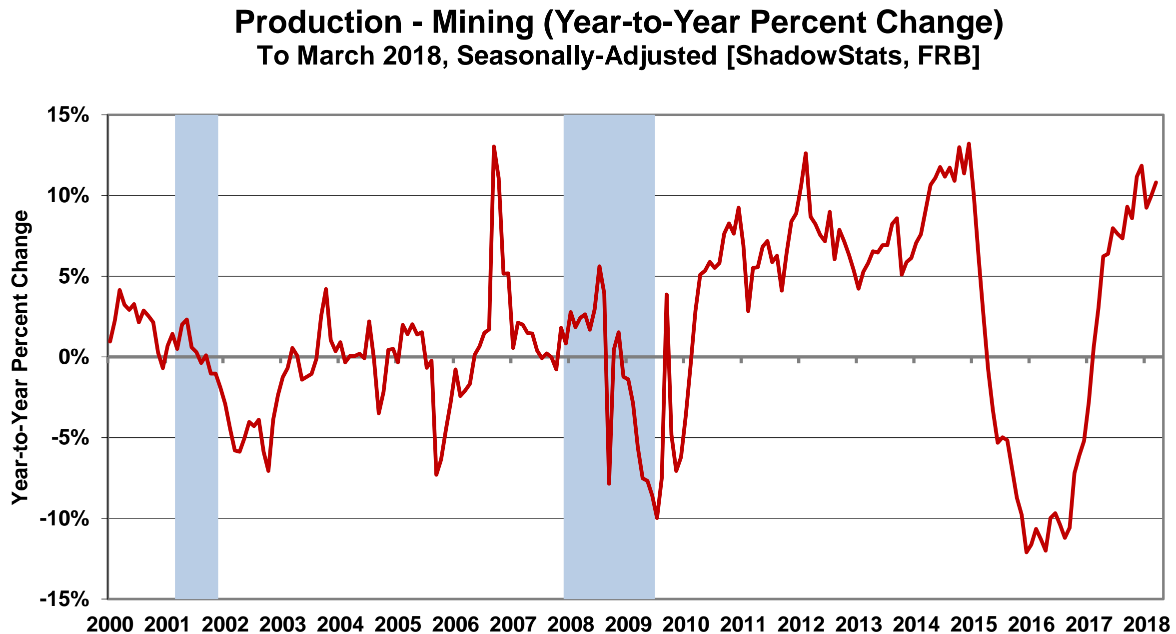
The final set of Mining *Graphs 31* to *37,* encompasses plots of related mining/oil production or exploration activity. Gold and Silver mining rose by 1.50% in the month [down by 11.62% (-11.62%) year-to-year], with Coal mining up by 0.19% for the month [up 6.65% year-to-year]. The dominant oil and gas mining sector rose across-the-board in March activity, with Oil and Gas Extraction up by 0.83%

for the month [12.81% year-to-year], while the benchmark-revamped and resurveyed Oil and Gas Drilling (see *Graphs 36* and *37*) was up by 4.07% for the month [17.00% year-to-year].

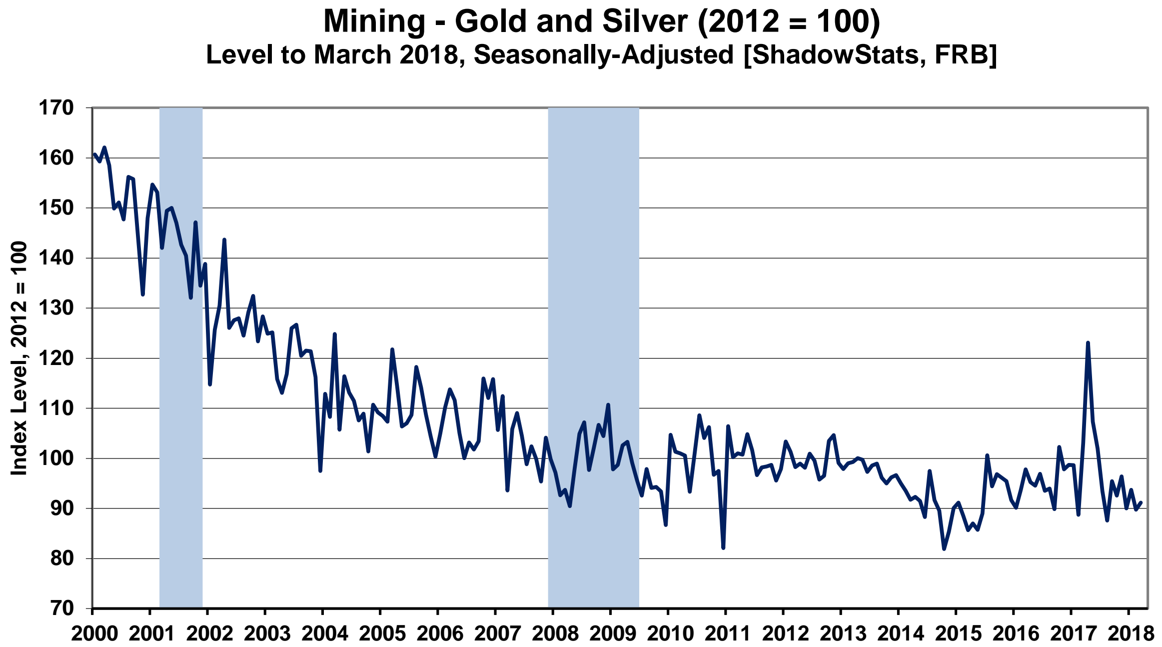
Graph 31: Industrial Production - Mining, Including Oil and Gas (14.1% of the Aggregate in 2017), Since 2000



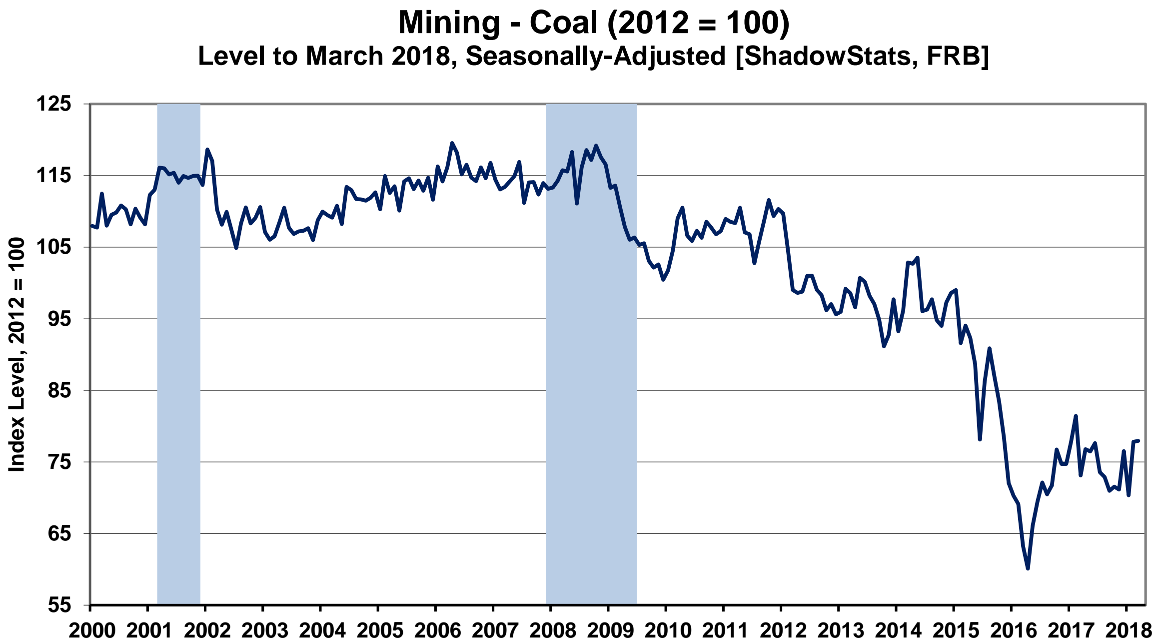
Graph 32: Industrial Production - Mining, Year-to-Year Percent Change, Since 2000



Graph 33: Mining – Gold and Silver Mining (0.2% of the Aggregate in 2017), Since 2000



Graph 34: Mining - Coal Mining (0.8% of the Aggregate in 2017), Since 2000



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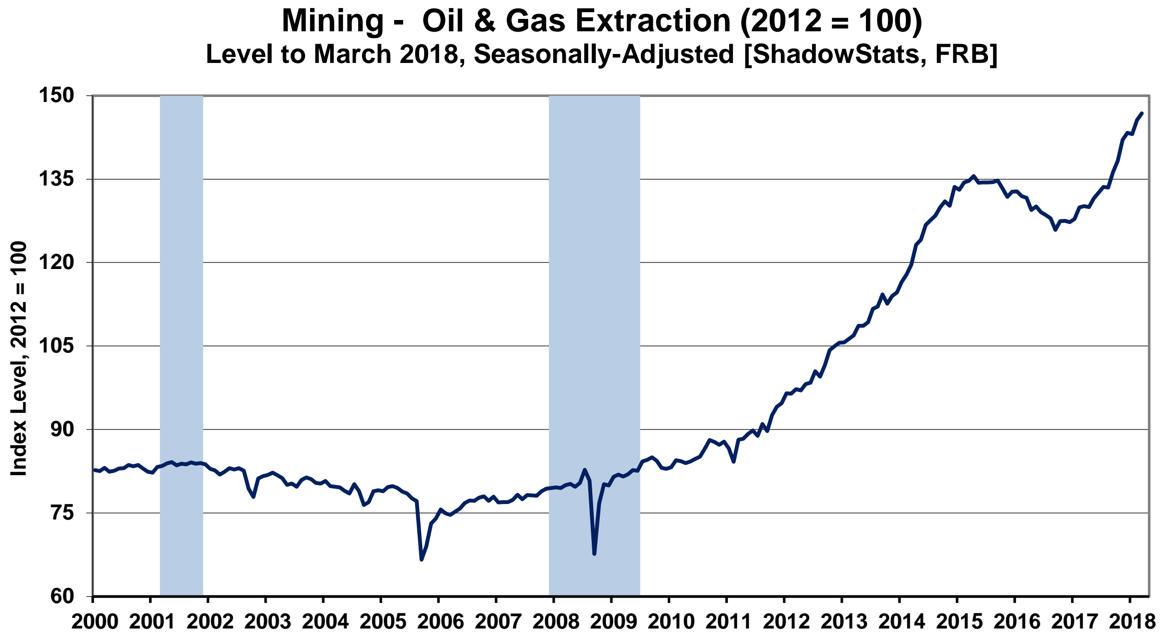
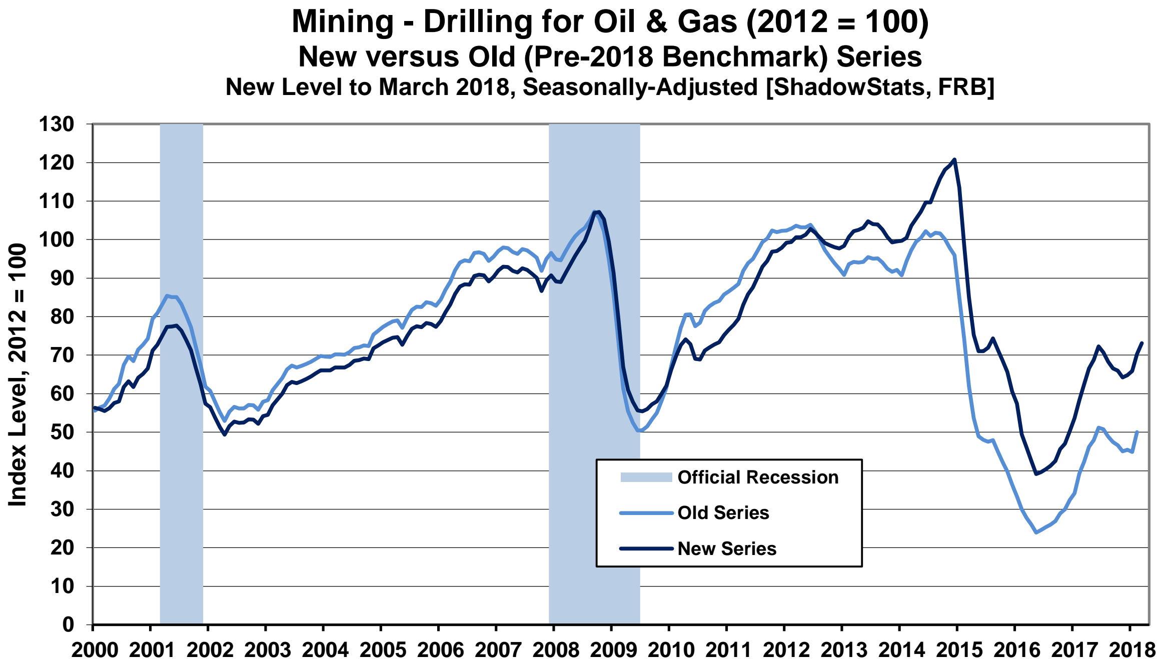
Graph 35: Mining – U.S. Oil & Gas Extraction (10.3% of the Aggregate in 2017), Since 2000



