

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

COMMENTARY NUMBER 881

March Industrial Production, Housing Starts, Freight Index, Economic Review

April 19, 2017

**Broad Outlook Continues for Economic Stagnation and an
Intensifying Downturn**

**Unusual Weather Patterns Boosted March Utility Usage by a Record 8.6%;
Otherwise, the 0.5% Production Gain Was a Contraction of 0.4% (-0.4%)**

**Dominant Manufacturing Sector Dropped by 0.4% (-0.4%) on Top of
Downside Revisions to January and February (Automobile Manufacturing Fell)**

**Mining Sector Rose by 0.1%, Reflecting Soaring Gold Mining and
Oil Production, Largely Offset by Plunging Coal Mining**

**Still No Economic Expansion: Activity Held Below Pre-Recession Peaks, with
Production Down by 1.2% (-1.2%), Manufacturing Down by 6.4% (-6.4%) and
Housing Starts Down by 46.5% (-46.5%)**

Residential Construction Continued in Low-Level, Non-Recovering Stagnation

Freight Index Continued in Low-Level, Non-Recovering Stagnation

PLEASE NOTE: The next regular Commentary on Thursday, April 27th, will cover March 2017 New Orders for Durable Goods and New- and Existing-Home Sales, followed by a Commentary on Friday, April 28th, covering the “advance” estimate of first-quarter 2017 GDP. Please telephone me at (707) 763-5786, if you have questions or if you would like to talk.

Best wishes to all — John Williams

OPENING COMMENTS AND EXECUTIVE SUMMARY

Faltering Economic Activity Offers Negligible Prospects for Rebounding Economic Growth, Weaker Headline GDP Lies Ahead. The Bureau of Economic Analysis (BEA) will publish the first or “advance” estimate of first-quarter 2017 Gross Domestic Product (GDP) on Friday, April 28th. Consensus expectations likely will settle in below 1.0% annualized real growth (see the *Week, Month and Year Ahead* section). If so, the consensus likely will be surprised on the downside. As has happened in recent years, the BEA tends to target the consensus outlook with its initial estimate. Unless the consensus turns to an outright quarterly contraction in the next couple of days, however, the BEA likely will do its best to guide, but not to shock the markets. If the BEA sees a contraction—well within the realm of possibilities—it would keep initial headline reporting above zero, but well below consensus. When headline detail comes in much below consensus, such usually is an indication of a downside first revision, with barely-positive headline detail usually a precursor to a headline contraction to follow.

Reporting of the most-recent headline payroll, retail sales, production and housing numbers has been weak, and consensus expectations on the headline GDP purportedly have been weakening as well. Although March production, covered in today’s (April 19th) *Commentary*, showed a headline monthly gain of 0.5%, that all was in weather aberration. Net of the weather distortions, which tend to balance out over the period of a year, production otherwise contracted by 0.4% (-0.4%) in the month, driven by declining manufacturing, as seen in automobile production, and consistent with the most recent headline reporting and downside revisions to retail sales.

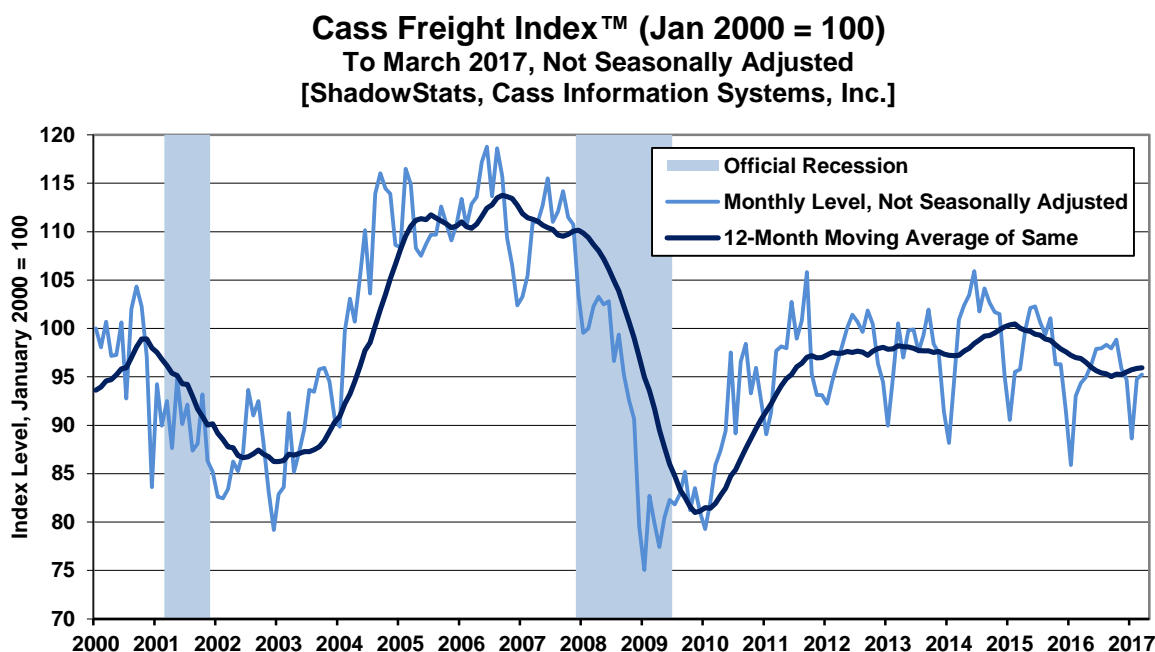
Where the historical production series revised sharply lower in the March 31st annual benchmarking (see the *Reporting Detail*), historical retail sales will go through the same process on April 26th. Likely negative changes there, and with the production series, would impact the July 28th annual benchmark revisions to the GDP, as opposed to the near-term headline GDP detail. Nonetheless, economists at the Federal Reserve, in the Administration and in the private sector (including Wall Street), already should have a fair sense as to where the numbers are headed.

March 2017 CASS Freight Index - Annual Growth Is Slowing, Series Remains in Low-Level Stagnation, Shy by 12.9% (-12.9%) of Its Pre-Recession Peak. ShadowStats follows a number of economic indicators—both conventional and not—looking for reliable reporting of real-world economic activity and for indications of shifting patterns in same. The [Cass Freight Index](#)[™] is one such indicator.

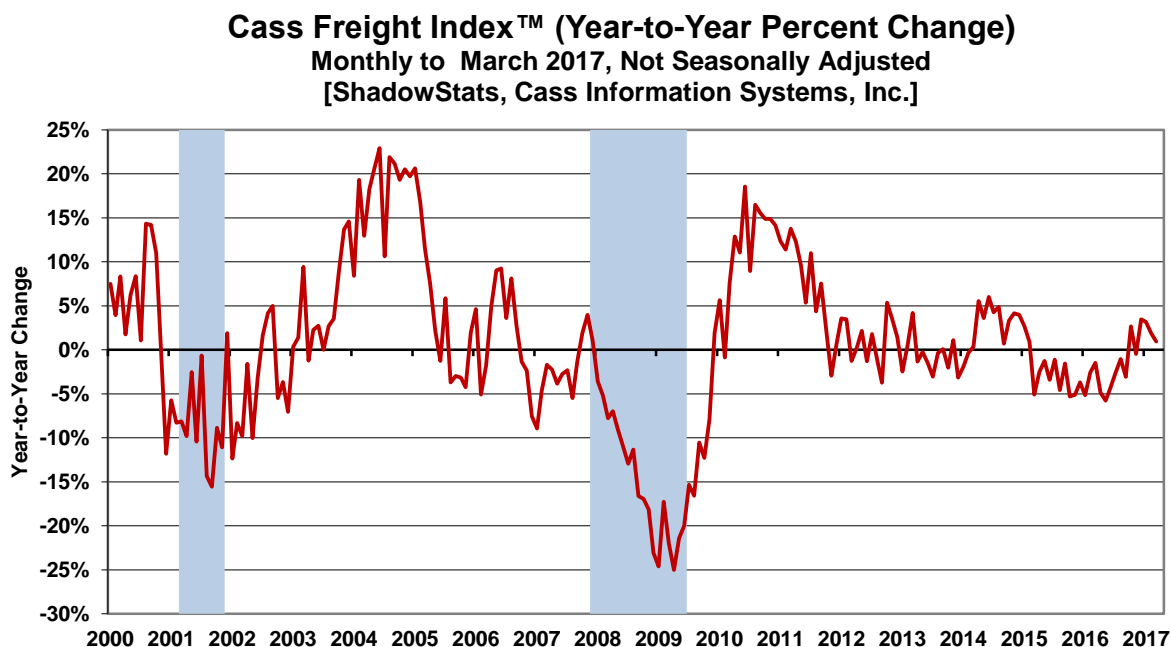
The patterns of continued low-level stagnation in the general economy and business activity were reflected once again in the headline detail of the March 2017 Cass Freight Index[™], released this morning (April 19th). For the fourth consecutive month, the fifth month in the last six, year-over-year monthly growth in the index was positive, albeit slowing (see the second of the following *Opening Graphs*). A consecutive string of nineteen months of annual contraction in the Freight Index began in March 2015, consistent with a “new” recession signal following the Industrial Production peak in November 2014. The benchmarked production series now shows a string of twenty-one consecutive monthly annual

contractions beginning April 2015, a pattern never seen outside of formal economic recessions in the 99-year history of the Industrial Production series.

Opening Graphs: CASS Freight Index™ Moving-Average Level (2000-March 2017)



CASS Freight Index, Monthly Year-to-Year Percent Change, through March 2017



The recent pattern of year-to-year monthly gains has excited industry speculation that the recession in freight activity may have hit bottom. Nonetheless, the current pattern of year-to-year gains has been weakening, anew, as shown in the second *Opening Graph*. Discussed in [Commentary No. 875](#) and expanded upon in [Commentary No. 876](#) on the business cycle, when activity recovers, such happy growth does not get clocked formally as a new economic expansion, until the series breaks above its pre-recession high.

Specifically, the ShadowStats smoothed headline reading on the Cass Freight Index, through March 2017, remained down by 12.9% (-12.9%) from recovering its pre-recession peak of December 2007. While the “Recovery” receives the benefit of growth off of low levels of activity, the deficit in activity versus the prior-peak level has to be overcome before formal, economic “Expansion” begins to be tallied.

Economic downturns eventually hit bottom, and the current circumstance likely will not be the exception. The economic collapse that formally has been recognized from peak activity in December 2007 to a trough in June 2009 is accurate in terms of timing the bottom. The official contention remains, though, that the headline economy (the real Gross Domestic Product) fully recovered thereafter, entering a period of new and ever-expanding economic growth in second- or third-quarter 2011. ShadowStats contends that the economy never fully recovered, moving instead into a period of protracted, low-level stagnation, which began to turn down anew in December 2014, as reflected, again, in today’s coverage of the Industrial Production series.

General Background to the Freight Index. Beginning with [Commentary No. 782](#) (further detail 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 2014, roughly 91% was attributable to the United States. The first of the *Opening Graphs* reflects the monthly numbers updated through March 2017. 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 has re-indexed the series to January 2000 = 100, to be consistent with other graphs used here. The headline index published by Cass is based at 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 onset of a “new recession” in December 2014, and had been slowing since, through September 2016.

Another approach to assessing not-seasonally-adjusted monthly detail is to look at year-to-year change by individual month, as plotted in the second *Opening Graph*. 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, but easing to 3.18% in January 2017, to 1.89% in February 2017 and now to 0.93% in March 2017..

Again, with the headline smoothed reading through March 2017 down by 12.9% (-12.9%) versus its pre-recession high, that is the growth deficit that has to be overcome before formal economic expansion begins.

In combination, the two *Opening Graphs* remain consistent with a pattern of collapsing economic and business activity into 2009, low-level stagnation thereafter and a renewed downturn effectively coincident with a “new” recession, which, again, likely will be timed from December 2014, whether or not it has bottomed.

Today’s Commentary (April 19th). These *Opening Comments* and *Executive Summary* respectively review the current economic circumstance and cover summary detail of March Industrial Production and New Residential Construction (Housing Starts).

The *Reporting Detail* (page 14) provides more-extensive analysis and graphics of general interest.

The *Week, Month and Year Ahead* (page 37) previews the reporting in the week ahead, through the end of the month for New- and Existing Home Sales, New Orders for Durable Goods and the “advance” estimate for first-quarter 2017.

Executive Summary: Industrial Production—March 2017—Monthly Production Boost of 0.5% Came From Record Utility Distortions; Manufacturing Fell by 0.4% (-0.4%). The March 31st annual benchmark revisions to the production series, as detailed in [Commentary No. 877](#), and as briefly summarized in today’s *Reporting Detail*, showed historical Industrial Production in a deeper and more-intense, double-dip recession, than previously indicated. The same is true with the Manufacturing Sector, which now reflects a deeper, more-intense recession, which never had a one- or two-month “recovery.”

In the context of those significant, downside annual benchmark revisions, the headline gain of 0.5% in March 2017-production activity still was not a happy circumstance as some might have hoped. Net of a record 8.6% monthly surge in utility usage—driven by irregular weather activity—March production declined by a sharp 0.4% (-0.4%), primarily reflecting a parallel plunge in, and downward revisions to, manufacturing activity. Such reflected weakening production of motor vehicles. Separately, 0.2% of the relative headline monthly gain in March 2017 was due to a downside revision to February 2017 headline activity, subsequent to the benchmarking.

Headline Industrial Production. In the context of a downside revision to the prior level of reported February 2017 production activity by 0.19% (-0.19%), headline March 2017 production rose by 0.55% (rounds to 0.5% at the first decimal point) for the month. In turn February production increased by a downwardly revised 0.06%. Net of prior-period revisions, March 2017 production increased in the month by 0.35%, instead of the headline 0.55%.

Detailed by major industry group, the headline March 2017 aggregate monthly gain of 0.55% reflected a monthly decline of 0.38% (-0.38%) in manufacturing activity, a weather-distorted gain of 8.62% in utilities activity, and a gain of 0.09% in mining activity (including oil and gas production). Again, the drop in manufacturing was dominated by a downturn in motor vehicle production, on top of downside revisions to activity in both February and January. The surge in utility usage was the strongest in the history of the series, dominated by irregularly-shifting weather patterns increasing heating needs. Net of the utility surge, production declined by 0.4% (-0.4%). The negligible gain in mining reflected jumps in

gold and silver mining and activity related to oil and gas production, offset largely by a renewed monthly plunge in coal mining activity.

Year-to-year change in March 2017 industrial production was a gain of 1.53%, versus a revised gain of 0.25% in February 2017.

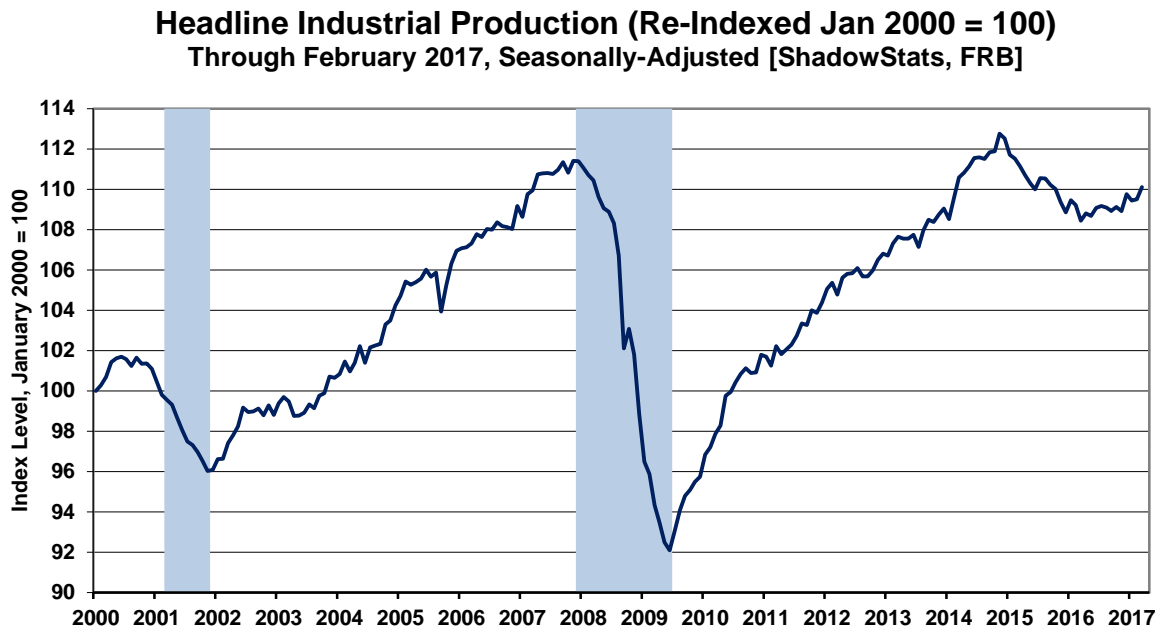
Production Activity and Graphs—Corrected and Otherwise. Again, fully updated for the March 31st benchmark revisions to production (see [Commentary No. 877](#)), the regular graphs of headline production activity and annual growth detail are found in the *Reporting Detail (Graphs 11 to 14)*, along with the drill-down graphs of major subcomponents of the production series (*Graphs 15 to 28*).

The level of headline production showed a topping-out process in third- and fourth-quarter 2014, followed by deepening quarterly downturns into first- and second-quarter 2015, with the second-quarter 2015 also beginning a string of quarterly year-to-year contractions. Third-quarter 2015 showed some bounce, but activity in fourth-quarter 2015 and in first- and second-quarter 2016 turned down anew, dropping sharply into negative quarter-to-quarter growth and continuing year-to-year decline. Third-quarter 2016 growth was positive on a quarter-to-quarter basis, but continued in annual contraction. That pattern repeated in fourth-quarter 2016. That seventh straight quarter of annual contraction was a circumstance never seen in industrial production surveying outside of periods that eventually were recognized formally as recessions. With the reporting of headline first-quarter 2017 detail, production activity showed both annual and quarterly gains, although the headline quarterly activity remained below pre-recession highs seen in 2007.