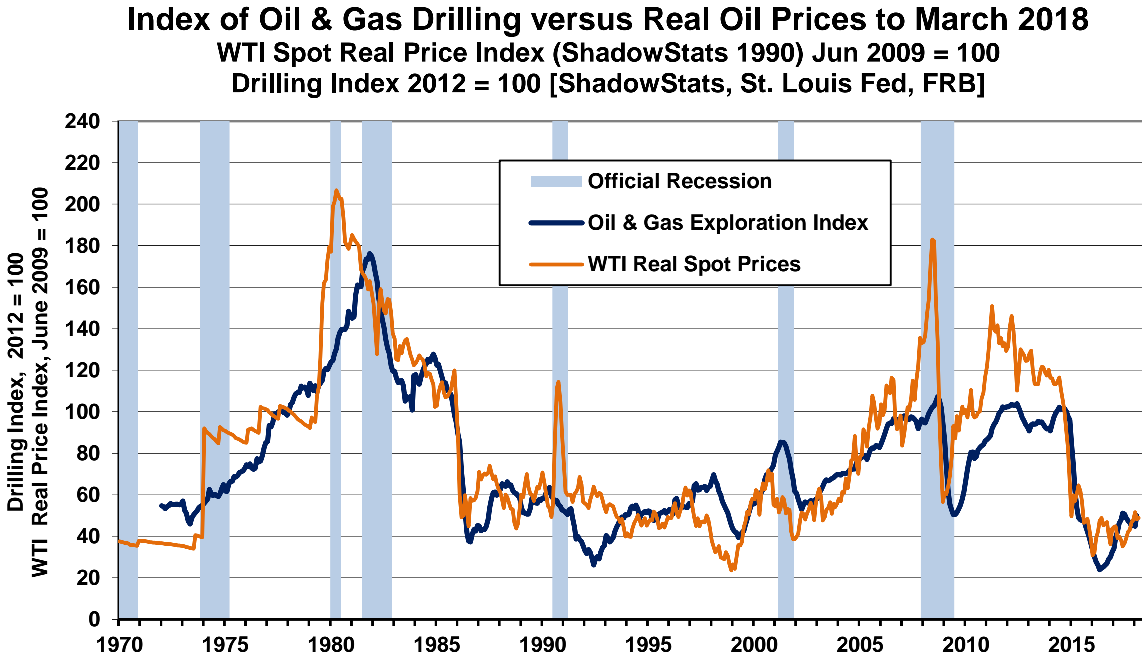
Graph 36: U.S. Drilling for Oil & Gas - Exploration (0.5% of the Aggregate in 2017), Since 2000



Graph 37 has been recast for the benchmark-revamped series. Although indexed levels shifted (see *Graph 36*), the basic patterns of activity remained the same (see page 5 of the Fed's benchmarking *Press Release*: "New Benchmark Index for Drilling Oil and Gas Wells." With some lag following sharp movements in oil prices, oil and gas exploration tends to move in tandem, and an upswing in exploration

had been in place with what was at least a short-term bottoming in oil prices in early-2016. Prices rallied into mid-2016, but moved 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, at present. Nonetheless, hurricanes and their after effects disrupted exploration in August through November 2017. That turned with an uptick in exploration in December 2017, with surging monthly growth in February and March 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).

Graph 37: Mining – U.S. Drilling for Oil & Gas versus Real Oil Prices (WTI ShadowStats 1990 Base), Since 1970



When the dollar weakens, dollar-denominated oil prices also begin to strengthen, as seen recently, even in a circumstances with excess supply conditions. With the U.S. dollar currently in a broad 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 the *Hyperinflation Watch* of *Commentary No. 945*). Again, beyond the dollar, movement in oil prices remains subject to, and is reflective of, political developments at home and abroad. Oil prices have been rallying enough and for a long-enough period to suggest continuing increases in domestic exploration and extraction activity in the near future.

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

Amidst Usual, Extreme Revisions and Volatility, March Housing Starts Gained 1.9% +/- 14.5%, with 95% Confidence, Allowing for a Broad Range of Contraction-to-Expansion in Actual Activity. In the economic context of what should be largely unwound natural-disaster-recovery distortions, as seen

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recently in series such as retail sales, March 2018 aggregate housing starts jumped month-to-month by 1.9%, having declined by a revised, much-narrowed decline of 3.3% (-3.3%) in February and having jumped by a minimally-revised 10.9% in January.

Odds Were Not Strong that Housing Starts Activity Actually Increased in March 2018. As standardly has been the circumstance, though, the headline monthly changes tend to reflect the extraordinary volatility and uncertainty in the series, with the 95% confidence intervals around all of the current monthly headline changes encompassing "no change." That allows for the potential of an actual gain or a loss, weighted in favor of the indicated direction of change. In the current circumstance, that means the actual monthly change for headline March Housing Starts, indicated at 1.9% +/- 14.5%, was within a rather range from a contraction of 12.6% (-12.6%) to a gain of 16.5% with 95% confidence, with 1.9% the most likely increase, not a very solid bet. That reporting-quality circumstance, however, may be about to improve, with the Census Bureau tightening up on revisions and potential error margins in its upcoming benchmark revisions to the series.

Hope for a Reporting-Quality Improvement; Annual Seasonal-Adjustment Overhaul Scheduled for May 16th. In *Commentary No. 936* of February 19th, 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 ..."

As noted last month, we were wrong.

On page 2 of the April 17th of the Census Bureau's *Press Release* for the New Residential Construction series, was the following notice, repeated from the prior monthly release:

> **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].

The Census Bureau has launched a constructive effort here.

California Wildfire Disruptions Still May Have Impact to Play Out. The complicating hurricane- and wildfire-recovery distortions pretty much should have run their course on new residential construction by the April reporting. Impact from storm-generated new housing starts largely should be out of the system with the current detail, although destruction from the California wildfires may still have some impact to play out. 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 a headline monthly gain in March 2018 detail, with rising multiple-unit starts outpacing a decline in single-units starts, on top a of upside revisions to aggregate February and January 2018 details, the six-month smoothed, moving averages of these series, as seen in *Graphs 6, 8, 10* and *12* 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 has

been fluttering around its pre-recession high in recent months, having backed off that peak in 2017, having regained it 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 largely remained flat in the last several years, in ongoing, low-level stagnation, with a slight uptrend in recent months (see accompanying *Graphs 38* to *43* of the Building Permits and Housing Starts series). Again, also see *Graphs 5* to *12* 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 gain in March 2018 of 2.5% +/- 1.8% was statistically-significant at the 95% confidence interval (all confidence intervals expressed 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.*** Headline gains in recent months have turned the broadly stagnant six-month moving average of the series from minimally-downtrending to minimally-uptrending, once again (see *Graph 40*).

Plotted with just the seasonally-adjusted monthly data in *Graphs 38* and *39*, the pattern of low-level, broadly downtrending stagnation in the various New Construction Activity series, showed headline March 2018 Building Permits activity still down by 40.2% (-40.2%) from recovering its pre-recession peak. Aggregate Housing Starts activity (see also *Graphs 7* and *8* in the *Executive Summary*) is down similarly by 42.0% (-42.0%), with Single-Unit Starts (*Graphs 9* and *10* in the *Executive Summary*) down by 47.6% (-47.6%).

Multiple-Unit Starts (*Graphs 11* and *12* in the *Executive Summary*) had fallen back sharply, after first having recovered its 2005 pre-recession peak in early-2015. The temporary jump in January 2018 monthly activity wiped out virtually all of the most-recent deficit. That fell off sharply with initial reporting of the February 2018, which reversed again, on the upside, with the level of March 2018 multiple-unit starts now 0.4% above its pre-recession peak.

Annualized First-Quarter 2018 Growth in Housing Starts Boomed by 21.2%, Likely With Lingering Disaster Impact, if the Numbers Could Be Believed. 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 an annualized gain of 1.8%, with annual growth of 1.9%. Fourth-Quarter 2017 activity was an unrevised annualized gain of 31.8%, with the year-to-year gain holding at an unrevised 0.6%. In this

circumstance, that annual growth rate just highlights how the weak the activity in this series had been in the last year.

In the first reporting of First Quarter 2018, annualized quarter-to-quarter growth slowed to 21.8%, with annual growth up to 6.5%. Given the meaningless volatility in the headline February and January 2018 details, the early trend (just for January and February) was 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%. Fourth-Quarter 2017 showed an annualized gain of 22.3%, with annual gain of 3.0%.

In the initial full reporting for First-Quarter 2018, annualized quarterly growth was 14.3%, up by 7.2% year-to-year. The early trend, based on January and February 2018 was 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%.

March 2018 Housing Starts, Headline Detail. The always-unstable and highly-volatile reporting in the aggregate Housing Starts series was exacerbated in recent reporting by hurricane-recovery effects. Those distortions most likely largely have worked out of the system, despite the latest data gyrations, although recovery from the late 2017 California wildfires still could be kicking in. That said, headline March 2018 detail rose month-to-month, on top of upwardly-revised aggregate February and January numbers.

The Census Bureau and Department of Housing and Urban Development (HUD) reported April 17th, a statistically-insignificant, seasonally-adjusted, headline monthly gain in March 2018 Housing Starts of 1.9% +/- 14.5% (again, all confidence intervals are expressed at the 95% level). That followed a revised decline of 3.3% (-3.3%) [previously 7.0% (-7.0%)] in February and a revised gain of 10.9% [previously 10.1%, initially 9.7%] in January. Net of the prior-period revisions, March Housing Starts gained by 6.7%, instead of the headline 1.9%. Level-of-activity aggregate detail is plotted in *Graphs 5* to *12* of the *Executive Summary*, and in *Graphs 39*, *41*, *42* and *43* at the end of this section.

Year-to-year change in the seasonally-adjusted, March 2018 aggregate housing-starts measure was a statistically-insignificant gain of 10.9% +/- 11.7%, versus a revised gain of 0.5% [previously a decline of 4.0% (-4.0%)] in February 2018 and a revised annual gain of 8.3% [previously 7.3%, initially 7.5%] in January 2018.

The March 2018 headline gain of 1.9% in total Housing Starts encompassed a monthly decline in Single-Unit starts of 3.7% (-3.7%) and a 16.1% jump in the Multiple-Unit "Five Units or More" starts category. There is a missing balance in the "Two to Four Units" category, which declined by 60.6% (-60.6%) in March. 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 gained by 14.4%, as discussed later in the broadest, aggregate "multiple unit" category. As usual, none of the monthly or annual headline changes was statistically significant.

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Housing Starts by Unit Category. *[See* Graphs 5 *to* 12 *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 March 2018 declined month-to-month by a statistically-insignificant 3.7% (-3.7%) +/- 13.8%, following a revised gain of 0.1% [previously 2.9%] in February, and a revised gain of 6.1% [previously 3.5%, initially 3.7%] in January. February 2018 single-unit starts showed a statistically-insignificant annual gain of 5.2% +/- 9.5%, versus a revised 2.6% [previously 2.9%] in February 2018 and a revised 10.3% [previously and initially 7.6%] in January 2018 (see *Graphs 5, 6, 9 and 10* in the *Executive Summary*).

Housing starts for apartment buildings, condominiums, etc. (generally 5-units-or-more) rose sharply in March 2018, up month-to-month by a statistically-insignificant 16.1% +/- 45.4%, versus a revised monthly decline of 11.7% (-11.7%) [previously 28.0% (-28.0%)] in February and a revised monthly gain of 20.2% [previously 23.6%, initially 19.7%] in January. A statistically-insignificant annual gain of 23.7% +/- 40.2% in March 2018 followed a revised decline of 3.6% (-3.6%) [previously 19.1% (-19.1%)] in February 2018, and a revised annual gain of 2.4% [previously 5.3%, initially 3.1%] in January 2018.

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 5*, *6*, *11* and *12* in the *Executive Summary*).

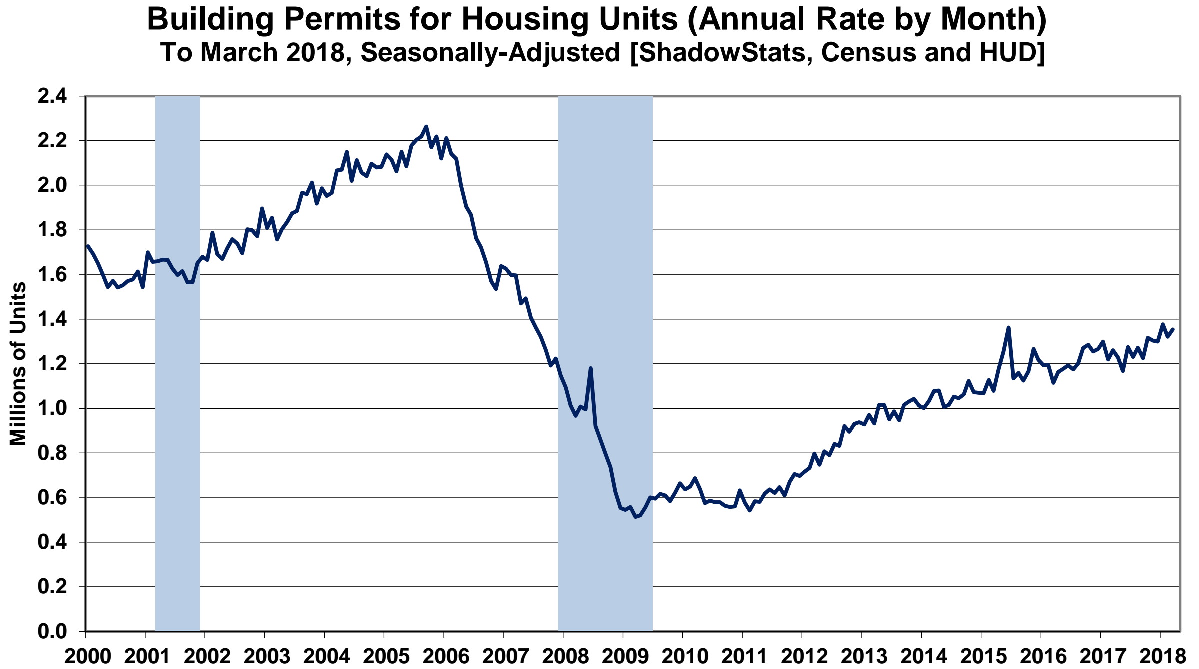
Accordingly, the statistically-insignificant March 2018 monthly gain of 1.9% in aggregate starts was composed of a statistically-insignificant decline of 3.7% (-3.7%) in one-unit structures and a statistically-insignificant gain of 14.4% in the multiple-unit structures category (two-units-or-more, including the five-units-or-more category). In contrast, again, ex-two-units-or-more, the multiple-unit category gained by 16.1%. 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 or credit, 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.

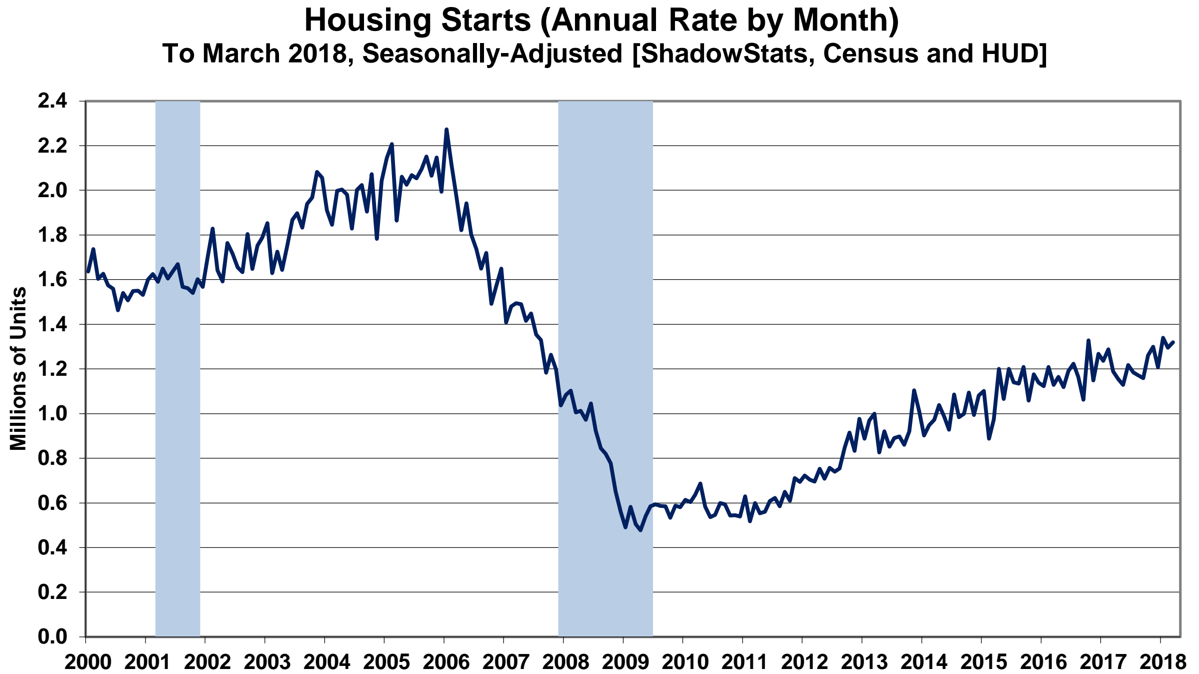
Please see the *Note on the Housing Starts Graphs* on page 16.

[Graphs 38 to 43 begin on the next page.]