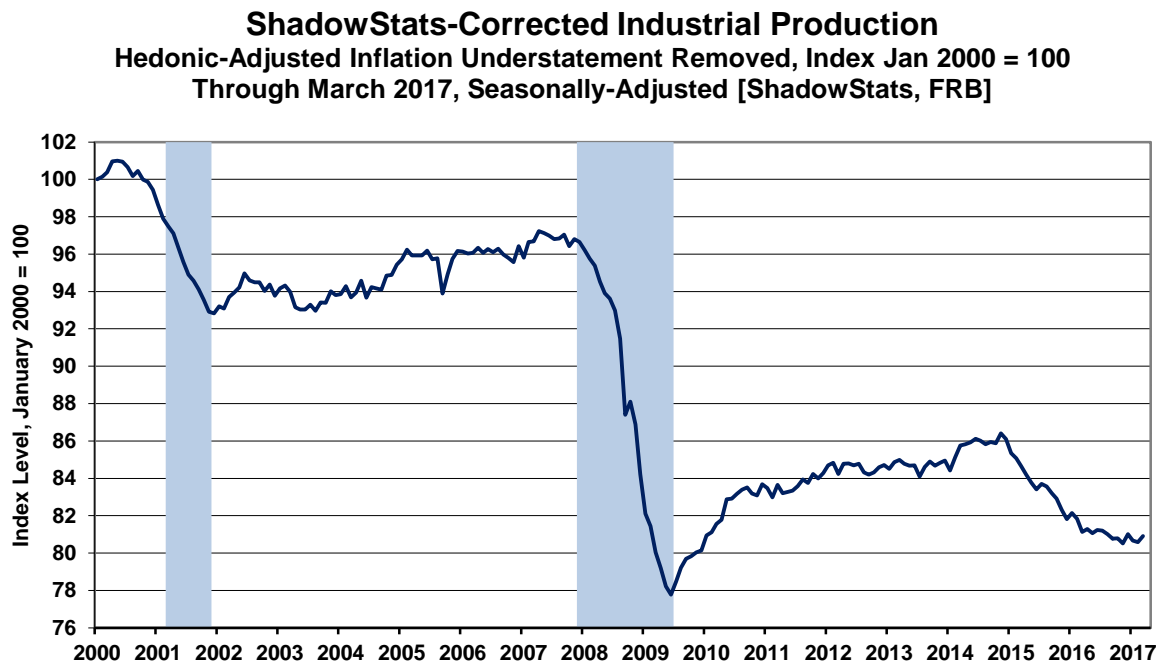
Graphs 1 and 2, which follow in this section, address reporting quality issues tied just to the overstatement of headline growth in the total series that results directly from the Federal Reserve Board using too-low an estimate of inflation in deflating some components of its production estimates into real dollar terms, for inclusion in the Index of Industrial Production. Hedonic quality adjustments to the inflation estimates understate the inflation rates used in deflating those components; thus overstating 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*).

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

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



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



Graph 1 shows official, headline industrial production reporting, but indexed to January 2000 = 100, instead of the Fed's formal index that is set at 2012 = 100. The 2000 indexing simply provides for some consistency in the series of revamped "corrected" graphics including real retail sales, new orders for

durable goods and the GDP (see respectively [Commentary No. 880](#), [Commentary No. 875](#) and [Commentary No. 876](#)) and as broadly covered in the *ECONOMY* section of [No. 859 Special Commentary](#). It does not affect the appearance of the graph or reported growth rates (as can be seen with a comparison of *Graph 1* here to *Graph 13* in the *Reporting Detail* section).

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

This “corrected” *Graph 2* shows some growth in the period subsequent to the official June 2009 trough in production activity, but that upturn has been far shy of the short-lived full recovery and the renewed expansion reported in official GDP estimation (see [Commentary No. 869](#) and the *ECONOMY* section of [No. 859 Special Commentary](#)). Unlike the headline industrial production data and the headline GDP numbers, corrected production levels never recovered pre-recession highs, although the headline aggregate production index quickly backed off its official two-month “recovery” in October and November 2014, and the headline manufacturing sector never has recovered fully. Instead, the “corrected” series 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 first-quarter 2017.

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. With initial headline detail in place for first-quarter 2017 GDP, that quarter grew both quarter-to-quarter and year-to-year, as discussed in the *Reporting Detail*.

New Residential Construction (Housing Starts)—March 2017—Continued Low-Level, Non-Recovering Stagnation. Smoothed and viewed in terms of its six-month moving average, housing starts activity still showed a plunge from its 2006 pre-recession peak to a trough in 2009, followed by a protracted period of up-trending but non-recovering low-level activity. That flattened out in the last year or two in ongoing, low-level stagnation (see accompany *Graph 6* and *Graphs 32* and *34* in the *Reporting Detail*).

Plotted with just the raw, seasonally-adjusted monthly data, the pattern of low-level stagnation remains broadly the same, with the headline March 2017 level of starts still shy by 47% (-47%) of recovering its pre-recession peak (see *Graph 5*). In like manner, the dominant single-unit housing starts sector of this series has shown similar, low-level, non-recovering stagnation, still shy of recovering its pre-recession peak by 55% (see *Graph 7*). Although the more-volatile, multi-unit category recovered its pre-recession peak in 2015, the headline March 2017 reading was back below that peak by 12.4% (-12.4%) as seen in *Graph 9*.

Headline Reporting. The March 2017 aggregate housing-starts measure showed a statistically-insignificant 6.8% (-6.8%) monthly decline, versus an upwardly-revised monthly gain of 5.0% in

February 2017. Level-of-activity aggregate detail is plotted in *Graphs 3 to 6* here, and in *Graphs 30, 32, 33 and 34* in the *Reporting Detail*.

Year-to-year change in the seasonally-adjusted, March 2017 aggregate housing-starts measure was a statistically-insignificant gain of 9.2%, versus a revised annual gain of 7.4% in February 2017. As usually is the case, none of the monthly or annual changes was statistically significant in aggregate or by subcategory.

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 multi-unit structure starts that generally reflect the building of condominiums, rental and apartment units. In March, the pace of monthly decline was evenly distributed across the various subcategories. Graphs of the different sectors follow in accompanying *Graphs 3 to 10*, with extended detail and graphs in the *Reporting Detail*.

A Note on the Regular Housing Starts Graphs. [This section largely is repeated from the *Reporting Detail section*.] Headline reporting of Housing Starts activity is expressed by the Census Bureau as an annualized monthly pace of starts, which was 1,215,000 in March 2017, versus an upwardly-revised 1,303,000 [previously 1,288,000] in February 2017. The scaling used in the aggregate housing starts and building permits *Graphs 29 to 34* in the *Reporting Detail* reflects those annualized numbers.

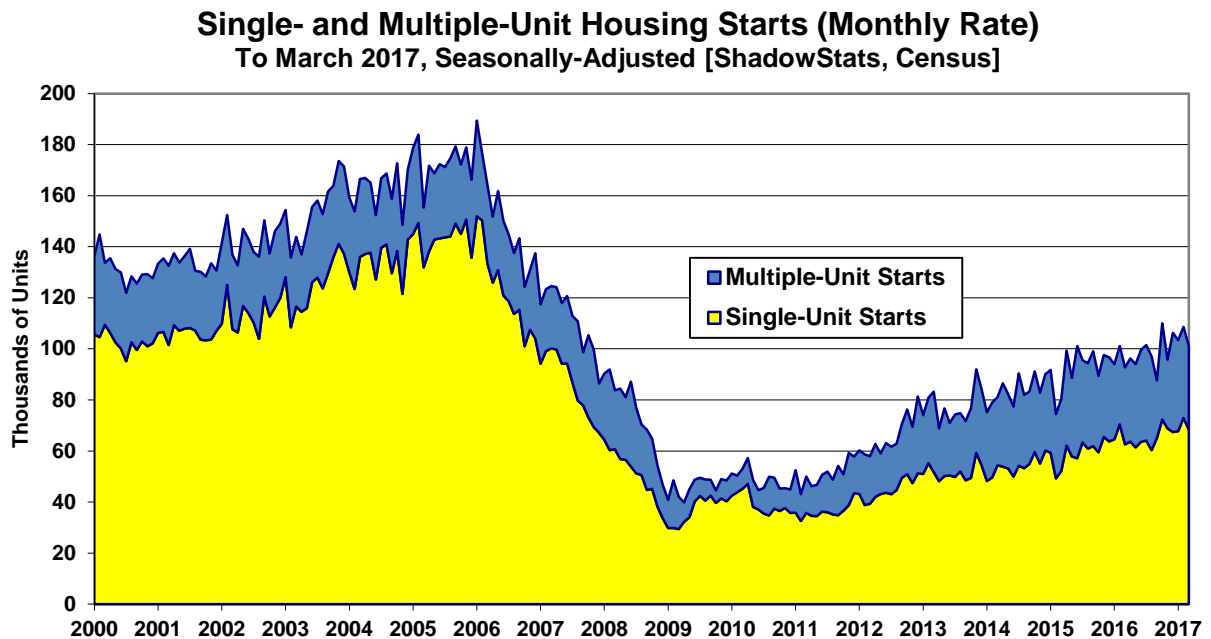
Nonetheless, given the nonsensical monthly volatility in reporting and the exaggerated effect of annualizing the monthly numbers in this unstable series, despite the related sales pitch, the magnitude of monthly activity and the changes in same, more realistically are reflected at the non-annualized monthly rate. Consider that the unrevised headline, annualized month-to-month gain of 268,000 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 101,250 units in March 2017, instead of the annualized headline level of 1,215,000 units, is used in the scaling here of accompanying *Graphs 3 to 10*. With the use of either scale of units, though, appearances of the graphs and the relative monthly, quarterly and annual percentage changes are otherwise identical, as seen in a comparison of *Graph 5* versus *Graph 30* in the *Reporting Detail*.

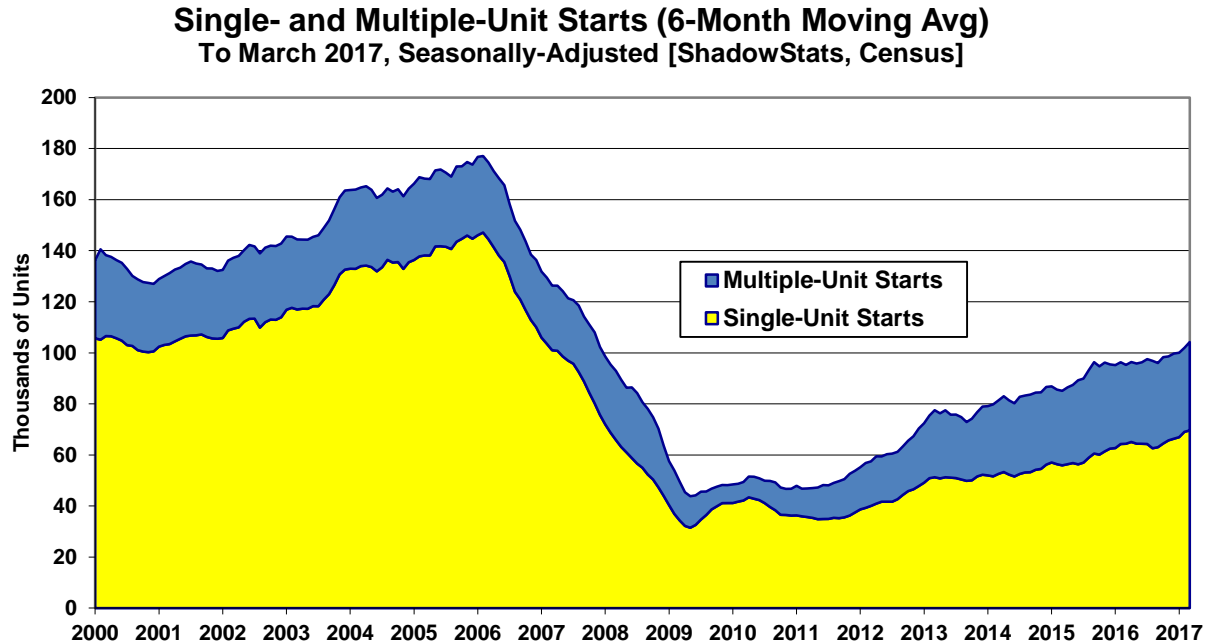
The record monthly low level of activity seen for the present aggregate series was in April 2009, where the annualized monthly pace of housing starts then was down by 79% (-79%) from the January 2006 pre-recession peak for the series. Against that downside-spiked low in April 2009, the March 2017 headline monthly number was up by 154%, but it still was down by 47% (-47%) 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 33 and 34* in the *Reporting Detail*. In fact, as can be seen there in *Graph 34*, 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.

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

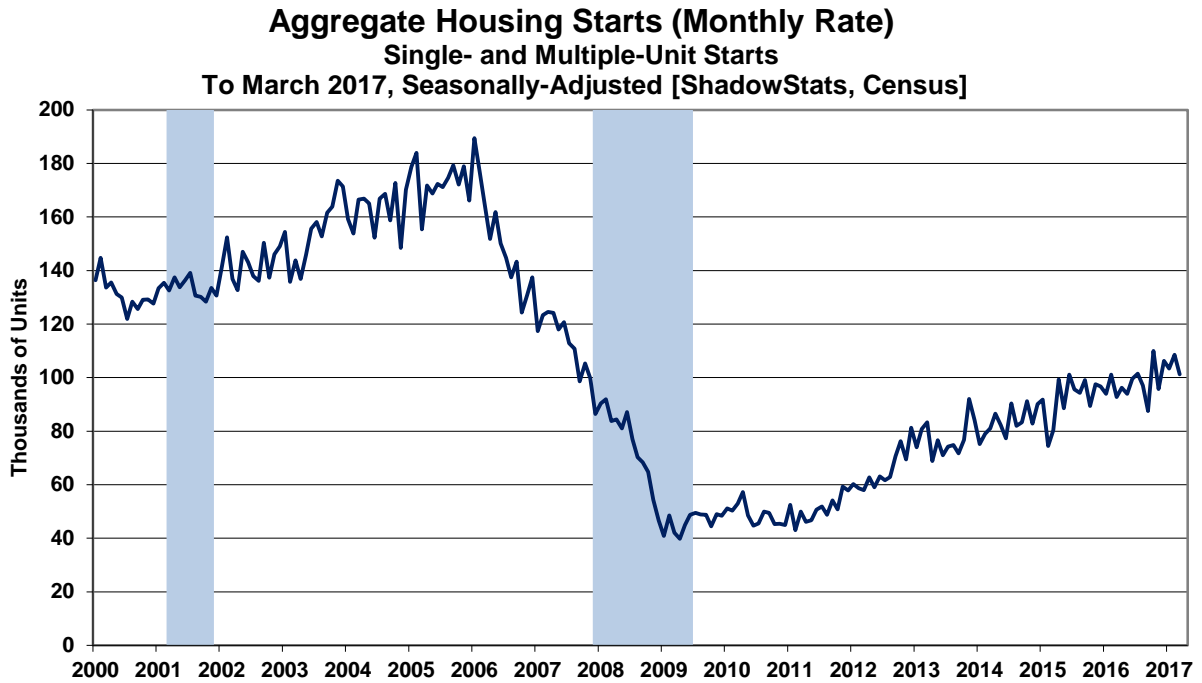
Graph 3: Single- and Multiple-Unit Housing Starts (Monthly Rate of Activity)



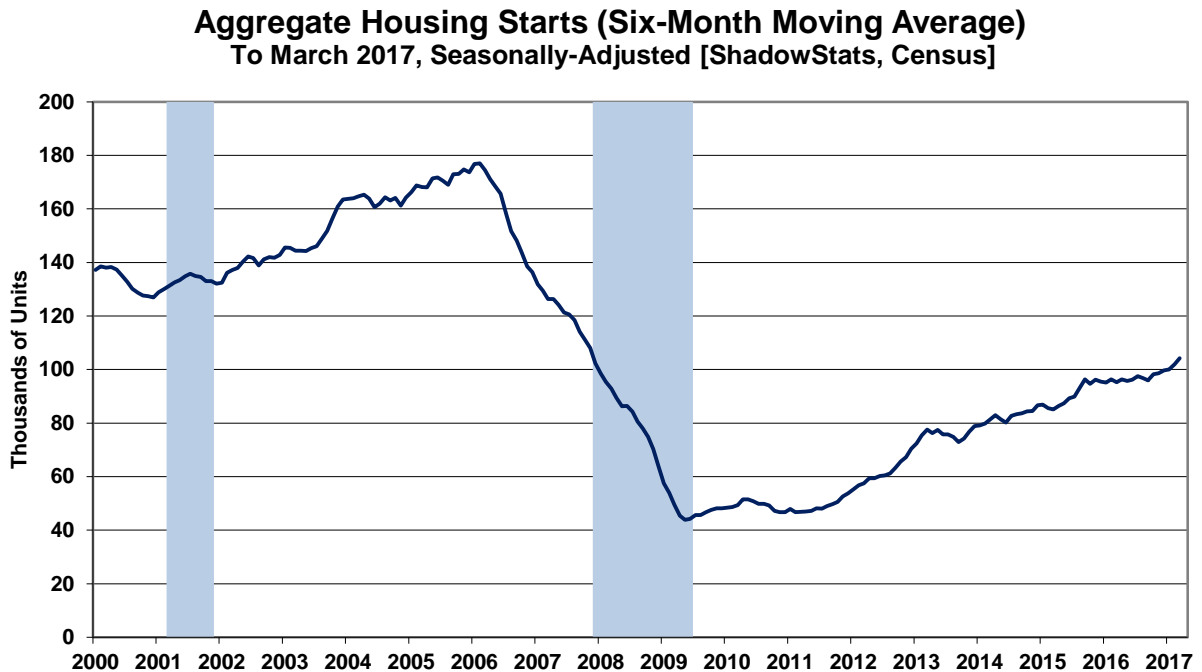
Graph 4: Single- and Multiple-Unit Starts (Six-Month Moving Average, Monthly Rate of Activity)