Graph 38: Building Permits (Annualized Monthly Rate of Activity), 2000 to Date



Graph 39: Housing Starts (Annualized Monthly Rate of Activity), 2000 to Date



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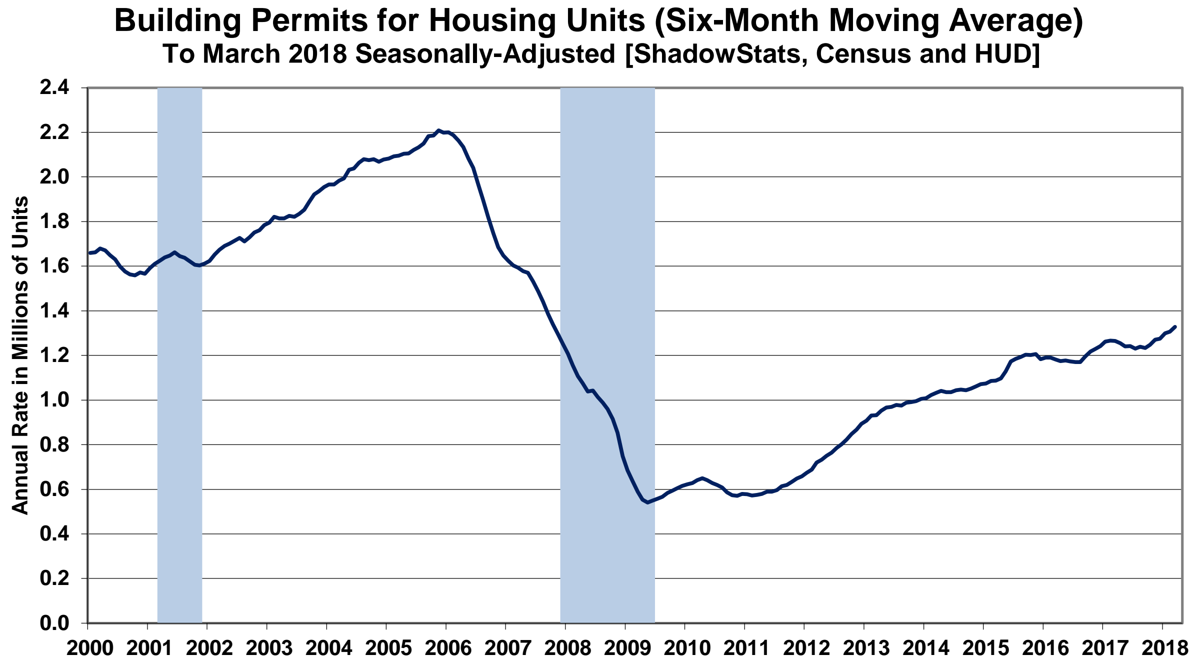
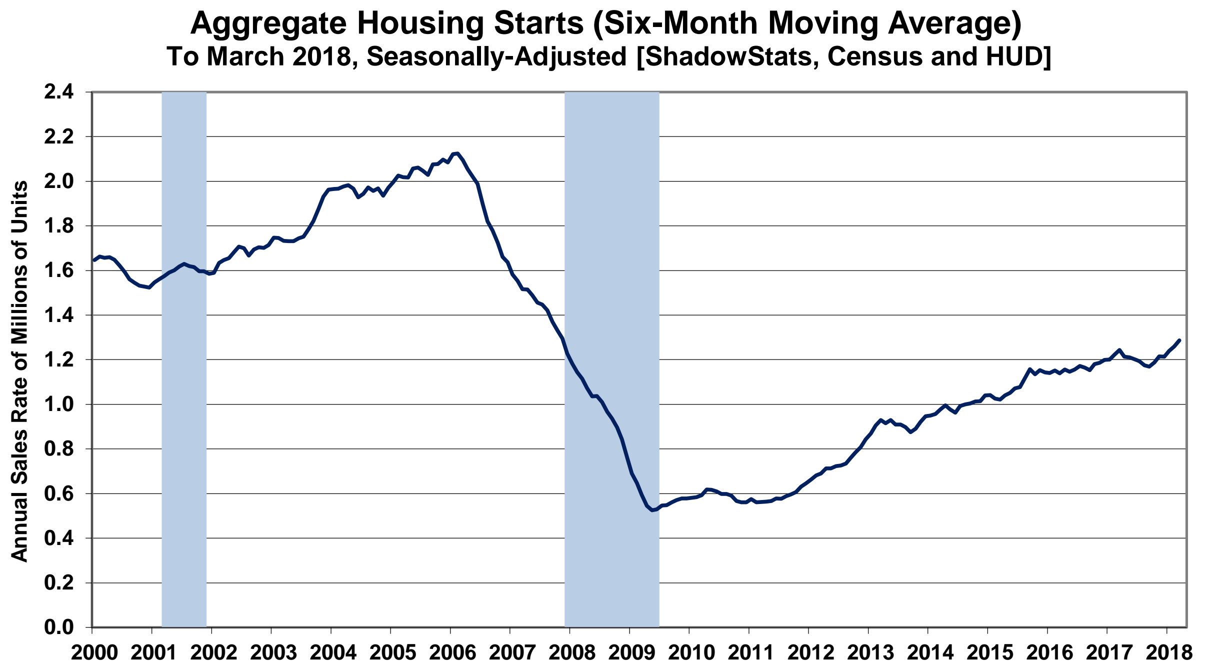
Graph 40: Building Permits (Six-Month Moving Average), 2000 to Date



Graph 41: Housing Starts (Six-Month Moving Average), 2000 to Date



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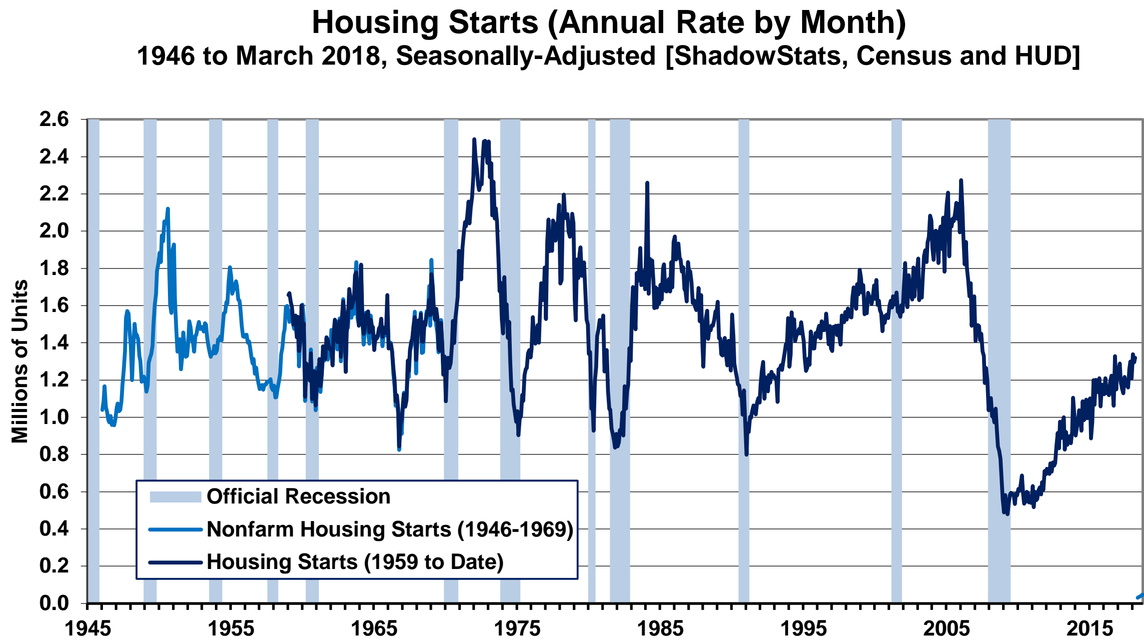
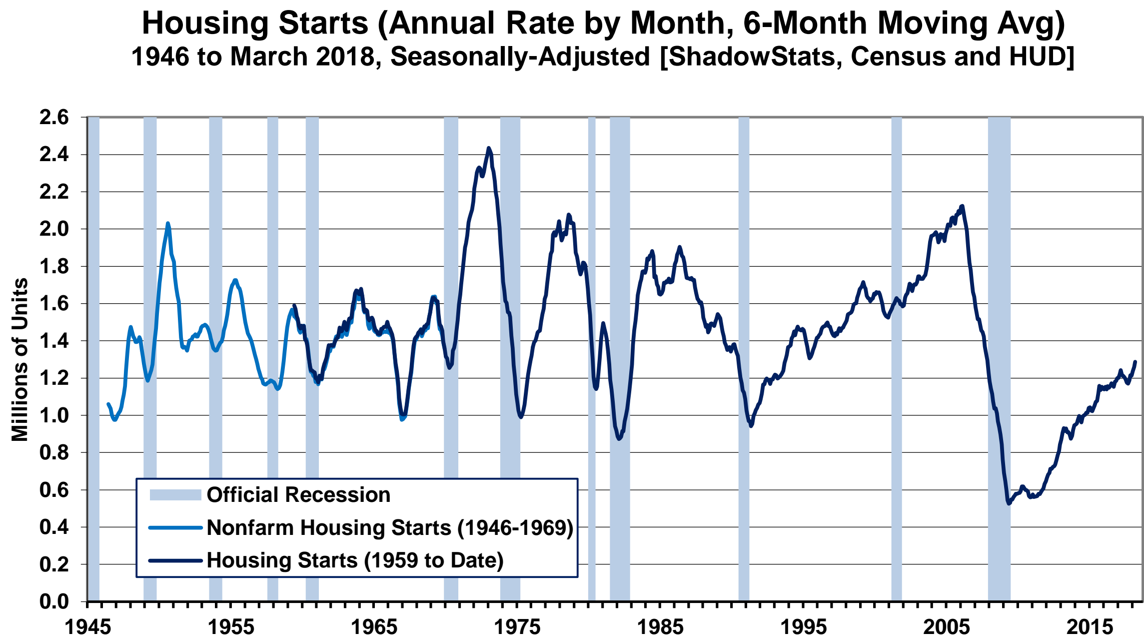
Graph 42: Housing Starts (Annualized Monthly Rate of Activity), 1946 to Date



Graph 43: Housing Starts (Annualized Monthly Rate of Activity, 6-Month Moving Avg), 1946 to Date



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

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CONSUMER LIQUIDITY WATCH

CONSUMER LIQUIDITY, INCOME, CREDIT AND RELATIVE OPTIMISM. *[Updated* for the initial estimate of the University of Michigan's April 2018 Consumer Sentiment.*]*

Consumer Optimism Falters as Real Earnings Contract and Credit Growth Slows. The U.S. consumer faces increasing financial stress, with headline Real Average Weekly Earnings contracting quarter-to-quarter in first-quarter 2018 and with annual growth in real Consumer Credit continuing to slow in the latest headline monthly detail. These likely are factors driving early signs of a downturn in consumer optimism, along with taking a toll in softening personal consumption expenditures—including retail sales—and broad economic activity. In combination, the various factors are likely to exacerbate concerns as to the direction of broad economic activity.

Weakening consumer liquidity conditions had been mirrored in weakening, headline economic activity coming into the series of major natural disasters that disrupted the economy, beginning in August 2017. Intensifying weakness had included Payroll-Employment, Real Retail Sales, Housing and Construction, and the Manufacturing/Production sector, generally pre-natural disaster activity.

Net of what have been mixed, but significant, hurricane and later-wildfire distortions, initial hits to activity were followed by related and transient economic boosts from recovery, replacement and restoration activity, particular in fourth-quarter 2017. Funded by insurance payments and savings liquidation, those distortions increasingly have passed into the latest headline economic data. Against artificially bloated fourth-quarter 2017 activity, first-quarter 2018 economic activity continues to show signs of mounting weakness (see *Commentary No. 940* and today's *Opening Comments*. Such effects are discussed in the separate analyses of relevant series in covered in the regular *ShadowStats Commentaries*. Where there are current signals of faltering consumer liquidity (see Consumer Credit Outstanding and Real Earnings), headline consumer optimism has begun to move off recent highs, along with softening underlying economic reality. The initial release of the Conference Board's March 2018 Consumer-Confidence Index®, took a hit the context of a downside revision to February's prior reading, as did the "advance" April 2018 Sentiment, versus March.

Monthly series that have faced the most severe, disaster-triggered reporting disruptions, where headline details have yet to stabilize or correct, still include Household Survey Employment and Unemployment. Retail Sales and Industrial Production (Manufacturing) appear to have stabilized, and broadly have begun to soften anew, but they still need to subside to levels stable with normal consumption activity and inventories. Despite the minimally slower Fourth-Quarter 2017 GDP growth, the series remains heavily bloated from the disaster-distortions. Odds for an outright quarterly contraction in real First-Quarter 2018 GDP have abated some for the initial reporting, but the series remains likely to show much weaker-than expected growth in its initial reporting on April 27th, and an outright headline contraction in first-quarter 2018 contraction within the next several months of reporting/revisions (see today's *Opening Comments*).

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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 (and revisions), 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. 938*) and employment/unemployment details discussed in the *Supplemental Labor-Detail Background* of *Commentary No. 939*.

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 Have Backed Off Recent Peak. 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 readings were minimally-positive and down, with the February numbers rising anew. A renewed surge in the "advance" March 2018 Sentiment, though went counter to the full-month release of the March 2018 Confidence number on March 27th. That March Sentiment reading, however revised lower in its "final" reading of March 29th, and turned lower still in its "advance" estimate for April 2018 on April 13th.

Reflected in *Graphs CLW-1* and *CLW-2*, Confidence and Sentiment monthly readings had jumped sharply to multi-year highs in February 2018, despite mounting financial-market and economic uncertainties, with early-March Sentiment jumping anew. Following a downside revision to the February 2018 reading,

which still remained at its strongest reading since 2000, the March 2018 reading fell back below its level of November 2017. The still-strong numbers here for both Confidence and Sentiment remain above their, pre-2007 recession peaks. Other than for the recent months of stronger Confidence readings, Confidence is at its highest level since May 2000, but remain down from that May 2000 peaks by 11.8% (-11.8%).

On a monthly basis the "advance" April 2018 Sentiment measure has backed off sharply. Although still at a high level, it is below a number of monthly levels seen back over the last year, currently down from what once was its comparative prior peak of January 2004 by 5.7% (-5.7%).

Again, 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 remain above pre-2007 recession highs, yet the still-high moving averages have slowed in their gains, having begun to falter before along with the softening detail and related headline economic activity.

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.

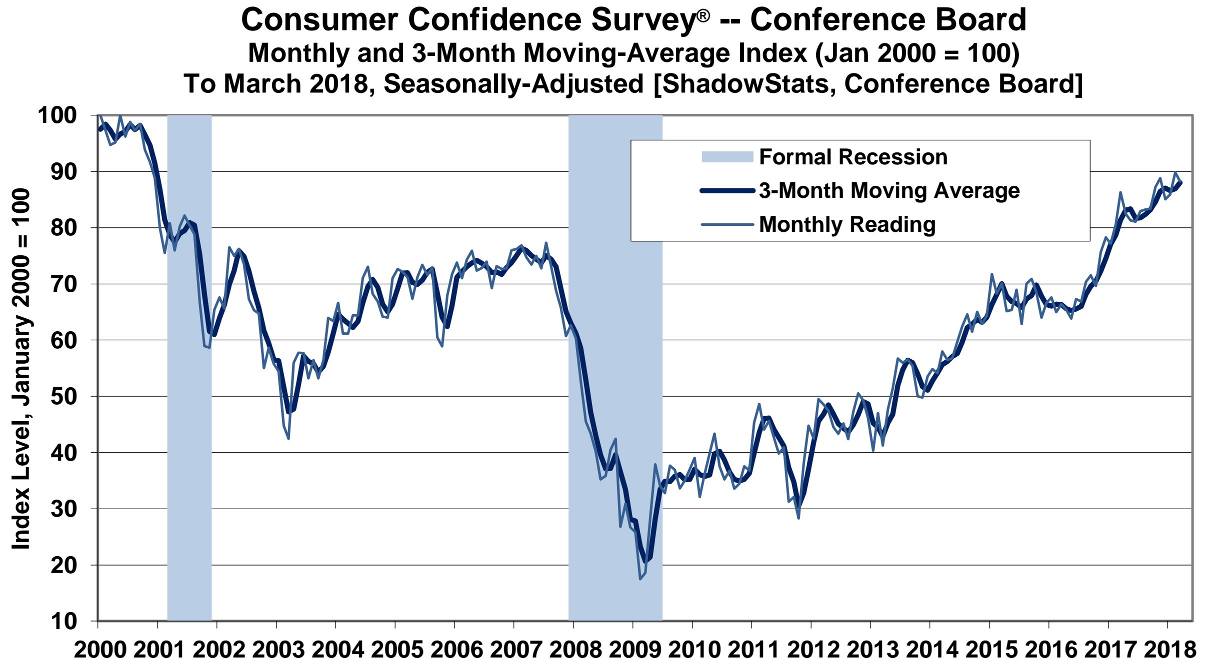
The Confidence and Sentiment series tend to mimic the tone of headline economic reporting in the press (see discussion in *Commentary No. 764*), and often are highly volatile month-to-month, as a result. Recent press has been highly positive on the headline economic and employment news, reflecting short-lived 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 into fourth-quarter 2017. In current environment of what had been 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.

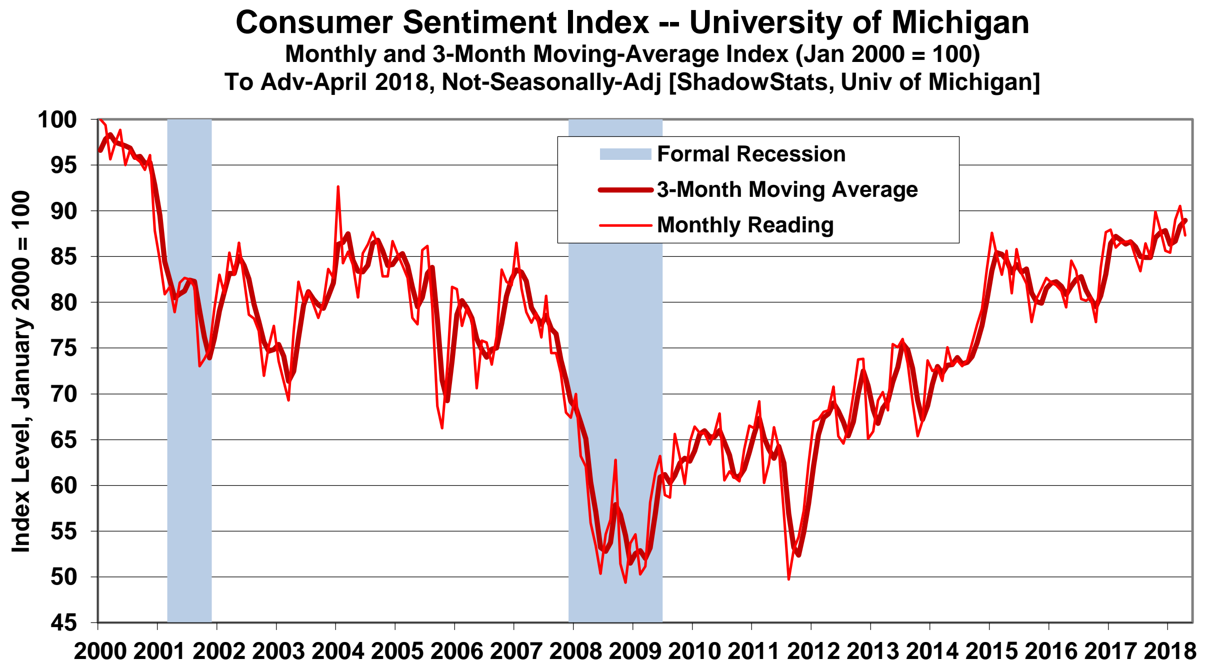
Smoothed for irregular, short-term volatility, the two series still generally had held at levels seen typically in recessions, until the post-2016 election circumstance. Suggested in *Graph CLW-3*—plotted for the last 48 years—the latest readings of Confidence and Sentiment recently have recovered levels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

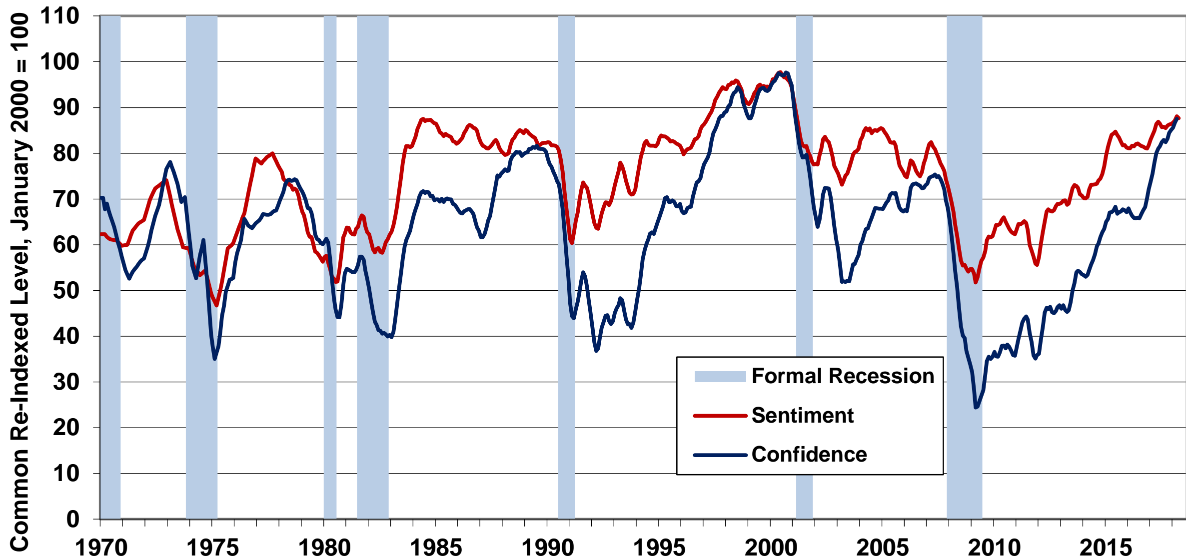
Graph CLW-1: Consumer Confidence (2000 to 2018)



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

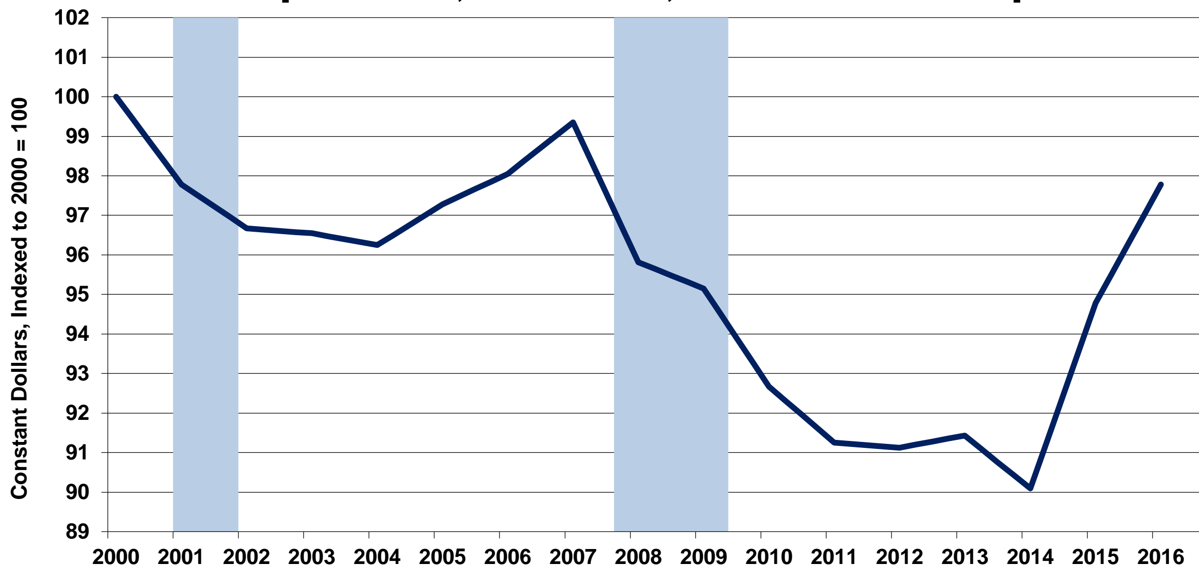


Graph CLW-3: Comparative Confidence and Sentiment (6-Month Moving Averages, 1970 to 2018)



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.