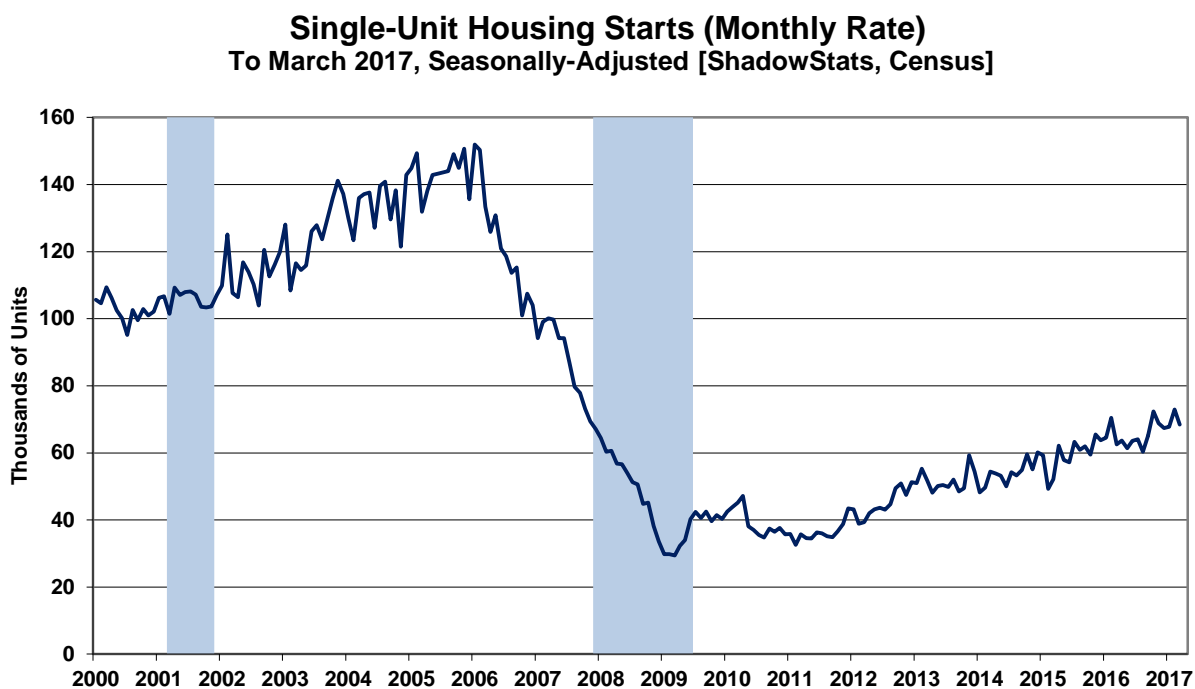
Graph 5: Aggregate Housing Starts (Monthly Rate of Activity)



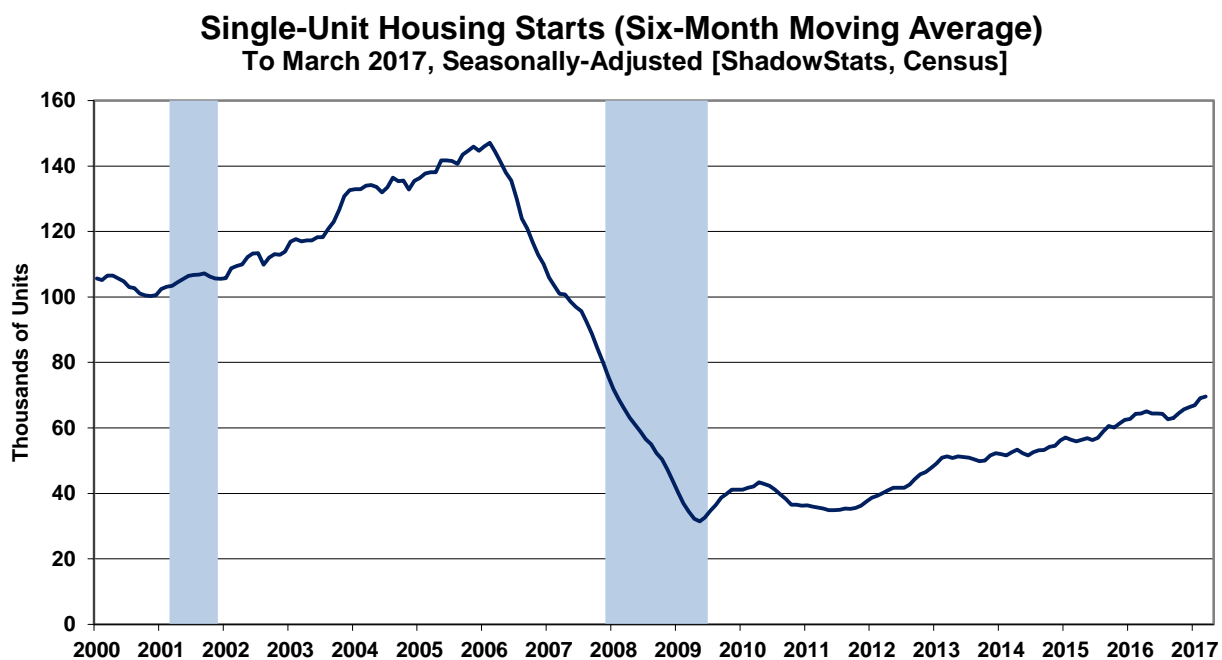
Graph 6: Aggregate Housing Starts (Six-Month Moving Average, Monthly Rate of Activity)



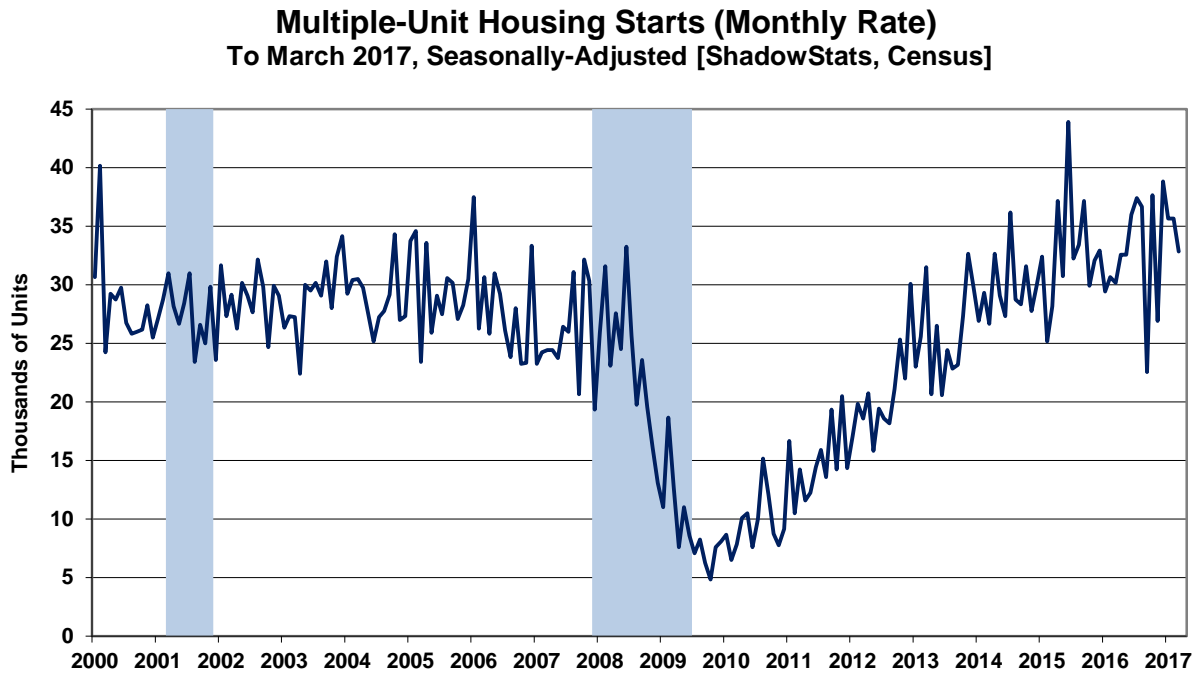
Graph 7: Single-Unit Housing Starts (Monthly Rate of Activity)



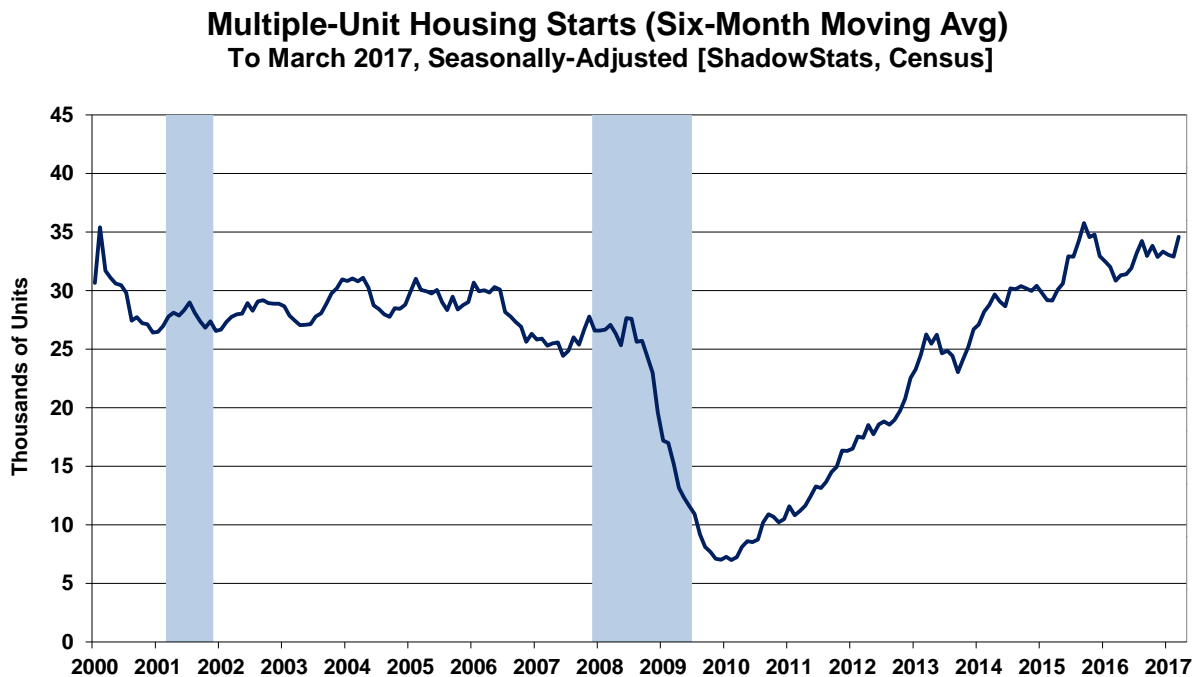
Graph 8: Single-Unit Housing Starts (Six-Month Moving Average, Monthly Rate of Activity)



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



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



[The Reporting Detail contains extended analysis and graphs.]

REPORTING DETAIL

INDUSTRIAL PRODUCTION (March 2017)

Other Than for Weather-Spiked Utility Usage, March Production Took a Hit from Declining Auto Manufacturing. In the context of the significant, downside annual benchmark revisions to industrial production and manufacturing, through February 2017 (see detail of the March 31st revisions in [Commentary No. 877](#)), the headline gain of 0.5% in March 2017-production activity was weaker than expected. Net of a record 8.6% monthly surge in utility usage—driven by irregular weather activity—March production declined by a sharp 0.4% (-0.4%), primarily reflecting a plunge in and downward revisions to manufacturing activity, which reflected weakening production in and revisions to automobile manufacturing activity. Separately, 0.2% of the relative headline monthly gain in March 2017 was due to a downside revision to February 2017 headline activity.

Benchmark Summary: Downside Revisions, a More Severe Double-Dip Downturn in Manufacturing and Production. Largely reflecting better-quality, hard detail available out of the 2015 Census of Manufactures, headline industrial production and underlying manufacturing activity revised lower in the 2015 period and after in the annual benchmark revisions published on March 31st. Near-term detail only of the revisions to the aggregate production and manufacturing series are highlighted in the following graphs *Benchmark-1* and *Benchmark-2*. Those graphs may be seen in the context of full historical perspective in [Commentary No. 877](#) (also see the fully-revised series plotted here in *Graphs 13* and *15*).

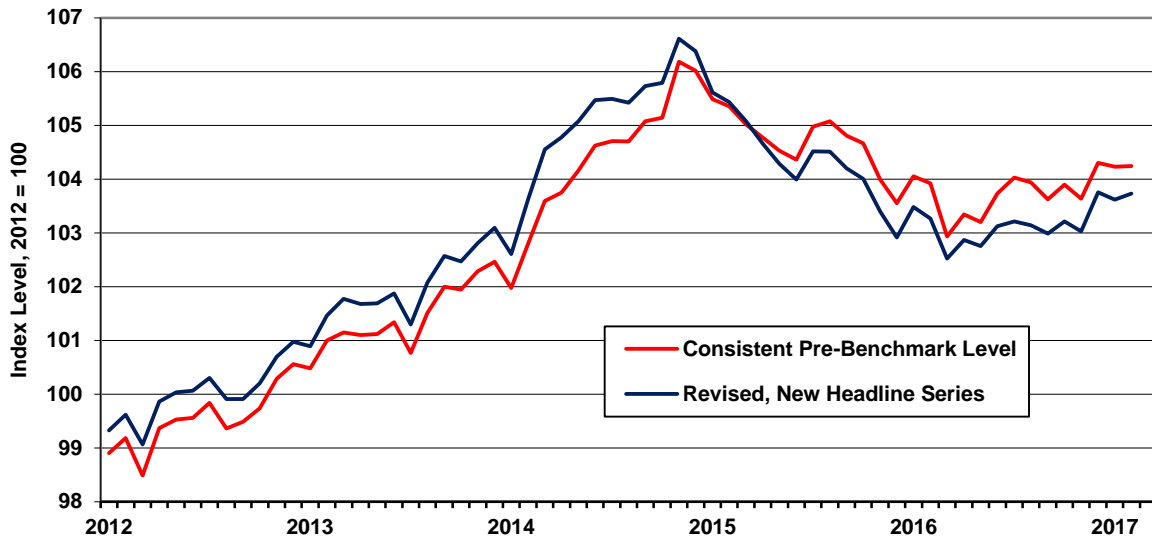
The intensifying double-dip recession, which had been obvious in the production series, deepened in revision. Consider, for example, that two or more consecutive quarters of annual decline in industrial production never have been seen in the 99-year history of the production series, outside of what would become recognized formally as recessions. Coming into the benchmark revisions, there had been five such consecutive quarters of annual decline, through fourth-quarter 2016. Post-benchmarking, that count now is seven consecutive quarters.

As a separate matter, seen later in the graphs of the mining sector (see *Graphs 22* to *28*) levels of activity in coal mining and in gold and silver mining were revised higher for recent years. Oil and gas activity also was upgraded in terms of weighting in the production series, which is not obvious in the related graphs, except that has provided some relative boost, in revision, to the aggregate mining sector and the related, aggregate industrial production series. Again, see [Commentary No. 877](#) for full detail

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

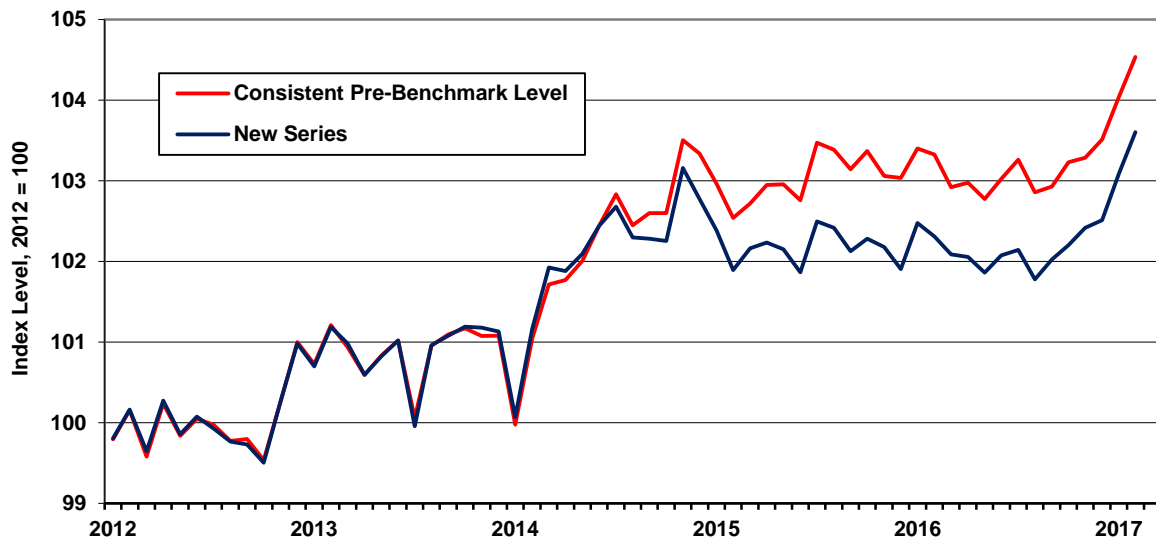
Graph Benchmark-1 - Revised Monthly Industrial Production (2012 to 2017)

2017-Benchmarked Index of Industrial Production (2012 = 100)
Level to February 2017, Seasonally-Adjusted [ShadowStats, FRB]



Graph Benchmark-2 - Revised Monthly Industrial Production – Manufacturing (2012 to 2017)

2017-Benchmarked Production - Manufacturing Sector
Level to February 2017, Seasonally-Adjusted [ShadowStats, FRB]



One of the Better-Quality Series, Industrial Production Still Overstates Headline Activity. Despite the recent benchmark revisions, current headline production detail still overstates economic activity. With the benchmarked 2016 industrial production representing 59% (previously 61%) of the real value of Gross Domestic Product (GDP), as estimated by the Federal Reserve, the broad economy remains in the harsh

reality of ongoing recession, one that has continued from somewhat before 2007. Although never recovering, a renewed downturn in activity has been underway since December 2014, following a period of low-level, non-recovered economic stagnation.

That is irrespective of the continuing happy hype out of the Bureau of Economic Analysis (BEA), which guesstimates fourth-quarter 2016 real GDP reflected inflation-adjusted, real broad economic activity at 12.2% above its pre-recession peak (see [Commentary No. 876](#)). No other major economic series shows anything close to that purported level of recovery, while industrial production has shown a renewed and continuing downturn (see discussions in [Commentary No. 877](#) and [No. 859 Special Commentary](#)).

As of headline March 2017 reporting, the Industrial Production Index (2012 = 100) stood at 104.100, below its formal pre-recession high by 1.17% (-1.17%) and was down by 2.36% (-2.36%) from its one-month “expansion” peak level of November 2014.

The dominant manufacturing sector (76.4% of Industrial Production, 45% of GDP, as weighted in 2016) never has recovered, with March 2017 manufacturing activity still down by 6.43% (-6.43%) from reclaiming its pre-recession peak level of activity.

Those issues also were expanded upon in [Commentary No. 869](#), where the pre-benchmark, but still-relevant pattern of industrial production, in the historical context of that series and broad domestic economic activity, has demonstrated that headline GDP activity no longer has any meaningful relationship to underlying economic reality.

Even so, allowing for the merits of the headline Industrial Production series, the understatement of inflation used in estimating some components of production still results in some overstatement of headline production growth, as discussed in the *Executive Summary* and plotted there in *Graphs 1* and *2*.

An overriding issue continuing to hamper policies of the Federal Reserve, as well as the dominant contributing factor behind the major political shift seen with the 2016 presidential election (see [Commentary No. 846](#)), is that the U.S. economy never really recovered from the “2007 Recession.” The unfolding “new” downturn remains no more than another down-leg in an economic collapse that began to show itself in 2005 and 2006 (again, see [No. 859 Special Commentary](#)). In the post-benchmark revision era for Industrial Production, the headline (not the ShadowStats-corrected) series, again, recovered its pre-recession high only for only two months, in October and November 2014 and has been in fairly-consistent monthly decline ever since, falling month-to-month in 19 out of 27 months, with year-to-year decline following in 20 of the last 23 months. That said, the headline production downturn may be bottoming out, at the moment, but there has been no upturn of substance from a potential near-term trough.

Headline Industrial Production—March 2017. In the context of annual benchmark revisions through February 2017, as published on March 31st (again, see [Commentary No. 877](#)), the Federal Reserve Board released its first estimate of seasonally-adjusted, March 2017 Industrial Production, April 18th. In the context of first round of post-benchmarking monthly revisions, with a downside revision to the prior level of reported February 2017 production activity by 0.19% (-0.19%), headline March 2017 production rose by 0.55% (rounds to 0.5% at the first decimal point) for the month. In turn February increased by 0.06% [previously 0.11%] versus a revised monthly decline in January 2017 of 0.29% (-0.29%) [previously down by 0.13% (-0.13%)] versus December 2016. December’s current revised monthly gain was 0.77% [previously up by 0.71%], versus November’s revised decline of 0.19% (-0.19%) [previously down by

0.18% (-0.18%)] and October's revised gain of 0.18% [previously up by 0.22%]. Net of prior-period revisions, March 2017 production increased in the month by 0.35%, instead of the headline 0.55%.

Detailed by major industry group (see *Graphs 13, 15, 20 and 22*), the headline March 2017 monthly aggregate gain of 0.55% was composed of a monthly decline of 0.38% (-0.38%) in manufacturing activity, a weather-distorted gain of 8.62% in utilities activity, and a gain of 0.09% in mining activity (including oil and gas production). The drop in manufacturing was dominated by a downturn in motor vehicle production, on top of downside revisions to activity in both February and January. The surge in utility usage was the strongest in the history of the series, dominated by irregularly-shifting weather patterns increasing heating needs. Net of the utility surge, production declined by 0.4% (-0.4%).

Year-to-year change in March 2017 industrial production was a gain of 1.53%, versus a revised gain of 0.25% [previously 0.45%] in February 2017, a revised decline of 0.01% (-0.01%) [previously a gain of 0.13%] in January 2017 and a gain of 0.83% [previously 0.82%] in December 2016, which remained the first year-to-year upturn in sixteen months, a circumstance unprecedented outside of formal recessions. Those details were against revised annual declines of 0.41% (-0.41%) [previously 0.35% (-0.35%)] in November 2016, with October 2016 now down by 0.80% (-0.80%) [previously down by 0.76% (-0.76%)].

Quarterly and Annual Production Changes. Post-2017 annual benchmarking, year-to-year growth rates in quarterly production had continued to slow and then decline, ranging from a positive 1.72% in first-quarter 2015, to annual declines of 0.76% (-0.76%) in second-quarter 2015, 1.08% (-1.08%) in third-quarter 2015 and 2.66% (-2.66%) in fourth-quarter 2015.

The annual declines continued, down by 2.17% (-2.17%) in first-quarter 2016, by 1.34% (-1.34%) in second-quarter 2016 and by 1.24% (-1.24%) in third-quarter 2016. Fourth-quarter 2016 production contracted year-to-year for the seventh-straight (had been the fifth-straight pre-benchmarking) quarter by a revised 0.13% (-0.13%) [previously down by 0.10% (-0.10%)].

Year-to-Year Change for First-Quarter 2017. With initial full first-quarter 2017 detail in place, annual change by quarter turned positive, up by 0.59%, the first annual gain since first-quarter 2015.

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

The first-quarter 2016 declined by 1.34% (-1.34%), quarter-to-quarter, with a second-quarter 2016 quarterly decline of 0.68% (-0.68%). Third-quarter 2016 industrial production expanded at an annualized pace of 0.78%, with the fourth-quarter 2016 gain a revised 0.74% [previously 0.84%].

Annualized First-Quarter 2017. With initial first-quarter 2017 detail in place, the annualized quarterly gain was 1.53%.

Production Graphs. The regular two sets of long- and short-term plots of industrial production levels and annual growth rates (*Graphs 11 to 14*) set the background for the drill-down detail graphs of various components of the aggregate industrial series (*Graphs 15 to 28*).

Graphs 11 and 12, and Graphs 13 and 14 show headline industrial production activity to date. *Graph 12* shows the monthly year-to-year percent change in the aggregate series, in historical context since World War II. Post-benchmarking, activity was somewhat stronger coming into 2014, but much weaker going into 2015, as detailed in *Graph Benchmark-1* and, again, in [Commentary No. 877](#).

Graph 11 shows the monthly level of the production index post-World War II, with a topping-out and renewed downturn—deepening quarterly contractions in first- and second-quarter 2015, with a bounce in third-quarter 2015, followed by renewed and deeper contractions in fourth-quarter 2015 and first- and second-quarter 2016, a bounce back in third-quarter with gains into first-quarter 2017. Such patterns of monthly, quarterly and annual declines still were seen last in the economic collapse into 2009, and historically never seen outside of what would be recognized as formal recessions. *Graphs 13 and 14* show the same series in near-term detail, beginning in January 2000.

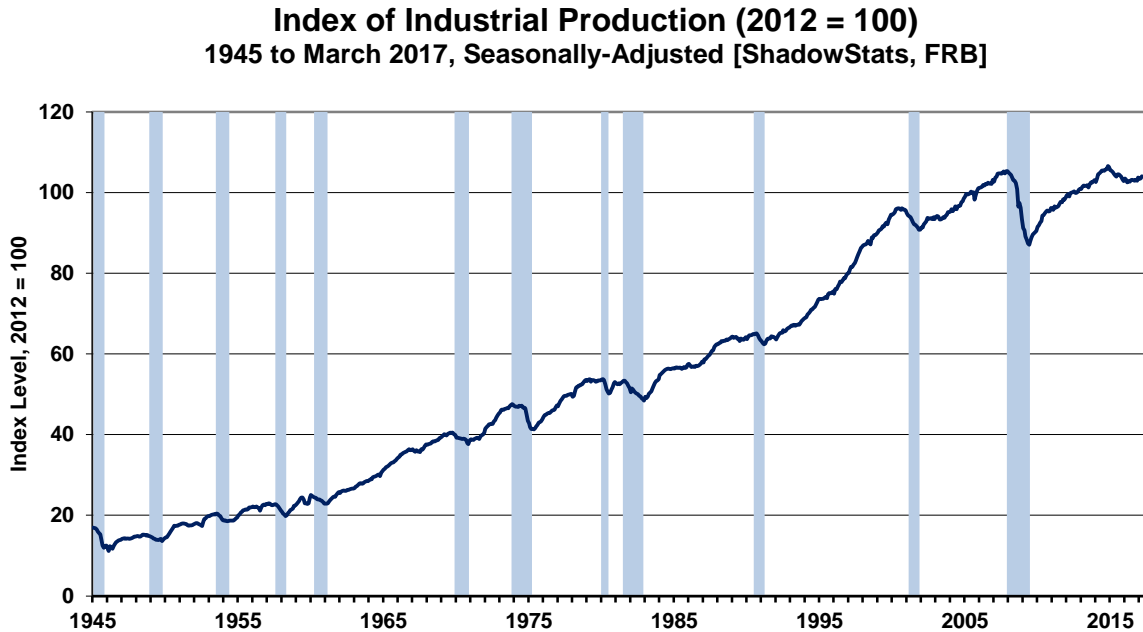
Seen most clearly in *Graph 14*, the benchmarked pattern of year-to-year activity still dipped anew in 2013, again, to levels usually seen at the onset of recent recessions, bounced higher into mid-2014, fluctuated thereafter, turning negative, again, into 2015 and through 2016 as seen only in formal recessions. Again, in the context of the 2017 benchmark revisions, year-to-year growth remains well off the recent relative peak for the series, which was 8.55% in June 2010, going against the official June 2009 trough of the economic collapse. Indeed, as shown in *Graph 12*, the June 2009 (the end of second-quarter 2009) year-to-year contraction of 15.43% (-15.43%) was the steepest annual decline in production since the shutdown of wartime production following World War II.

Although generally now-faltering, official production levels had moved higher since the June 2009 trough, corrected for the understatement of inflation used in deflating portions of the industrial production index (see the *Executive Summary* section, *Graph 2*). That series has shown more of a pattern of stagnation with a slow upside trend, since 2009, with irregular quarterly contractions interspersed. The slow uptrend continued into a topping out pattern in late-2014. Headline growth—purportedly already neutered of any inflation impact—contracted in both first- and second-quarter 2015, moved minimally higher into third-quarter 2015, contracted into second-quarter 2016, and turned positive in third-quarter 2016 through first-quarter 2017. The “corrected” series has contracted quarter-to-quarter throughout 2016 and into 2017.

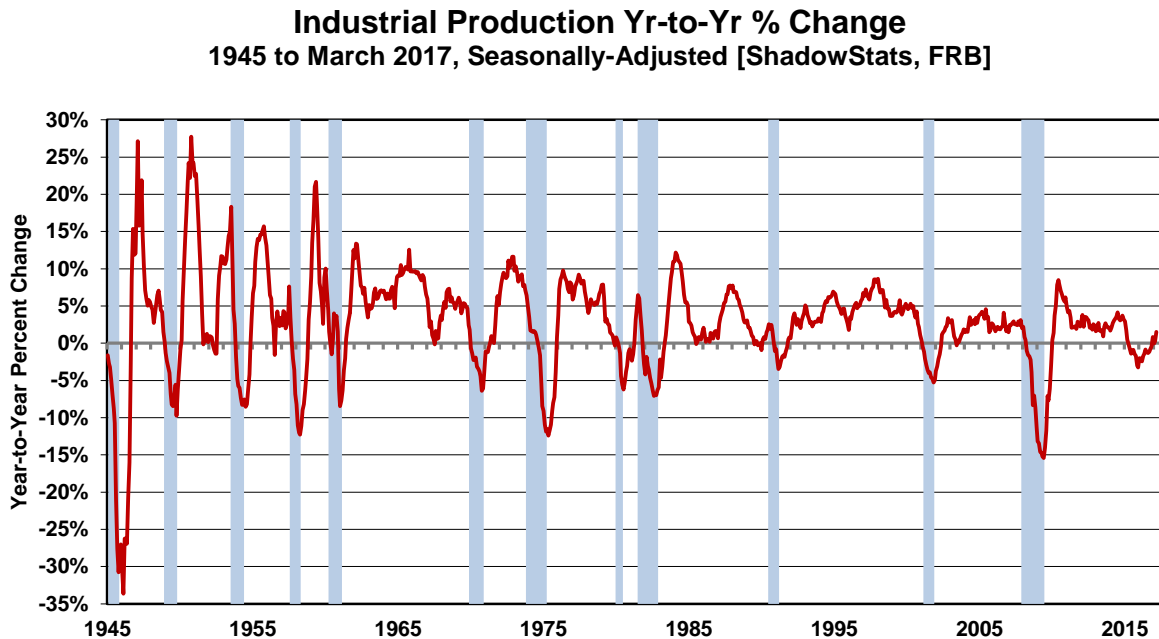
[Graphs 11 and 12 follow on the next page.]

Note: The graphs of the Industrial Production series and all related detail here have been updated fully for the annual benchmark revisions published on March 31st (again, see the detail in [Commentary No. 877](#)).

Graph 11: Index of Industrial Production (Aggregate) since 1945

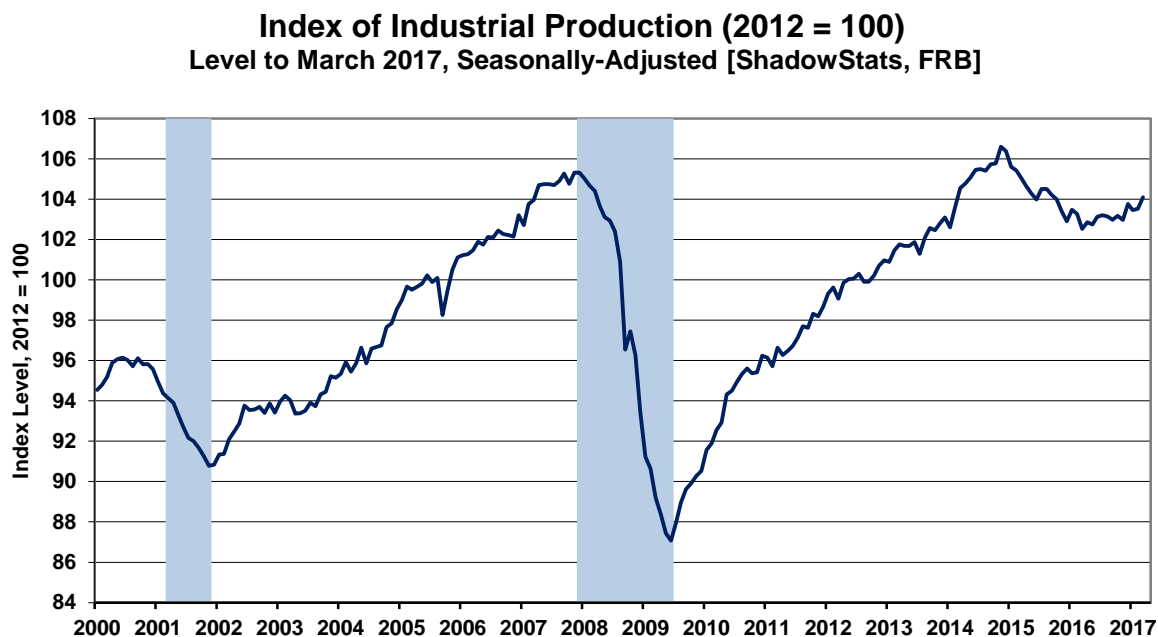


Graph 12: Industrial Production, Year-to-Year Percent Change since 1945

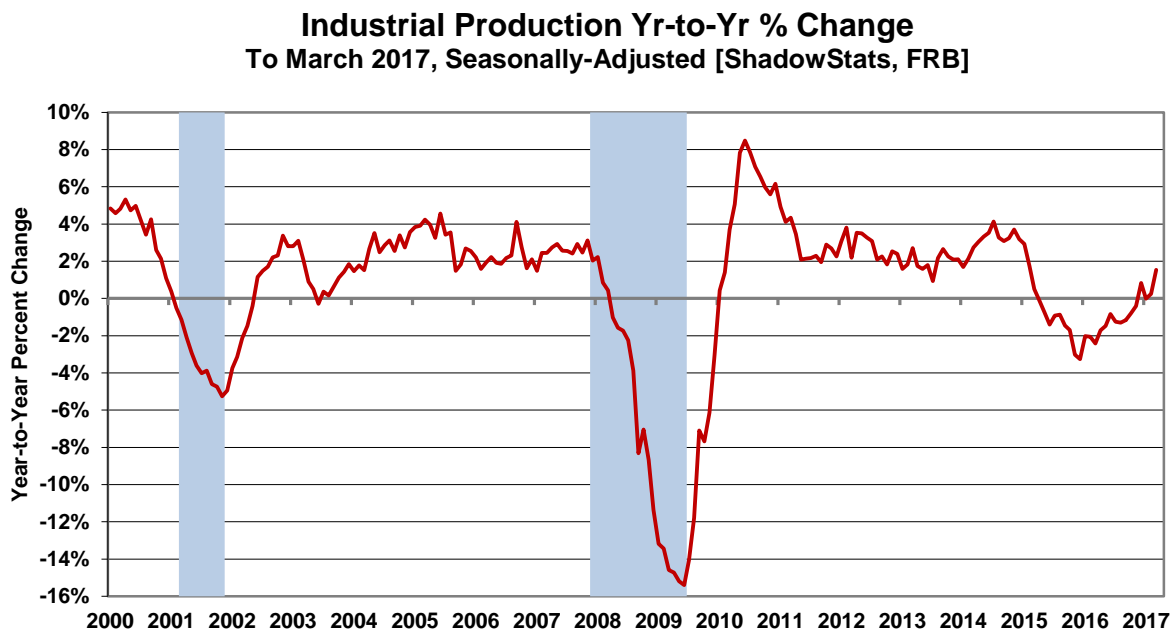


Drilling Down into the March 2017 U.S. Industrial Production Detail. Graphs 13, 15, 20 and 22 show headline reporting of industrial production and its major components.