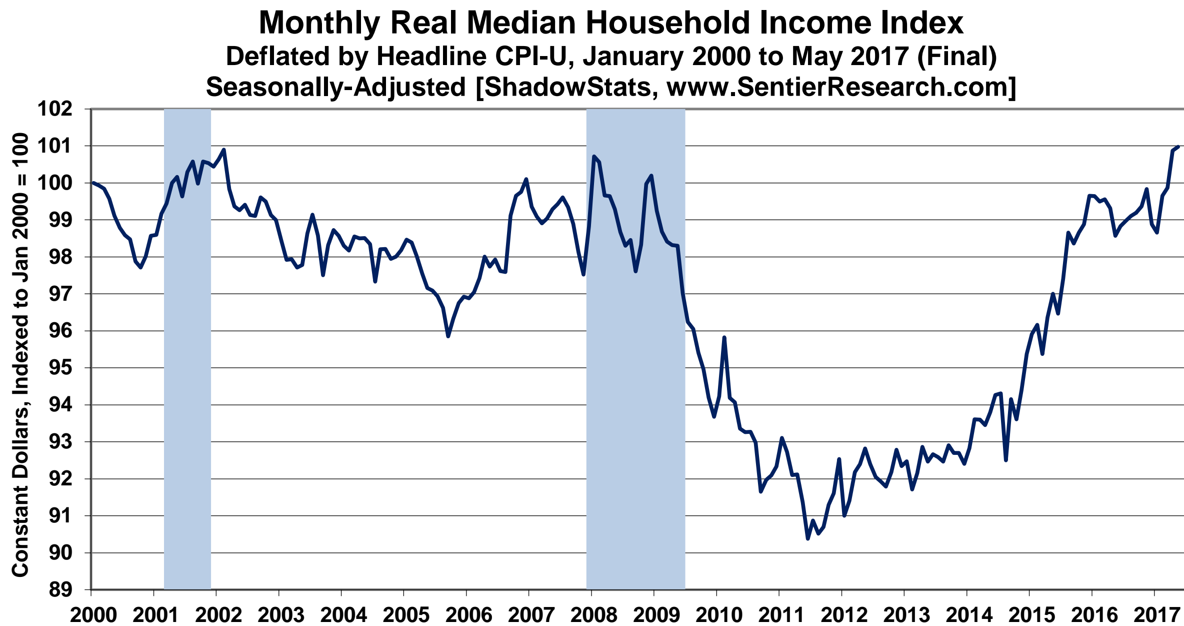
Nonetheless, the most-recent recent "rebound" reported in the series still left consumers financially strapped. Where lower gasoline prices had provided some minimal liquidity relief to the consumer, indications are that any effective extra cash largely was used to help pay down unsustainable debt or 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.

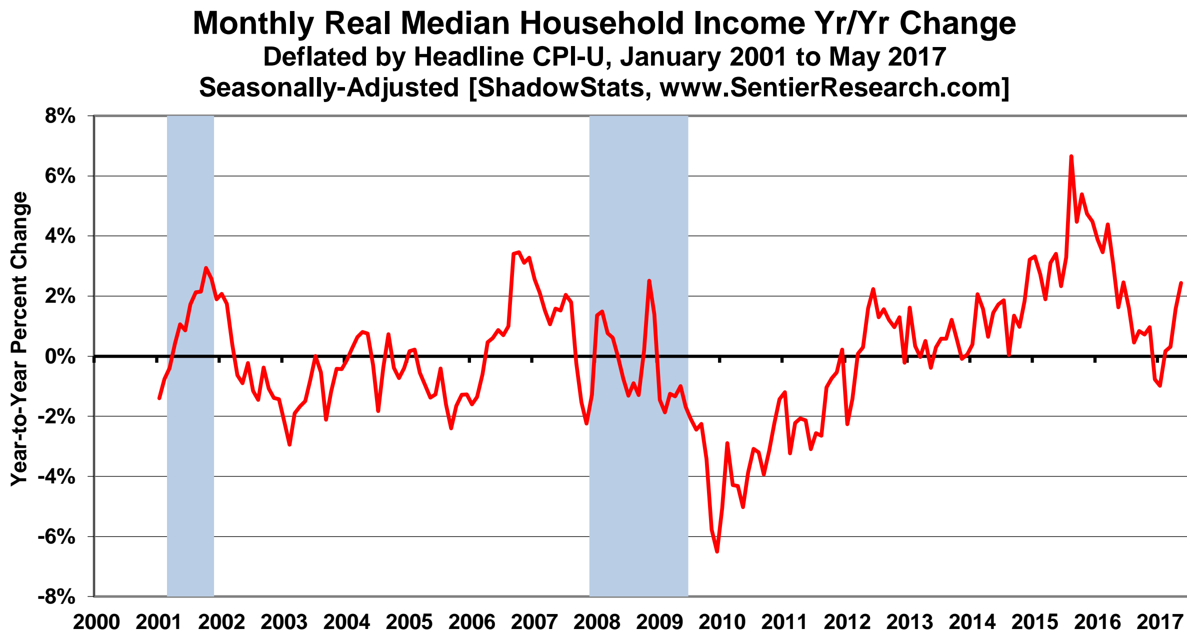
The Sentier numbers had suggested a small increase in 2014 versus 2013 levels, low-inflation induced real increases in 2015 and 2016. Allowing for the direction difference in 2014, and continual redefinitions and gimmicks in the annual series (again, see the *Opening Comments* of *Commentary No. 909*) 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



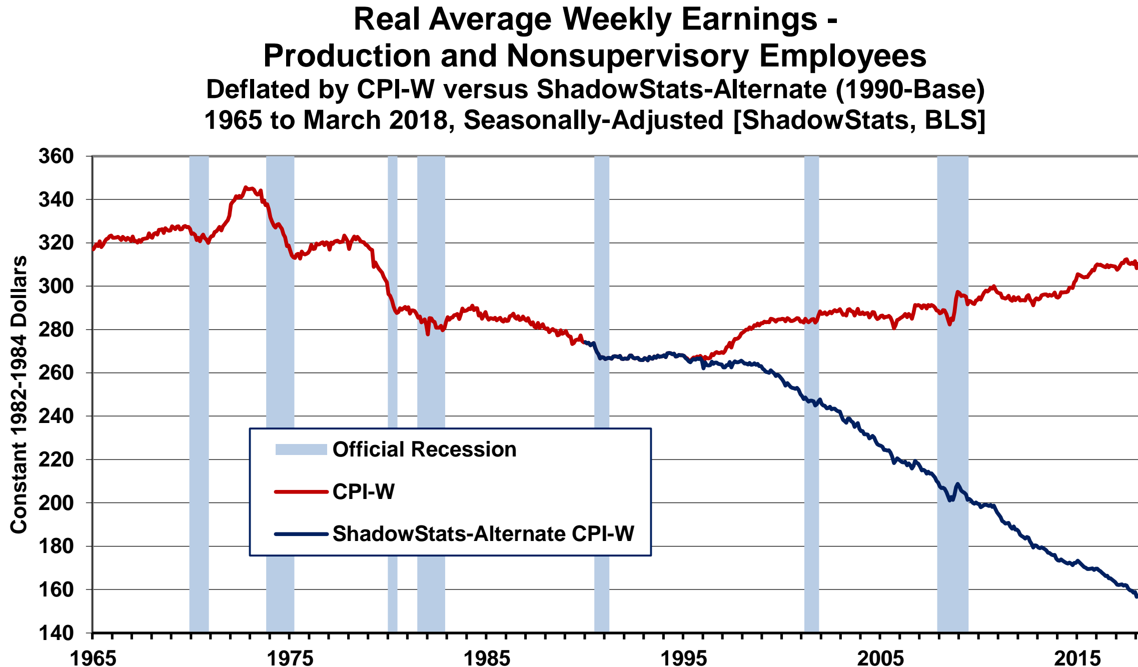
Graph CLW-6: Monthly Real Median Household Income (2000 to May 2017) Year-to-Year Change



Real Average Weekly Earnings—March 2018—Third-Consecutive Quarterly Contraction. For the production and nonsupervisory employees category—the only series for which there is a meaningful history (discussed in today's *Reporting Detail* and plotted here and in *Graph 1* in the *Executive Summary*), real average weekly earnings were unchanged month-to-month at 0.0% in March 2018 having gained 0.7% in February and declined by 1.1% (-1.1%) in January. As result, real earnings contracted quarter-to-quarter in first-quarter 2018 at an annualized pace of 1.5% (-1.5%). Such was the third-

consecutive quarterly decline in real earnings for the production and nonsupervisory employees category, the fifth real quarterly contraction of the last six quarters. Separately, real quarterly earnings for all employees also contracted, down at an annualized of pace of 0.3% (-0.3%) in first-quarter 2018, for the second consecutive quarterly contraction. See the *Reporting Detail* for further information.