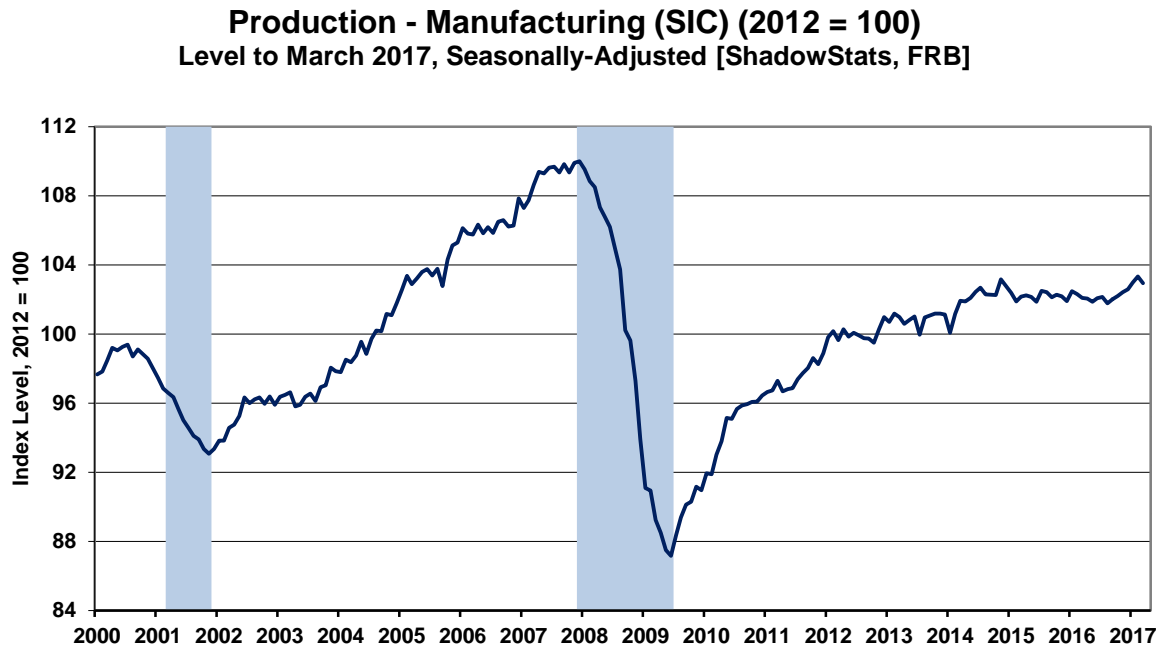
Graph 13: Index of Aggregate Industrial Production since 2000 (see Benchmark-1 on Page 15)



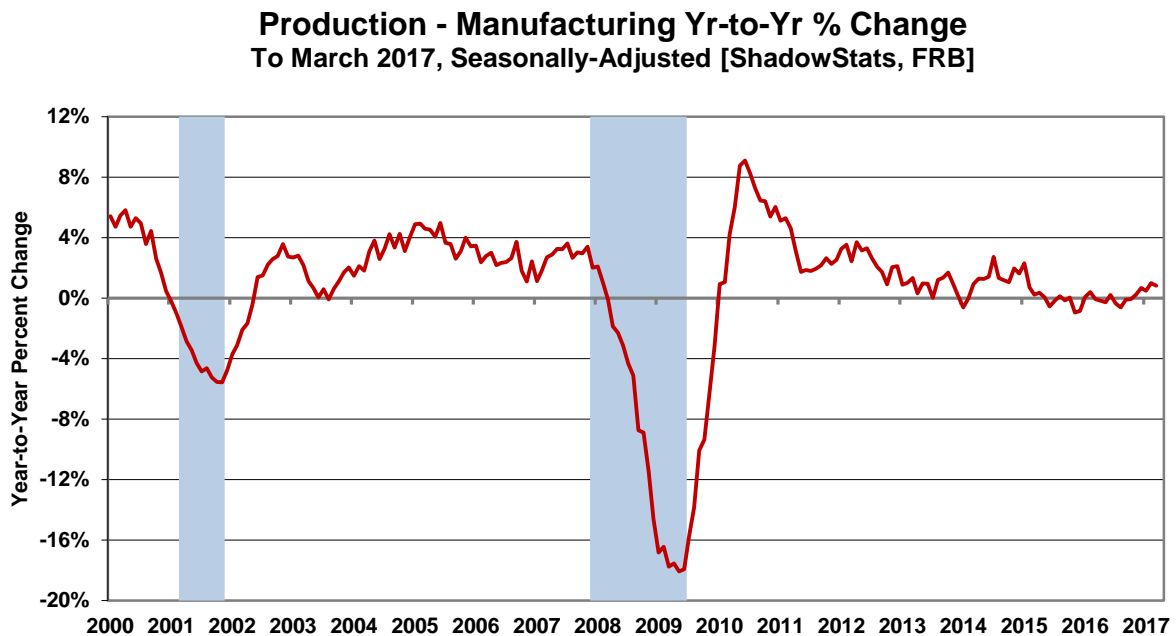
Graph 14: Aggregate Industrial Production, Year-to-Year Percent Change since 2000



Graph 15: Industrial Production - Manufacturing (76.4% of the IIP in 2016) (see Benchmark-2 on Page 15)



Graph 16: Industrial Production - Manufacturing, Year-to-Year Percent Change Since 2000



The benchmark-revised broad, aggregate index (*Graph 13*) contracted quarter-to-quarter in both first- and second-quarter 2015, with a third-quarter 2015 bounce, followed by ongoing, consecutive quarterly contractions from fourth-quarter 2015 through second-quarter 2016. Year-to-year declines by quarter

were seen for seven consecutive quarters, from second-quarter 2015 through fourth-quarter 2016, with first-quarter 2017 activity positive on both a quarterly and annual basis. Nonetheless, first-quarter production levels still held below the peak activity seen before the economic collapse into 2009.

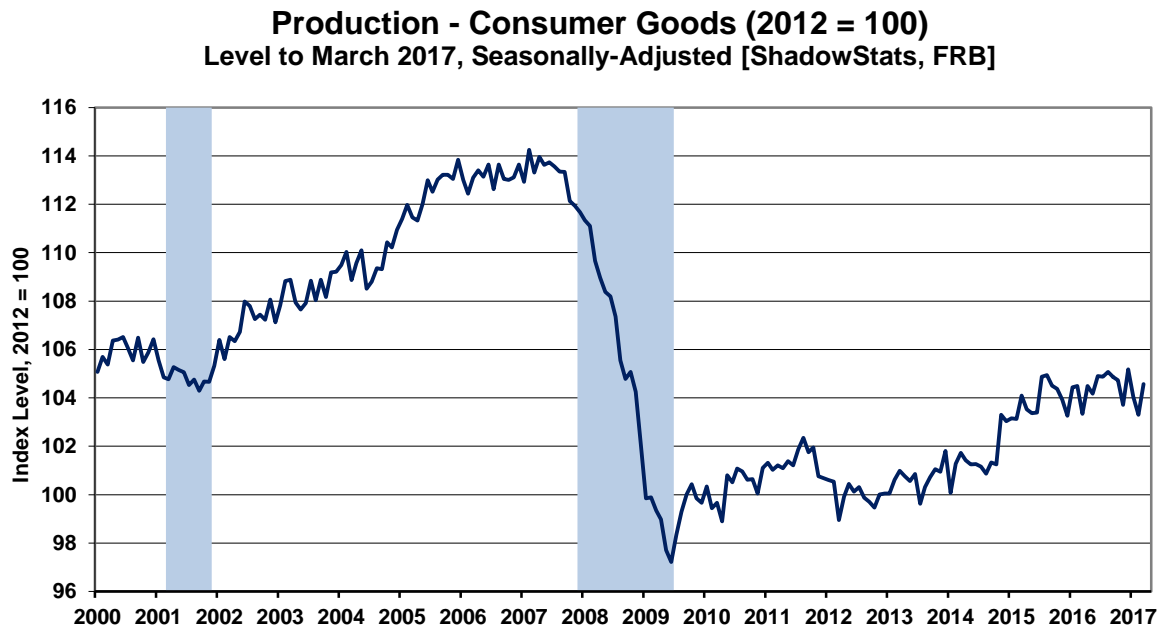
Shown in *Graphs 15, 20* and *22*, of the three major industry groups, manufacturing, utilities and mining, manufacturing fell sharply month-to-month in March 2017 reporting, while utilities experienced a record boost from unstable weather patterns, and mining showed a minimal aggregate gain.

Graph 15 of the dominant manufacturing sector showed a month-to-month decline of 0.38% (-0.38%) in March 2017, following a revised gains of 0.35% [previously a post-benchmark gain of 0.51%] and 0.37% [previously a post-benchmark gain of 0.56%], with the contraction and slower growth reflecting weaker automobile production. *Graph 16* reflects annual growth patterns in manufacturing, which had been fluttering at low levels since an initial bounce off the 2009 trough, down year-to-year in the six months through October, turning to the plus-side in November 2016 to date, albeit with downside revisions to January and February 2017 annual growth rates.

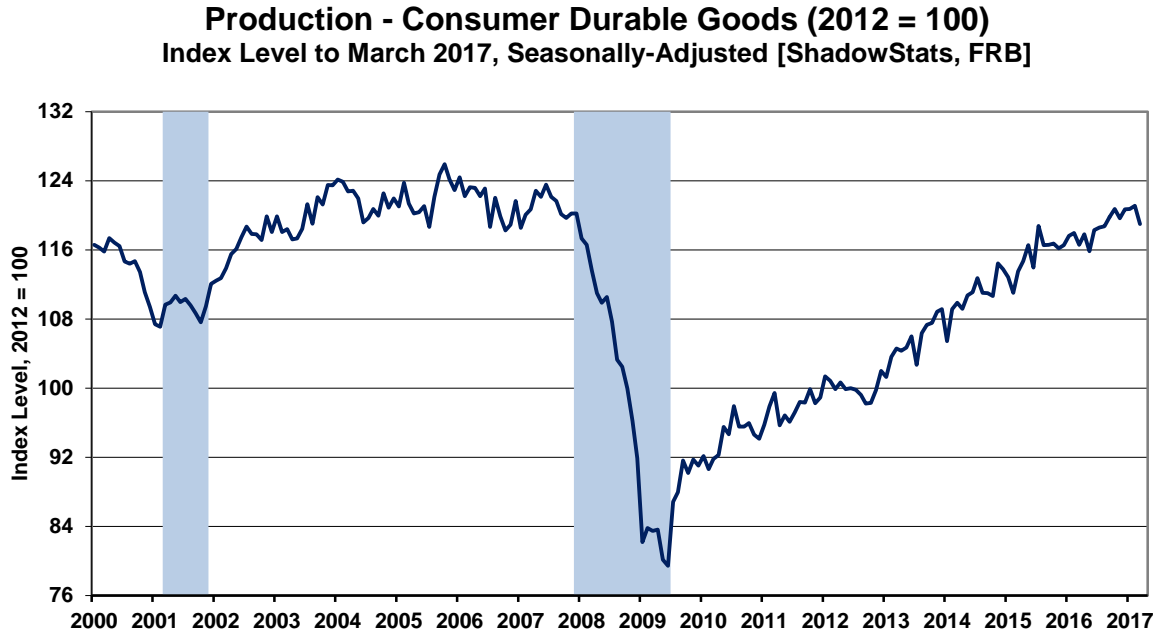
Consumer Goods production increased in March 2017 by 1.23%, having declined by a 0.71% (-0.71%) [previously a post-benchmark decline of 0.28% (-0.28%)], reflecting downside revisions in both the durable and nondurable sectors (see *Graphs 17* to *19*).

Headline March 2017 Consumer Goods detail reflected a plunge in durable goods of 1.74% (-1.74%), dominated by weaker auto production [motor vehicles were down by 4.8% (-4.8%) in the month], with nondurables rallying by 2.11% in the month, dominated by “surging” energy consumption, reflected in *Graph 18* and *Graph 19*.

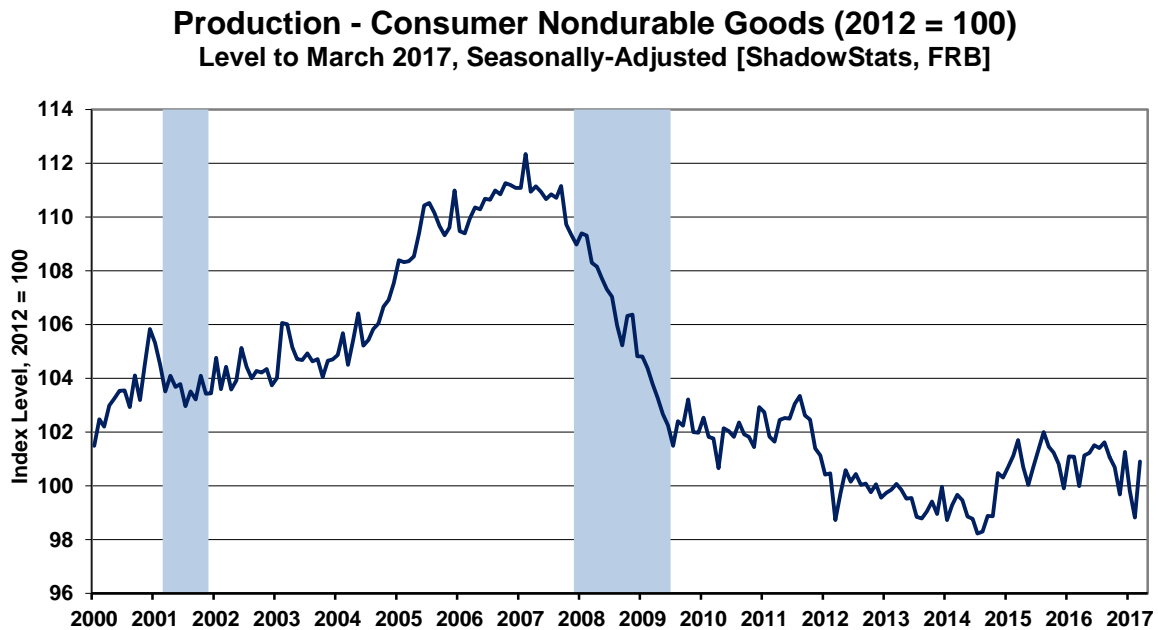
Graph 17: Consumer Goods (28.2% of the Aggregate in 2016)



Graph 18: Durable Consumer Goods (6.3% of the Aggregate in 2016)



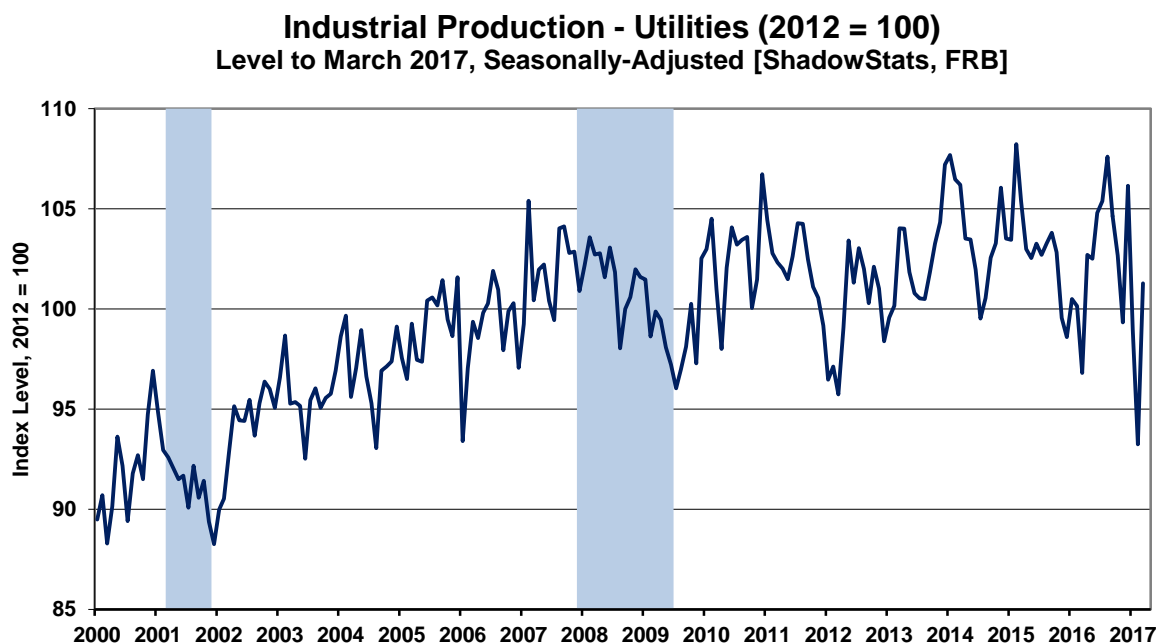
Graph 19: Nondurable Consumer Goods (21.9% of the Aggregate in 2016)



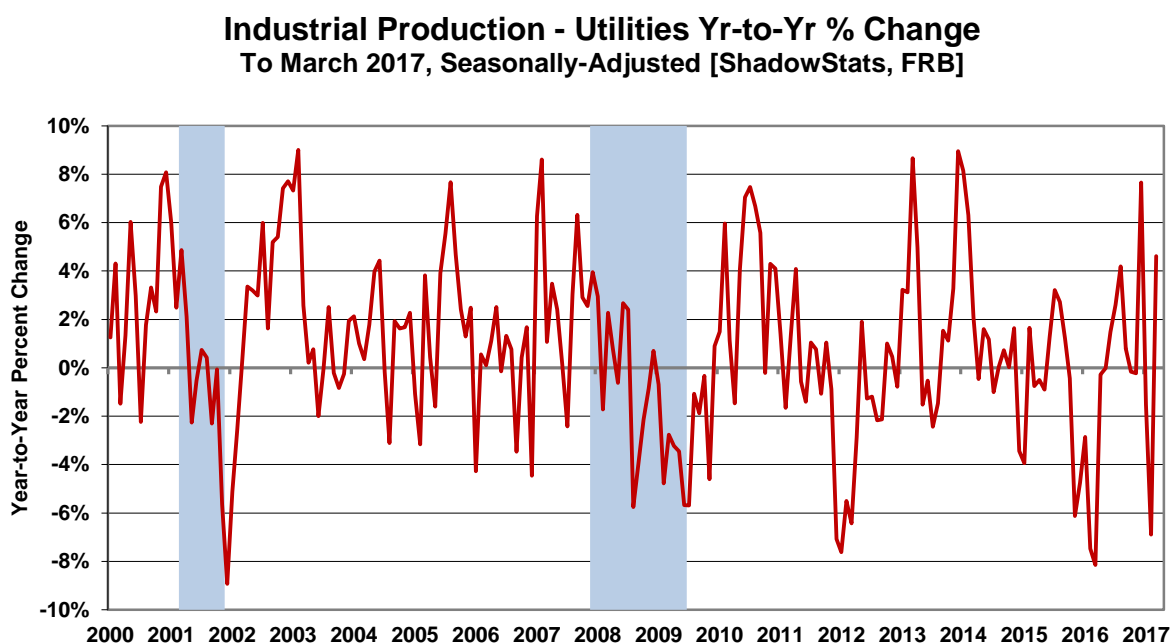
Monthly volatility in the utilities sector (*Graph 20*) usually reflects unseasonable shifts in weather conditions and reversals of same. The headline surge of 8.62% in March was the largest monthly gain in the history of the series, sharply offsetting a revised 5.78% (-5.78%) plunge [post-benchmark revision

was 6.87% (-6.87%)] in February 2017 and a revised drop of 6.77% (-6.77%) [a post-benchmark drop of 6.52% (-6.52%)] in January 2017, where January largely offset an upwardly-revised gain of 6.86% [post-benchmark 6.81%] in December 2017. The story for March was that the return to normally-severe March weather boosted relative heating needs. Such distortions tend to balance out over the period of a year.

Graph 20: Industrial Production - Utilities (10.6% of the Aggregate in 2016)

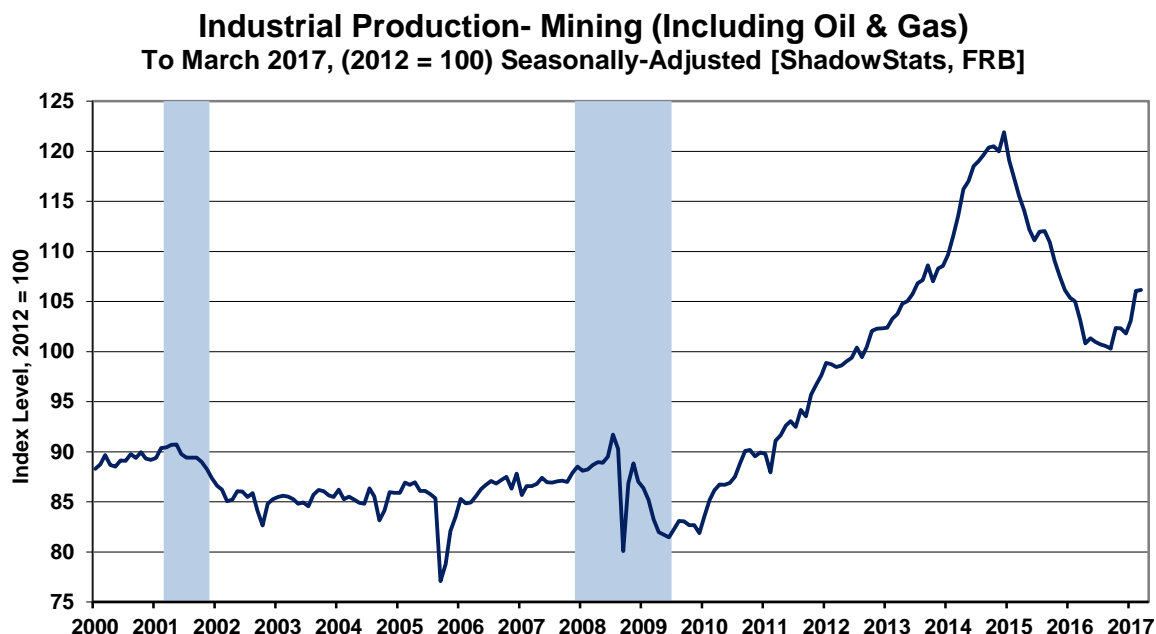


Graph 21: Industrial Production - Utilities, Year-to-Year Percent Change Since 2000

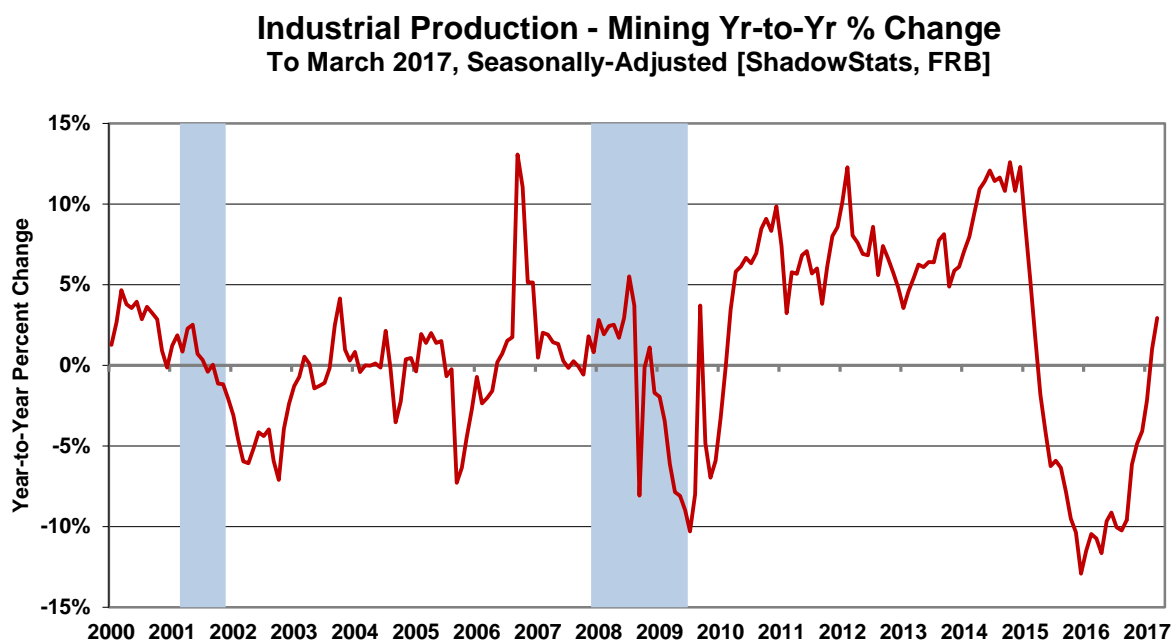


Activity in the mining sector (*Graph 22*), particularly in oil and gas exploration and production, and increasingly in gold and coal mining, remains the near-term focus of this analysis.

Graph 22: Industrial Production - Mining, Including Oil and Gas (12.9% of the Aggregate in 2016)



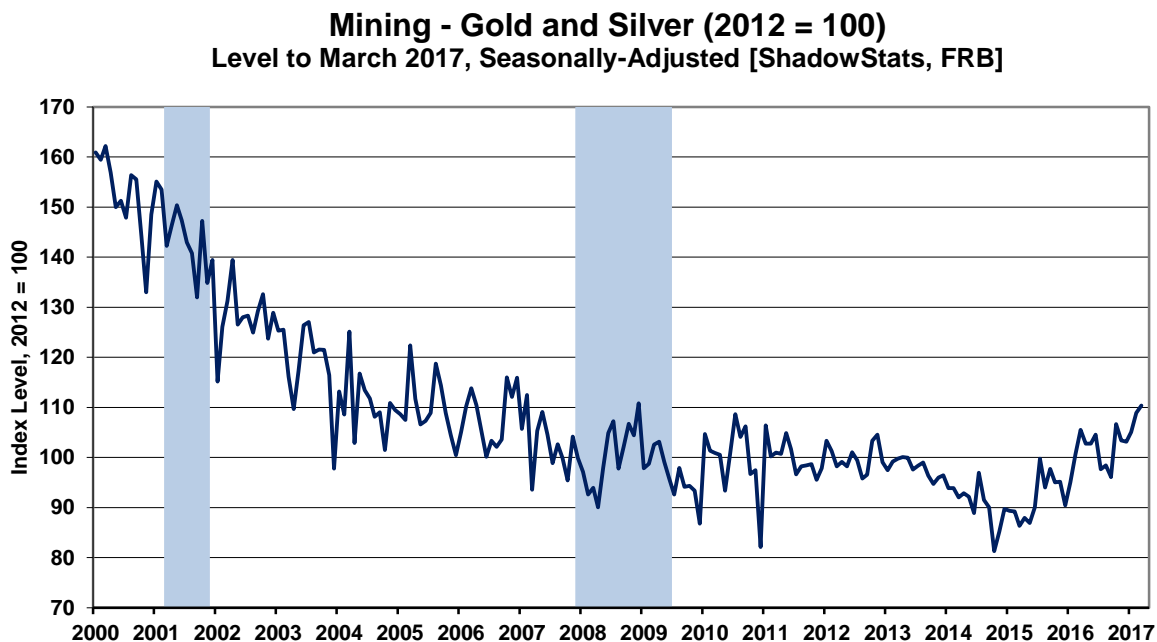
Graph 23: Industrial Production - Mining, Year-to-Year Percent Change



The mining sector, including oil and gas production, easily recovered its pre-recession high and accounted for the full “recovery,” albeit extremely short-lived (just the months of October and November 2014), as seen in the aggregate Industrial Production detail since the economic collapse (see detail in [Commentary No. 877](#)). Since then, however, mining production turned down sharply, reflecting a number of factors, including the impact of largely orchestrated lower oil prices, which subsequently have fluctuated, tied to dollar and supply issues, as well, as U.S. government actions during the Obama Administration to limit coal consumption and production. Year-to-year mining activity in (*Graph 23*) in February 2017 broke to the plus-side for the first time since February 2015, up by 2.93% in March 2017, following a revised annual gain of 1.02% in February 2017 and a revised decline of 2.18% (-2.18%) in January 2017. Mining has moved off bottom, thanks to some rebound in coal production and a bottoming and monthly upturns in oil and gas extraction and exploration and an upturn in gold and silver production (see *Graphs 24* through 28). That said, a sharp hit to March 2017 coal production constrained the headline monthly gain in the Mining Sector to 0.09% in March.

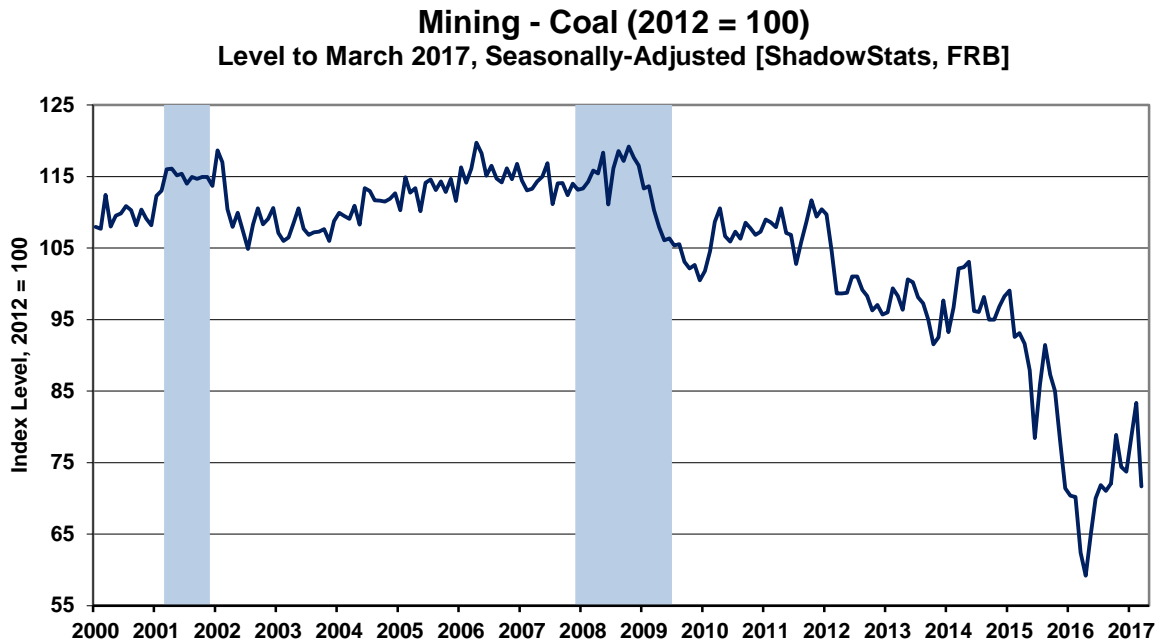
Graph 24 reflects generally increasing gold and silver mining activity (revised to an uptrend with the benchmark revision). Headline March 2017 detail was the strongest level of gold and silver mining seen since December 2008, irrespective of the pummeling given the prices of precious metals in recent years with central-bank orchestrated market manipulations as well as recent price volatility in the markets.

Graph 24: Mining – Gold and Silver Mining (Since 2000)

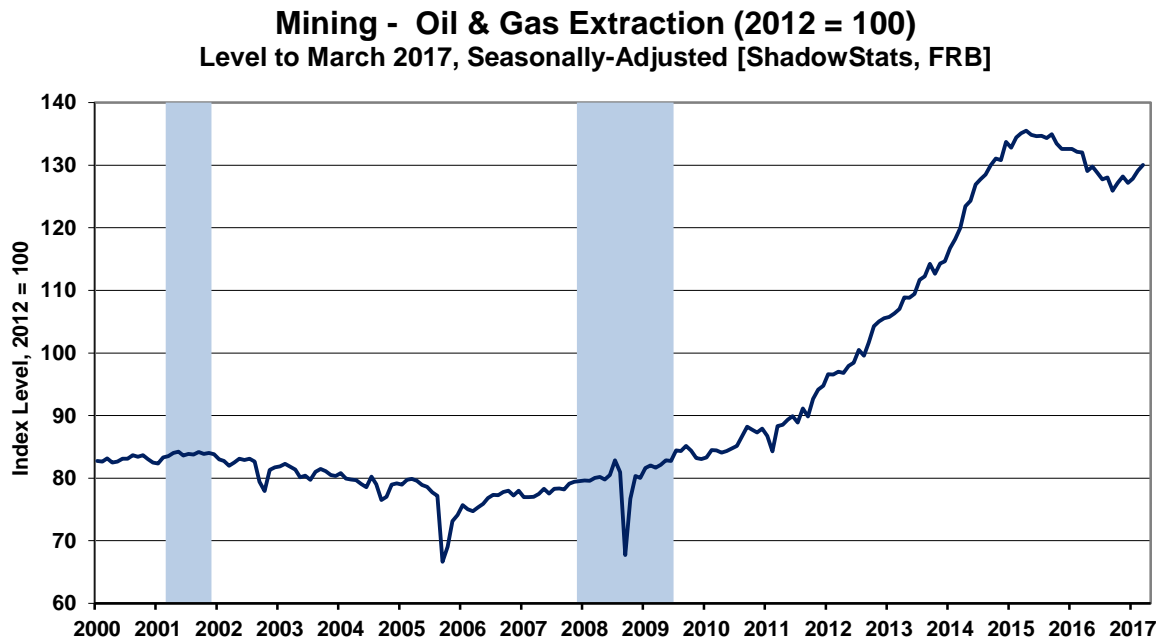


As with gold and silver mining, coal mining was benchmarked higher in recent years. *Graph 25* still shows a general rebound in the level of monthly coal production, although March 2017 activity took an extremely large monthly hit of 14.01% (-14.01%), having gained by 6.26% in February and 6.37% in January. Current activity, though, still is down sharply, by 30.47% (-30.47%), from its near-term production peak in May 2014.