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

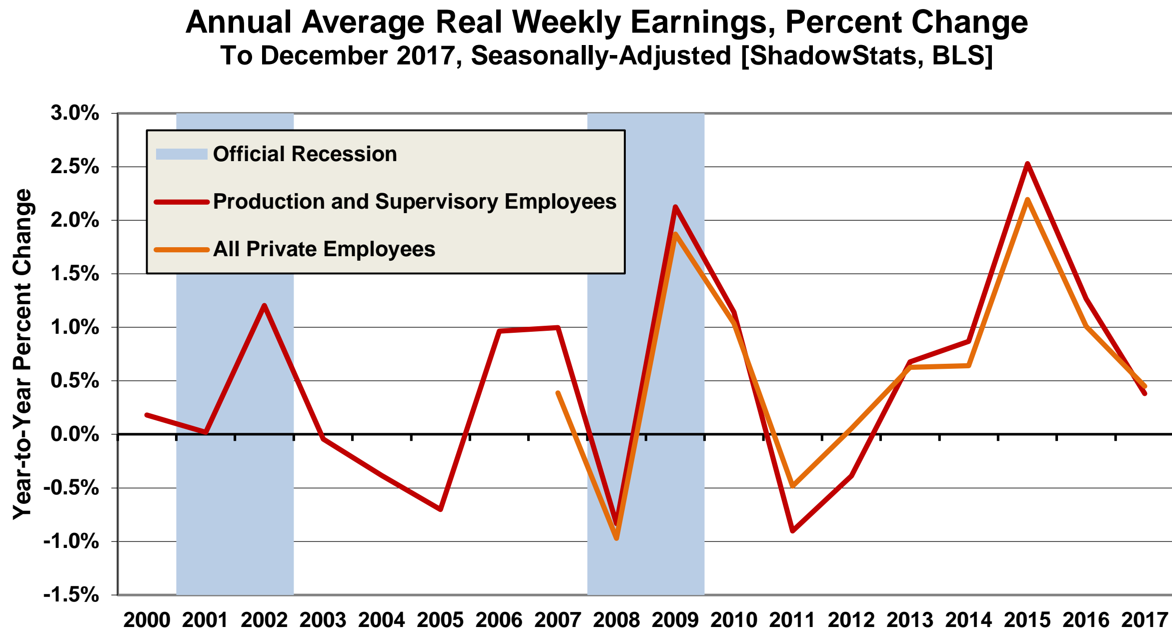


Graph CLW-7 plots the seasonally-adjusted earnings as officially deflated by the BLS (red-line), and as adjusted for the ShadowStats-Alternate CPI Measure, 1990-Base (blue-line). When inflation-depressing methodologies of the 1990s began to kick-in, the artificially-weakened CPI-W (also used in calculating 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*.

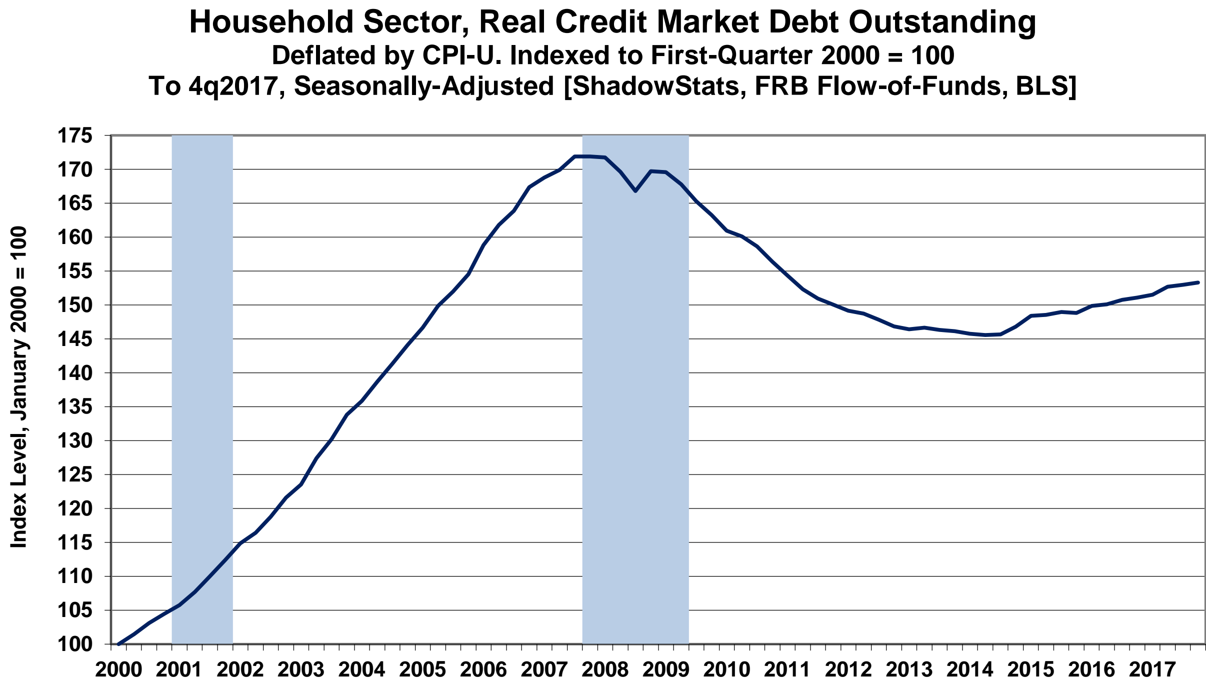
Consumer Credit: Lack of Expansion in Real Consumer Credit Constrains Economic Growth. The final five graphs on consumer conditions address consumer borrowing. Where debt expansion can help make up for a shortfall in income growth, expansion of consumer debt, which would help fuel expansion in personal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

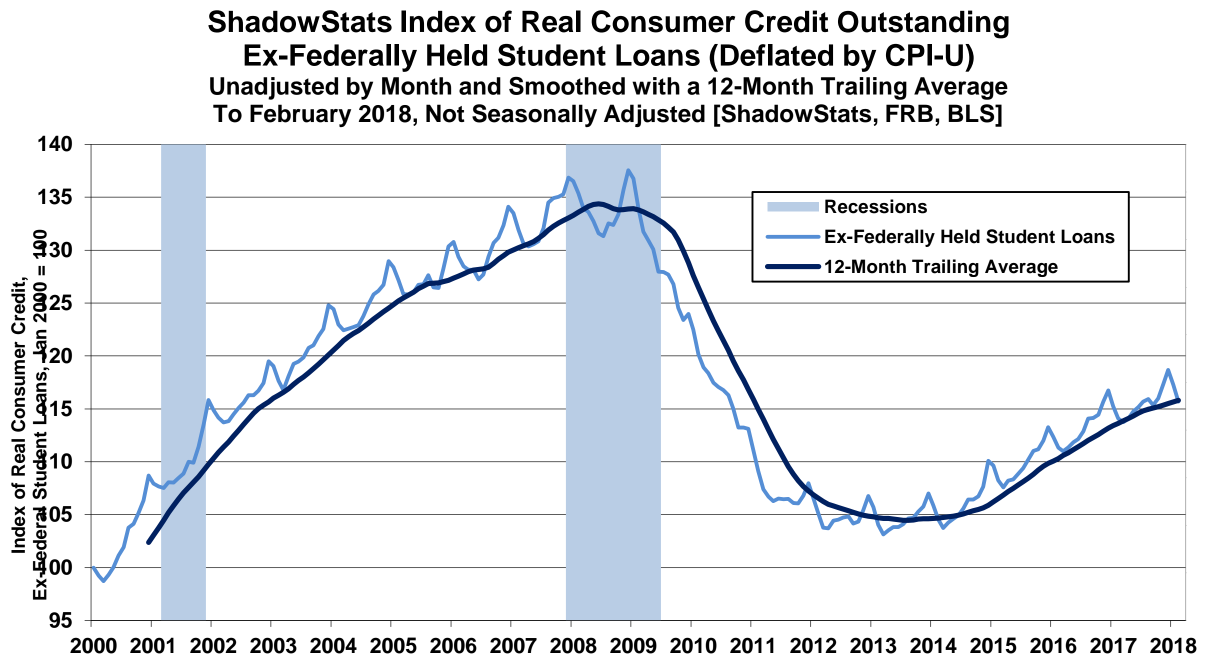
The series includes mortgages, automobile and student loans, credit cards, secured and unsecured loans, etc., all deflated by the headline quarterly CPI-U. The level of real debt outstanding has remained stagnant for several years, reflecting, among other issues, lack of normal lending by the banking 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 122 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 CLW-10* is indexed to Consumer Credit Outstanding Ex-Federal Student Loans equal to 100 in January 2000. In *Graphs CLW-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.

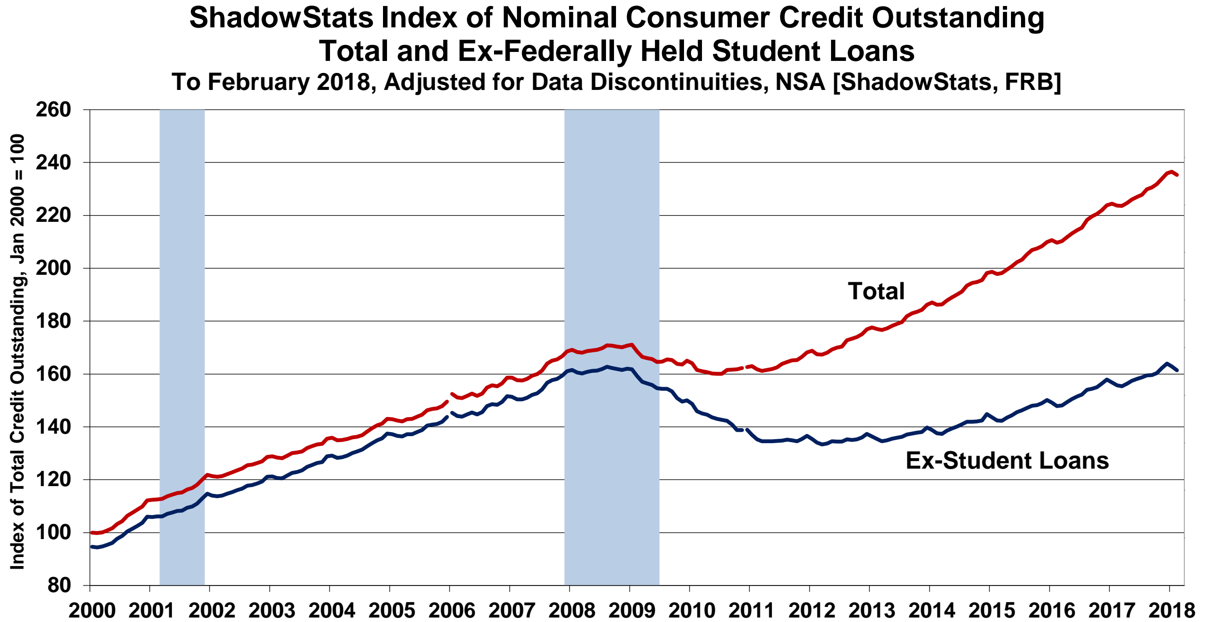
Shown through the February 2018 reading (released April 6th), the headline nominal monthly Consumer Credit Outstanding (*CLW-11*) is a subcomponent of the nominal Household Sector debt. Where *Graph CLW-12* reflects the real or inflation-adjusted activity for monthly Consumer Credit Outstanding terms 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.