Graph 25: Mining - Coal Mining (Since 2000)



Graph 26: Mining – U.S. Oil & Gas Extraction (Since 2000)

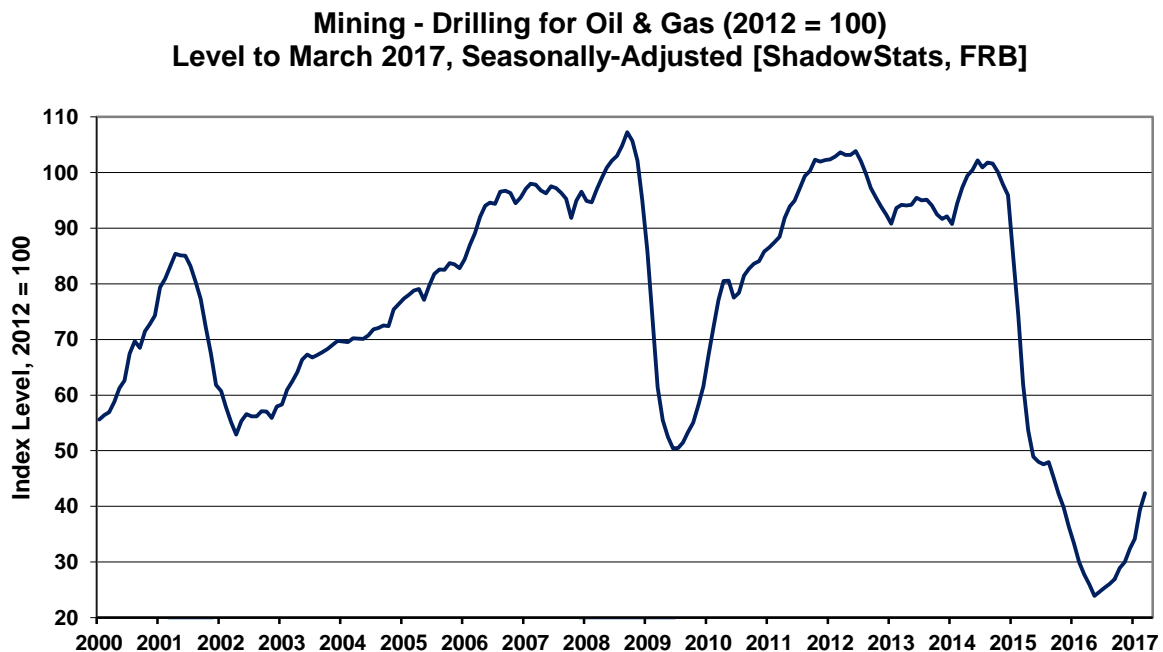


With oil prices fluctuating above recent lows, March oil and gas extraction gained 0.72% for the month, having gained an upwardly revised 0.99% in February [previously 0.32% post-benchmarking]. March 2017 activity, however, remained 4.02% (-4.02%) off its all-time high of March 2015.

Exploration in terms of oil and gas drilling (*Graph 27*) has continued to increase in what increasingly looks like a bottoming process, up by 7.71% month-to-month in March 2017, following gains of 15.09% in February and 5.35% in January. The series remains collapsed, although year-to-year growth broke to the plus-side by 2.42% in January 2017, soaring to 31.13% in February 2017 and 52.46% in March 2017.

Regularly discussed here, the collapse in drilling largely was an artefact of the massive U.S. dollar rally and oil-price plunge that began in July 2014. Those shifts appeared, at least initially, to be U.S.-orchestrated covert actions designed to stress Russia, financially, in response the circumstance in Ukraine. From the related August 2014 peak in oil drilling, March 2017 activity was down by 58.39% (-58.39%).

Graph 27: U.S. Drilling for Oil & Gas (Since 2000)

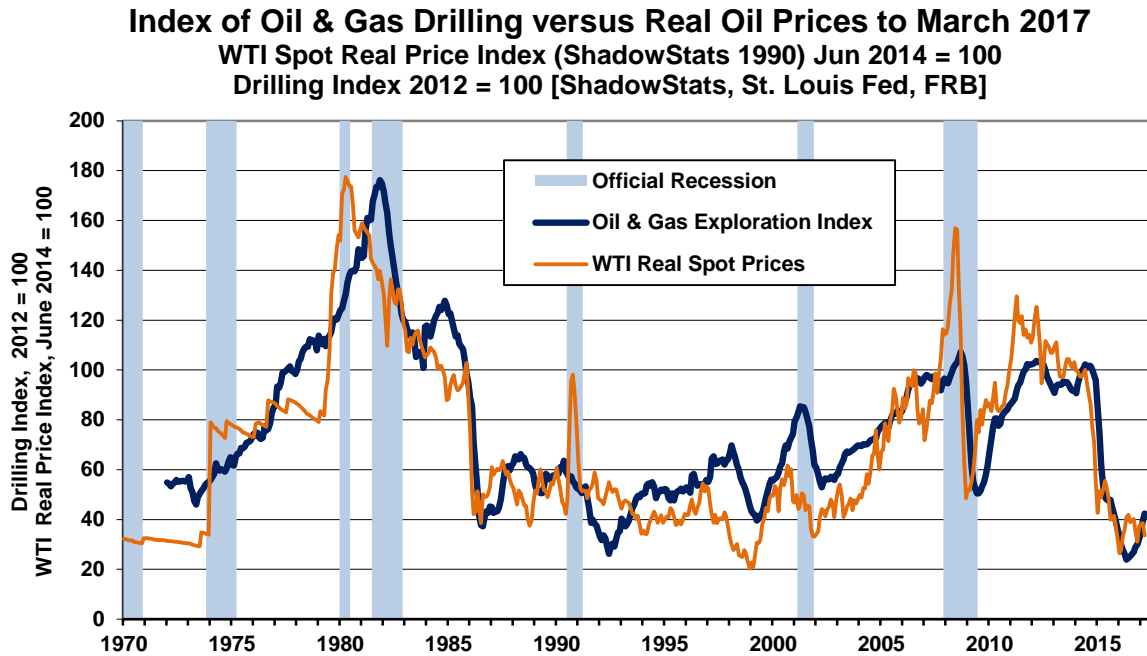


Shown in *Graph 28*, with some lag following sharp movements in oil prices, oil and gas exploration tends to move in tandem, and an upswing in exploration, indeed, still appears to be in its early stages in response to the recent bottoming in oil price. The oil price index used here is for the West Texas Intermediate (WTI) monthly average spot price, deflated using the ShadowStats Alternate CPI measure (1990 Base). The graph lines have been highlighted so as to show more clearly the price-level movement, which visually has coincided with the movement in the drilling levels for the last couple of months.

When the dollar weakens, dollar-denominated oil prices also begin to strengthen, even in a circumstance with excess supply conditions. At such time as the U.S. dollar declines meaningfully—ShadowStats looks for a massive sell-off in the dollar in the year ahead (see the *Hyperinflation Watch* in prior [Commentary No. 880](#))—U.S. dollar-denominated oil prices should rally sharply (see [General Commentary No. 811](#)). That said, post-election, the U.S. dollar has rallied, but there has not been a commensurate decline in oil prices. Instead, with supply being tightened artificially (see the discussion in [No. 859 Special Commentary](#)), oil prices generally have increased and oil and gas extraction and

exploration have picked up accordingly, with some lag. As the dollar weakens anew, artificial supply constraints likely will ease.

Graph 28: Mining – U.S. Drilling for Oil & Gas versus Real Oil Prices (WTI ShadowStats 1990 Base)



NEW RESIDENTIAL CONSTRUCTION (March 2017)

Continuing Low-Level, Non-Recovered, Stagnant Activity. After several recent months of extreme reporting volatility, where, for example, October 2016 showed a 37-year high monthly gain of 25.5%, headline reporting for March 2017 was reasonably tranquil. Aggregate housing starts declined month-to-month by 6.8% (-6.8%) in March and gained 9.2% year-to-year. That was in the context of mixed and prior-period revisions back to January 2017. As usual, none of the related monthly or annual changes was statistically significant, where lack of statistical significance remains a common denominator to nearly all the regular reporting of these monthly and annual data.

Smoothed and viewed in terms of its six-month moving average, housing starts activity still showed a plunge from its 2006 pre-recession peak to a trough in 2009, followed by a protracted period of up-trending but non-recovering low-level activity. That flattened out in the last year or two (see *Graphs 32 and 34* in this *Reporting Detail* and *Graph 6* in the *Executive Summary*). Plotted with just the raw, seasonally-adjusted monthly data, the pattern of low-level stagnation broadly is the same, with the headline March 2017 level of starts still shy by 47% (-47%) of recovering its pre-recession peak (see *Graphs 30 and 5*, respectively in this *Reporting Detail* and in the *Executive Summary*).

March 2017 Monthly Contractions Reflected Declining Starts Spread Evenly Across Both Single- and Multiple-Unit Categories. In the context of upside revisions to February and downside revisions to

January activity, aggregate March 2017 housing starts declined by 6.8% (-6.8%) month-to-month. Again, these monthly numbers remain highly unstable and are of extremely limited short-term significance, with negligible leading indications of monthly change or relative volatility provided by the related building permits series.

Smoothed with six-month moving averages, both the housing-starts and building-permits series remained in flat-to-up-trending, low-level stagnation (see *Graph 6* in the *Executive Summary* section, and *Graphs 31* and *32* here). Neither headline permits nor starts has recovered from the collapse into 2009, with current activity down from the respective pre-recession peaks by 44% (-44%) for permits, and, again, by 47% (-47%) for starts.

First-Quarter 2017 Housing Starts Gained Quarter-to-Quarter and Year-to-Year, but with Weaker Growth than Seen in Fourth-Quarter 2016. The unstable total housing-starts count fell at annualized quarter-to-quarter pace of 24.1% (-24.1%) in first-quarter 2015, rose at an annualized 96.3% pace in second-quarter 2015, flattened out to 0.0% in third-quarter 2015, and then contracted at an annualized 7.2% (-7.2%) in fourth-quarter 2015.

First-quarter 2016 activity, which had turned down in pre-benchmark (April) reporting, had revised into positive territory, thanks largely to upside benchmark revisions to multiple-structure starts in the May 2016 detail. It holds at 6.0%. Second-quarter 2016 also held, at an annualized quarterly gain of 2.8%. Third-quarter 2016 activity was unrevised with the latest detail, holding negative on both an annual and annualized-quarterly basis, down on an annual basis by 1.0% (-1.0%), the first year-to-year decline since first-quarter 2014, and down at an annualized quarterly pace of 5.0% (-5.0%).

Fourth-quarter 2016 housing starts showed annualized quarterly growth of 41.3%, up by 10.0% year-to-year. With initial full reporting in place for first-quarter 2017, the annualized pace of quarter-to-quarter growth slowed to 1.6%, while the year-to-year change eased 8.8%.

Smoothed Numbers. Despite the extreme volatility and instabilities in the Housing Starts series, the general pattern of low-level stagnation continued. Again, the six-month moving-average pattern for the aggregate series remained about as flat as one ever sees, albeit now somewhat up-trending, still in low-level stagnation, reflecting the most-recent headline detail (*Graphs 6* and *32*), with the same pattern of stability also seen broadly in raw monthly data (*Graphs 5* and *30*). That general pattern also can be viewed in terms of the longer-range historical graphs of aggregate activity (*Graphs 33* and *34*) at the end of this section. Parallel graphs of monthly and six-month moving average Building Permits detail are found in *Graphs 29* and *31*. Given the broad pattern of stagnation in both the aggregate starts and permits series, headline total March 2017 activity, again, remained well below any recovery level, with starts down from their January 2006 pre-recession high by 47% (-47%) and permits down by 44% (-44%) from their September 2005 pre-recession peak activity.

Returning fully to the March 2017 housing starts monthly detail, the dominant (67.5% of total starts) single-unit housing starts sector of that series (*Graphs 7* and *8* in the *Executive Summary*) was down by 55% (-55%) from its January 2006 pre-recession peak.

In contrast the smaller count in the multiple-unit category (two units or more), 32.5% of the total, hit its recent high in June 2015, topping its pre-recession January 2006 peak by 11.9%. It dropped back below that 2006 high by 12.4% (-12.4%) as of March 2017.

Reflected in the smoothed graphs in the *Executive Summary*, the various housing-starts series generally were flat, at a low level of stagnation (*Graph 6* for the aggregate). That reflected a blend of the low-level stagnation (albeit up-trending) in the six-month-smoothed single-unit activity (*Graph 8*), with the more-volatile, smoothed multiple-unit starts (*Graph 10*), which had rebounded and held at pre-recession levels (albeit currently lower but somewhat up-trending).

Consumer Liquidity Problems Continue to Impair Residential Construction Activity. The extreme liquidity bind besetting consumers continues to constrain residential real estate activity, as updated in prior [Commentary No. 880](#) and as fully reviewed in the *CONSUMER LIQUIDITY* section of [No. 859 Special Commentary](#). Without sustainable growth in real income, and without the ability and/or willingness to take on meaningful new debt in order to make up for the 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 nine-plus years of economic collapse and stagnation—has continued to prevent a normal recovery in broad U.S. economic activity, 70% of which is dependent on personal spending, including residential construction.

March 2017 Housing Starts, Headline Reporting. The continued, always unstable and highly volatile aggregate Housing Starts series declined month-to-month in March 2017, in the context of an upside revision to the level of February 2017 activity, on top of a downside revision to activity in January 2017. The Census Bureau reported April 18th, a statistically-insignificant, seasonally-adjusted, headline monthly decline in March 2017 housing starts of 6.8% (-6.8%) +/- 14.6% (all confidence intervals are expressed at the 95% level).

That followed a revised monthly gain of 5.0% [previously 3.0%] in February and a revised decline of 2.7% (-2.7%) [previously down by 1.9% (-1.9%, initially down by 2.6% (-2.6%)] in January. Net of prior-period revisions, March 2017 declined by 5.7% (-5.7%), instead of the headline monthly decline of 6.8% (-6.8%). Level-of-activity aggregate detail is plotted in *Graphs 3 to 6* of the *Executive Summary*, and in *Graphs 30, 32, 33 and 34* at the end of this section.

Year-to-year change in the seasonally-adjusted, March 2017 aggregate housing-starts measure was a statistically-insignificant gain of 9.2% +/- 10.6%, versus a revised annual gain of 7.4% [previously 6.2%] in February 2017 and 10.0% [previously 10.9%, initially 10.5%] in January 2017.

The March 2017 headline decline of 6.8% (-6.8%) in total housing starts encompassed a headline drop of 6.2% (-6.2%) in the “one unit” category and a drop of 6.1% (-6.1%) in the “five units or more” category. There is a missing balance in the “two to four units” category, which fell by 50.0% (-50.0%) month-to-month in March. Where that category is considered to be too small to be meaningful, it did affect the aggregates, as discussed later in the broader, aggregate “multiple unit” category. Most commonly, not one of the monthly or annual headline changes by category is statistically meaningful, which again was the case in March 2017.

Housing Starts By-Unit Category. [See *Graphs 3 to 10 in the Executive Summary.*] Where the irregular housing starts series can show varying patterns, that partially is due to a reporting mix of residential construction products, with the largest physical-count category of one-unit structure housing starts—generally for individual consumption, resulting in new home sales—versus multi-unit structure starts that generally reflect the building of condominiums, rental and apartment units.

Housing starts for single-unit structures in March 2017 declined month-to-month by a statistically-insignificant 6.2% (-6.2%) +/- 11.7%, following a revised monthly gain of 7.6% [previously 6.5%] in February, and a revised monthly gain of 0.5% [previously 1.2%, initially 1.9%] in January 2017. Net of prior-period revisions, March 2017 single-unit starts declined by 5.8% (-5.8%) month-to-month, instead of the headline 6.2% (-6.2%). March 2017 single-unit starts showed a statistically-insignificant annual gain of 9.3% +/- 10.3%, versus a revised annual gain of 3.6% [previously 3.2%] in February 2016 and a revised 4.9% [previously 5.7%, initially 6.2%] annual gain in January 2017 (see *Graphs 3, 4, 7 and 8* in the *Executive Summary*).

Housing starts for apartment buildings, condominiums, etc. (generally 5-units-or-more) in March 2017 declined month-to-month by a statistically-insignificant 6.1% (-6.1%) +/- 36.2%, versus a revised decline of 3.5% (-3.5%) [previously 7.7% (-7.7%)] in February and revised decline of 6.4% (-6.4%) [previously down by 6.1% (-6.1%), initially down by 7.9% (-7.9%)] in January 2017. Net of prior-period revisions, March 2017 declined by 2.8% (-2.8%), instead of the headline 6.1% (-6.1%) decline. A statistically-insignificant year-to-year gain of 9.1% +/- 28.0% in January 2017 followed a revised 8.1% [previously 11.2%] gain in February 2017 and a revised gain of 26.9% [previously 28.1%, initially 25.7%] in January 2017.

Expanding the multi-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 estimates of the 2-to-4-units category, due to statistical significance problems (a general issue for the aggregate series). Nonetheless, the total multi-unit category can be estimated by subtracting the single-unit category from the total category (see *Graphs 3, 4, 9 and 10* in the *Executive Summary*).

Accordingly, the statistically-insignificant March 2017 monthly decline of 6.8% (-6.8%) in aggregate starts was composed of a statistically-insignificant decline of 6.2% (-6.2%) in one-unit structures and a statistically-insignificant decline of 7.9% (-7.9%) in the multiple-unit structures categories (2-units-or-more, including the 5-units-or-more category). In contrast, again, ex-2-units-or-more, the multiple-unit category declined by 6.1% (-6.1%). These series all are graphed in the *Executive Summary*.

A Note on the Regular Housing Starts Graphs. [This section largely is repeated in the Executive Summary.] Headline reporting of Housing Starts activity is expressed by the Census Bureau as an annualized monthly pace of starts, which was 1,215,000 in March 2017, versus an upwardly-revised 1,303,000 [previously 1,288,000] in February 2017. The scaling used in the accompanying aggregate housing starts and building permits *Graphs 29 to 34* reflects those annualized numbers.