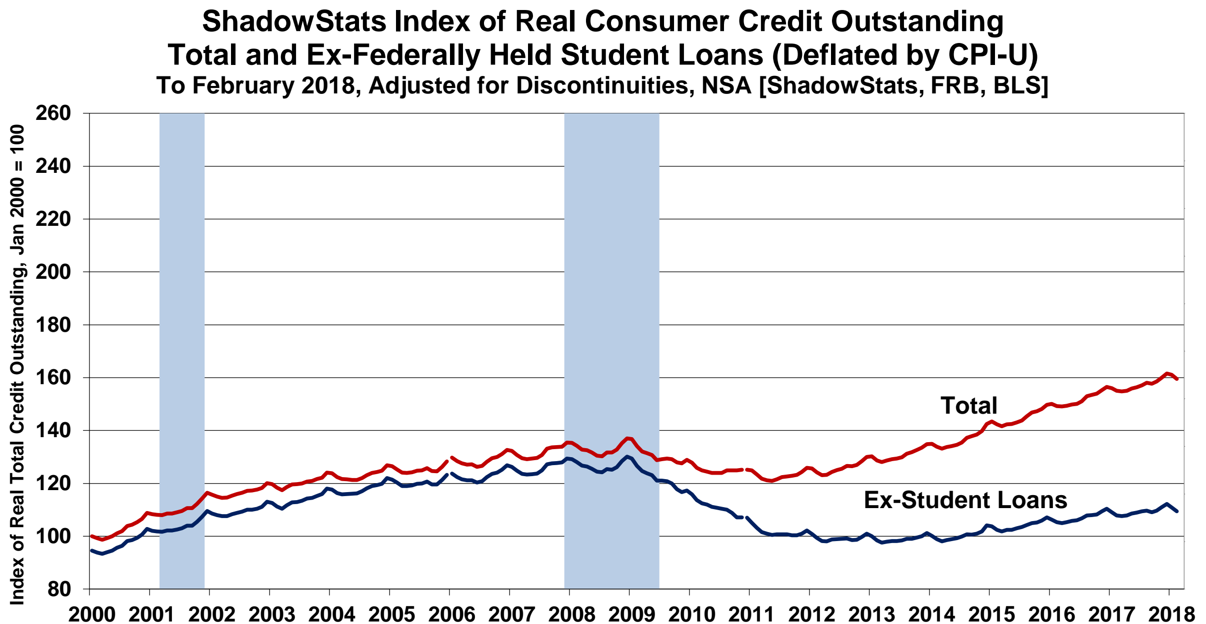
Adjusted for inflation, the lack of recovery in the ex-student loan area is more obvious. Where the recent monthly downside move in the not-seasonally-adjusted real consumer credit reflected something of a seasonal pattern, the pattern of year-to-year growth has been in downtrend, suggesting some tightening of credit conditions. Adjusted for discontinuities and inflation, ex-student loans, consumer credit outstanding in February 2018 was down from recovering its December 2007 pre-recession peak by 15,5% (-15.5%). That is 122 months or ten-plus years of non-expansion of credit. Year-to-year real growth shown in *Graph CLW-13* tends to resolve most monthly seasonal 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)



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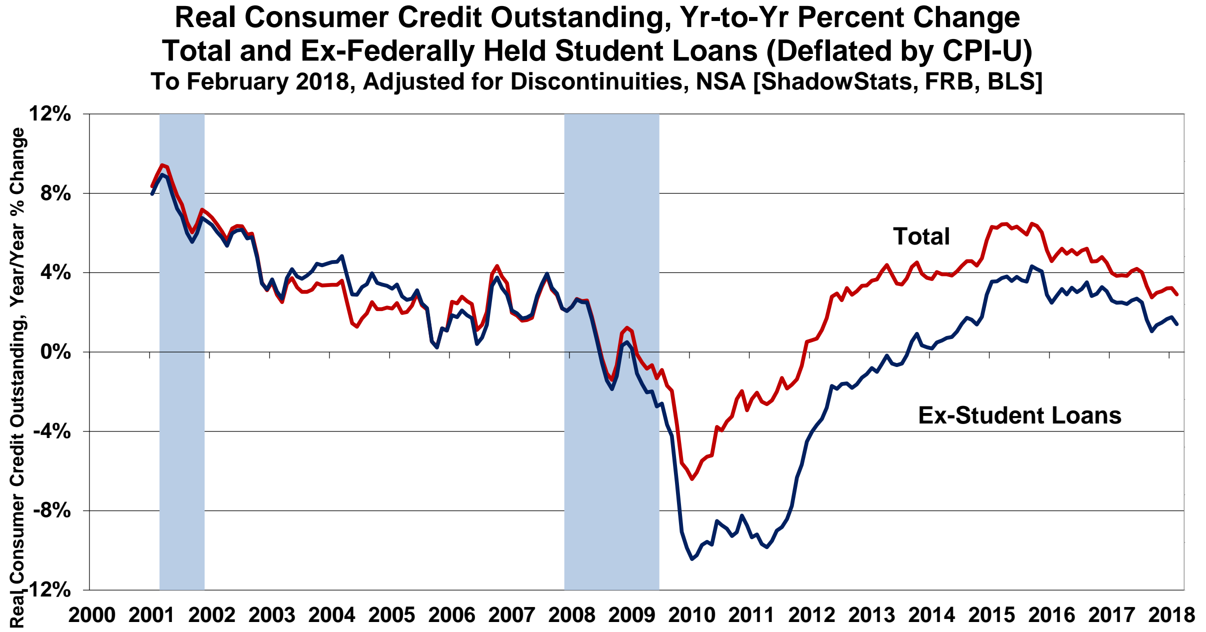
Graph CLW-13: Year-to-Year Percent Change, Real Consumer Credit Outstanding (2000 to 2018)



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

WEEK, MONTH AND YEAR AHEAD

U.S. Dollar and Financial-Market Turmoil Remain at High Risk, Amidst Mounting Fiscal Concerns, Consumer Liquidity Issues and Non-Expanding, Real-World Economic Activity. In the context of continued underlying deterioration in basic consumer-liquidity conditions, discussed in today's *Consumer Liquidity Watch*, more-difficult economic times are likely in the near future. Reviewed in today's *Opening Comments* there is good chance for the "advance" estimate of First-Quarter 2018 GDP to come in well below the expected 2.0%, with even weaker growth and renewed, faltering economic headlines to follow.

Broad 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 there on page 6. The faltering economic outlook also was reviewed in the *Opening Comments* and *Industrial Production Benchmark Revisions* sections of *Commentary No. 942-B*. The circumstances broadly have not changed from the related financial market vulnerabilities discussed in the *Opening Comments* and *Hyperinflation Watch* of last week's *Commentary No. 945*.

The U.S. dollar and financial markets remain at extraordinarily-high risk of intensified, panicked declines, likely in the very near term. 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 (March 2018). Reporting of March 2018 Existing-Home Sales is due for release on Monday, April 23rd, from the National Association of Realtors (NAR), while March 2018 New-Home Sales from the Census Bureau is scheduled for Tuesday, April 24th. Both series will be covered in *Commentary No. 947* of April 27th.

In the context of last month's mixed monthly sales and the extreme reporting volatility seen in recent months for both these series, reflecting unusually-unstable, seasonal-factor distortions and prior-period revisions, consensus expectations are modestly positive for both series. The discussion in in today's *Housing Starts Reporting Detail* as to pending annual revisions next month, and an effort then at stabilizing otherwise nonsensical volatility in Housing Starts, also applies to the New Home Sales series.

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With the extreme liquidity bind besetting consumers deteriorating and generally continuing to constrain residential real estate activity (see the *Consumer Liquidity Watch* and *Special Commentary No. 935*), odds generally favor weaker-than-expected numbers for both series. With softening 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 both the Existing- and New-Home Sales series. Reporting risks remain to the downside of consensus for both series.

New Orders for Durable Goods (March 2018). The Census Bureau will report March 2018 New Orders for Durable Goods on Thursday, April 26th, to be covered in *Commentary No. 947* of April 27th. Net of irregular activity in commercial aircraft orders, aggregate orders likely 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, but not likely much of further spike into March. The February orders likely were for inventory rebuilding, not for new sales. As of the February 2018 headline details, first-quarter 2018 real orders activity had turned negative or slowed sharply to flat growth, depending on the series. Such should continue with the March headline detail, with continuing negative signals for the Manufacturing sector of Industrial Production.

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 remains a fair bet to be in unexpected 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 March 2018 was a gain of 0.41%, following gains of 0.23% and 0.41% in February and January. Year-to-year annual inflation rose to 1.96% in March 2018, versus 1.72% in February 2018 and 1.79% in January (see prior *Commentary No. 945*).

Gross Domestic Product—GDP (First-Quarter 2018, "Advance" or First Estimate). The Bureau of Economic Analysis (BEA) will release its first- or "advance" estimate of First-Quarter 2018 GDP on Friday, April 27th, which will be covered in *Commentary No. 947* of that date. Initial estimates of First-Quarter 2018 Gross Domestic Income (GDI) and Gross National Product (GNP) will not be published

until the second GDP estimate on May 30th, due to the lack of significance of available detail (a general problem for the headline series, as discussed into today's *Opening Comments*, along with prospects for the pending "comprehensive" benchmarking and redefinition of the GDP series—back to 1929—on July 27th (see the *Opening Comments*).

Expectations are for an initial estimate of 2.0% annualized real quarter-to-quarter growth in the headline First-Quarter 2018 GDP estimate, versus the near-term "final" estimate of 2.9% (2.89% at the second decimal point) for fourth-quarter 2017. Such headline monthly growth imply a consensus real year-to-year change of 2.77% (near the historical average) in first-quarter 2018 versus 2.58% in fourth-quarter 2017.

With updated trade and inventory numbers before the April 27th release, odds favor a much weaker-than-expected headline growth rate, perhaps well below 1.0%, as the BEA will tend to signal the Consensus forecasters if the trend is going be sharply negative with the first revision, which most definitely should be the case, if the headline detail is positive, as expected. Again, see today's *Opening Comments.*

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 *Commentaries* usually are published at least weekly and update the general economic and financial o-market outlook, as circumstances develop.

Commentary No. 945 (April 11th) reviewed the March 2018 Consumer and Producer Prices Indices (CPI and PPI), Real Average Weekly Earnings, along with the latest *Hyperinflation Watch* on the U.S. dollar and financial markets.

Commentary No. 944 (April 8th) covered March 2018 Employment and Unemployment, the March Conference Board Help Wanted OnLine® Advertising, March Monetary Conditions and the full February Trade Deficit and Construction Spending.

Commentary No. 943 (March 29th) covered the third-estimate of, second-revision to Fourth-Quarter 2017 GDP and the only estimates to be made in current reporting of the GDI and GDP, as well as the "advance" estimate of the February merchandise trade deficit.

Commentary No. 942-B (March 27th) reviewed the Industrial Production annual benchmark revisions, general reporting-quality issues, February 2018 New Orders for Durable Good, New- and Existing-Home Sales and the Cass Freight Index™.

Commentary No. 942-A (March 23rd) provided a very brief summary of the much more extensive details covered in *Commentary 942-B*.

Commentary No. 941 (March 19th) covered February Industrial Production and New Construction Spending (Housing Starts and Building Permits), along with a general discussion in the *Opening Comments* on economic conditions and a preview of the Industrial Production benchmark revisions.

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, 3017) 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.

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