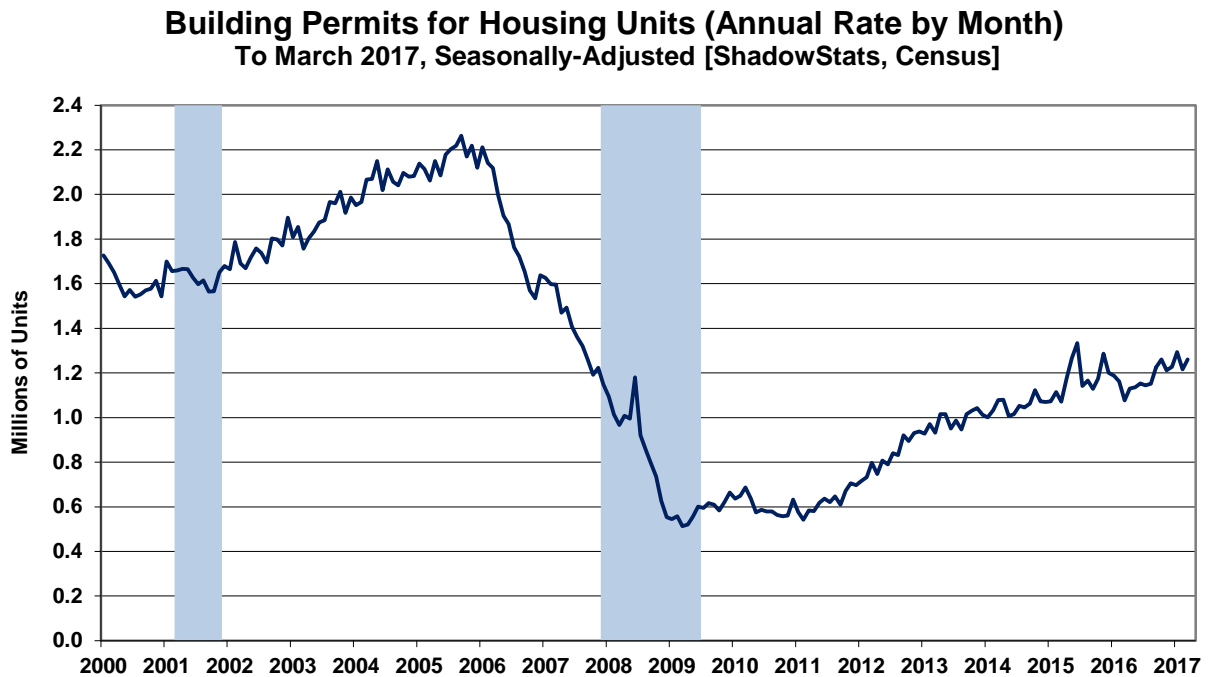
Nonetheless, given the nonsensical monthly volatility in reporting and the exaggerated effect of annualizing the monthly numbers in this unstable series, the magnitude of monthly activity and the changes in same, more realistically are reflected at the non-annualized monthly rate. Consider that the unrevised headline, month-to-month gain of 268,000 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 101,250 units in March 2017, instead of the annualized headline level of 1,215,000 units, is used in the scaling of the *Graphs 3 to 10* in the *Executive Summary*. 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 30* versus *Graph 5*.

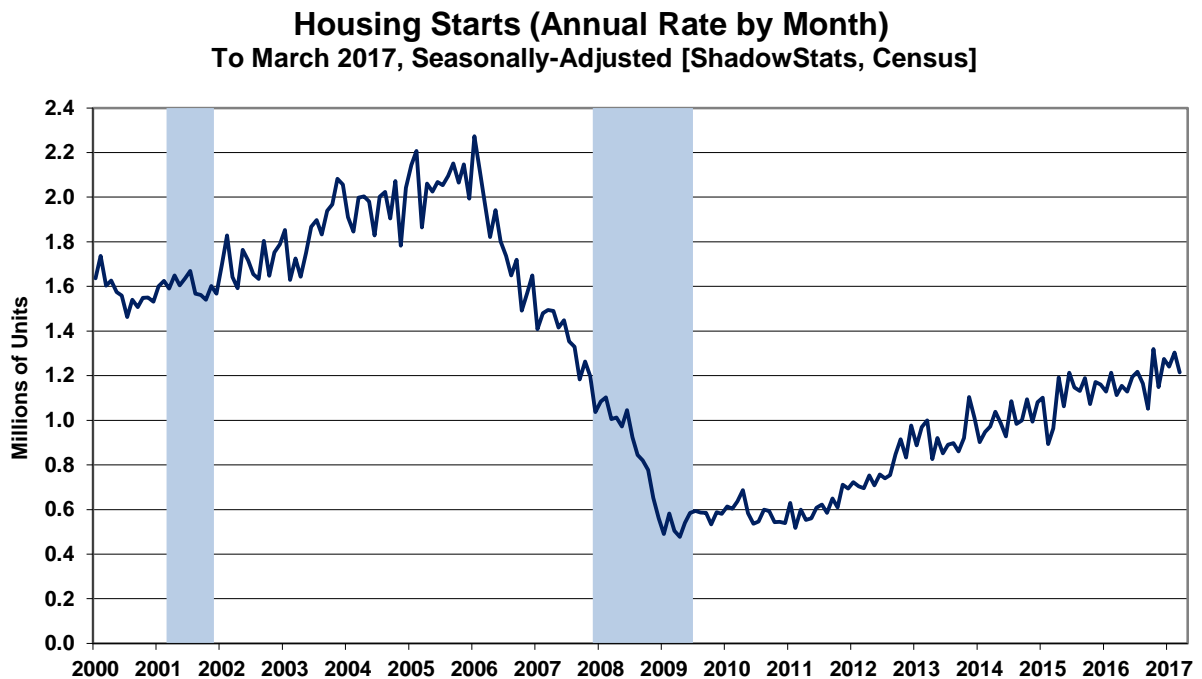
The record monthly low level of activity seen for the present aggregate series was in April 2009, where the annualized monthly pace of housing starts then was down by 79% (-79%) from the January 2006 pre-recession peak for the series. Against that downside-spiked low in April 2009, the March 2017 headline monthly number was up by 154%, but it still was down by 47% (-47%) 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 33* and *34*. In fact, as can be seen in *Graph 34*, 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.

[Graphs 29 to 34 begin on the next page.]

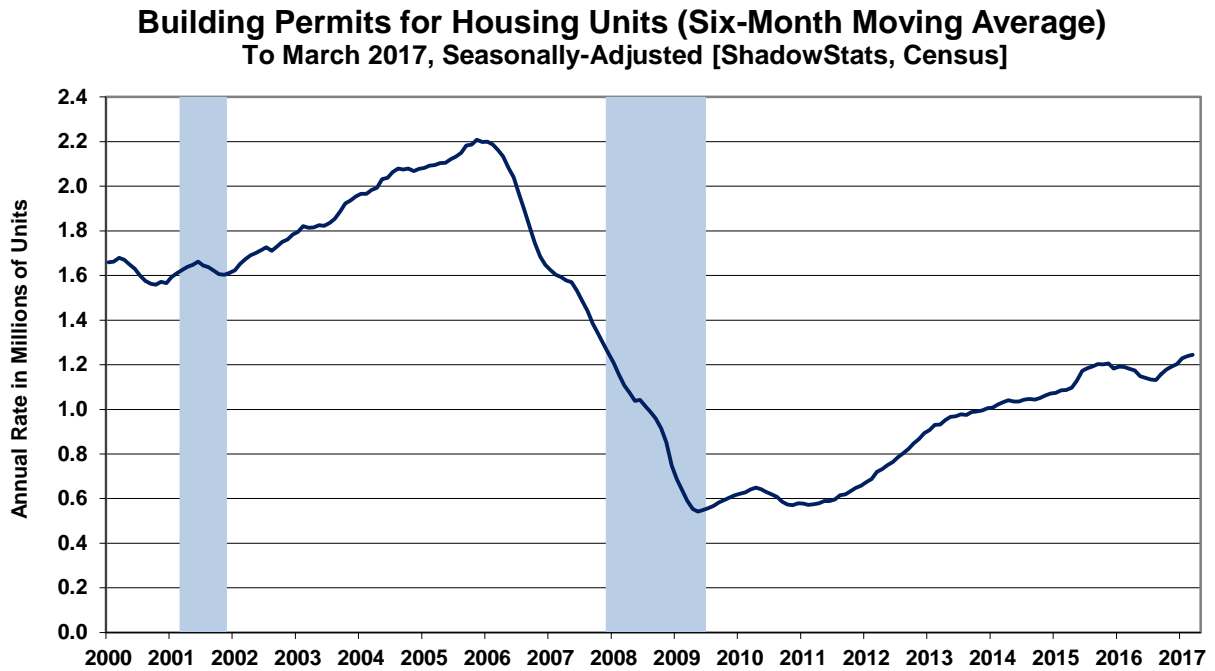
Graph 29: Building Permits (Annualized Monthly Rate of Activity), 2000 to Date



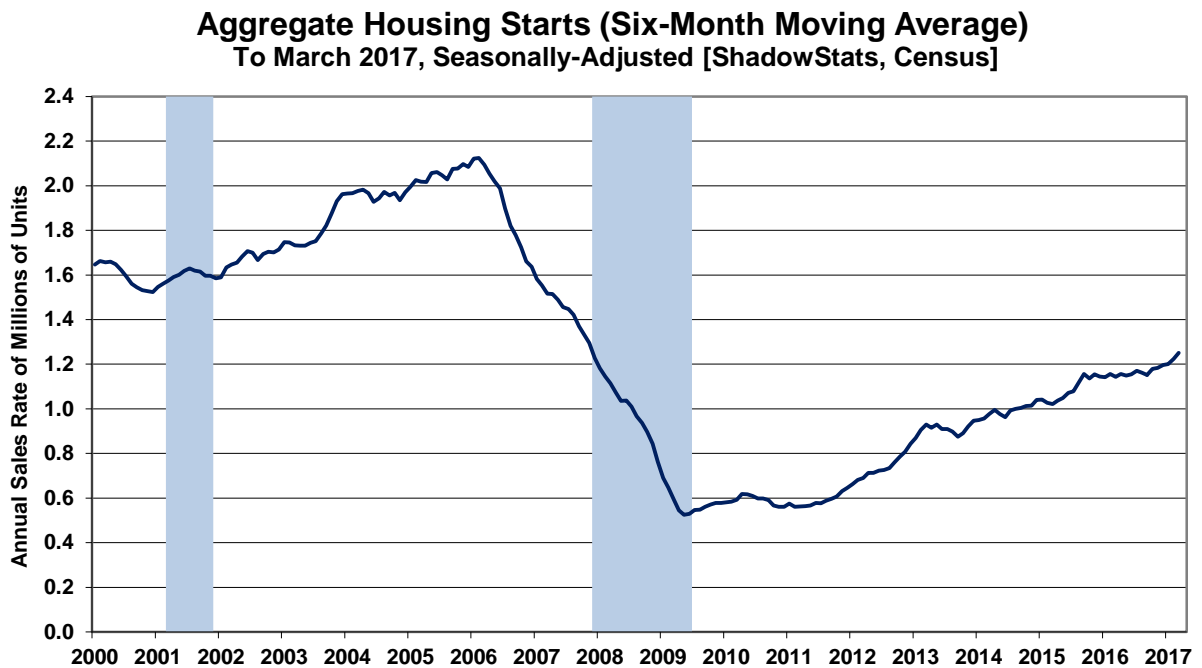
Graph 30: Housing Starts (Annualized Monthly Rate of Activity), 2000 to Date



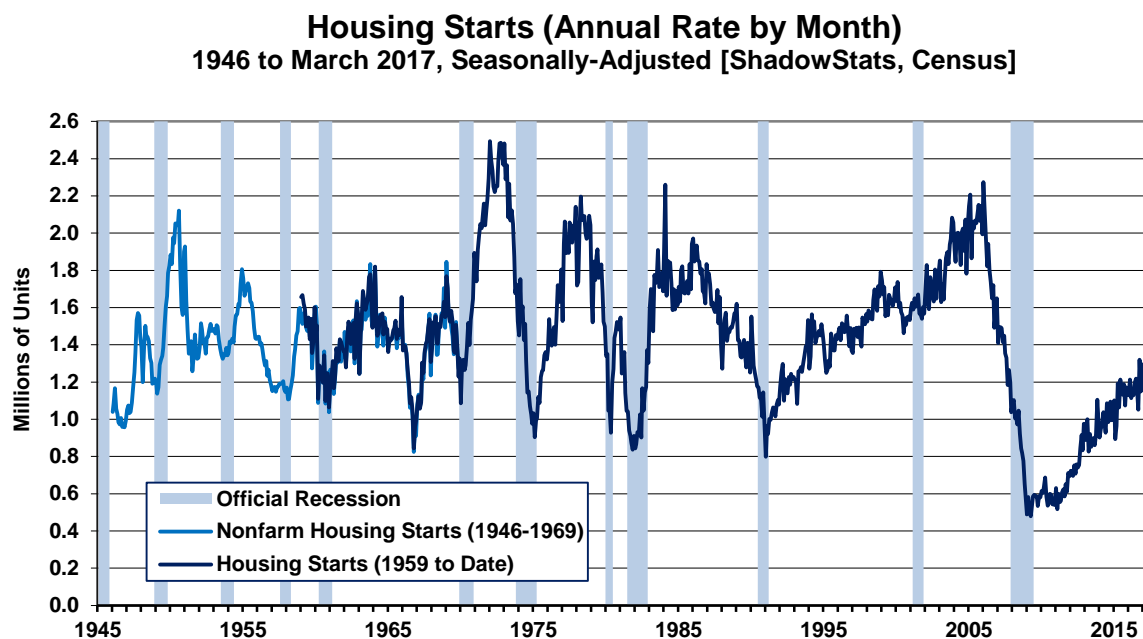
Graph 31: Building Permits (Six-Month Moving Average), 2000 to Date



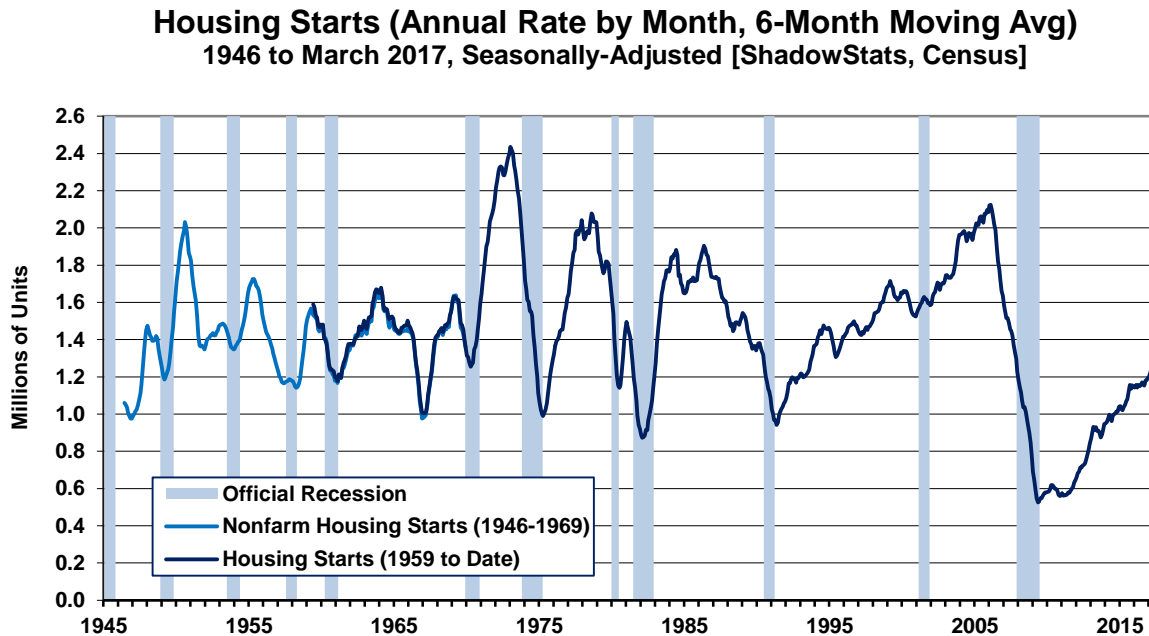
Graph 32: Housing Starts (Six-Month Moving Average), 2000 to Date



Graph 33: Housing Starts (Annualized Monthly Rate of Activity), 1946 to Date



Graph 34: Housing Starts (Annualized Monthly Rate of Activity, 6-Month Moving Avg), 1946 to Date



WEEK, MONTH AND YEAR AHEAD

Intensifying Economic Woes Promise an Increasingly-Compromised, Frustrated Fed and Deteriorating U.S. Dollar Support. The outlook for future FOMC activity was updated in the *Opening Comments* and *Hyperinflation Watch* of prior [Commentary No. 880](#), and previously reviewed in [Commentary No. 873](#). The latest assessment of current economic activity in today's *Opening Comments* also is in the context of [Commentary No. 876](#) and [Commentary No. 877](#), as well as in earlier [Commentary No. 875](#), [Commentary No. 874](#) and the broad outlook as outlined in [No. 859 Special Commentary](#).

Nonetheless, the following discussion has changed little from previous comments in [Commentary No. 878](#). As reflected in common experience, actual U.S. economic activity generally continues in stagnation or downturn, never having recovered fully its level of pre-economic-collapse (its pre-2007-recession peak). While the latest headline GDP shows economic expansion of 12.2% since that series recovered its 2007-pre-recession high in 2011, no other “recovered” economic series has come close to showing that expansion either in terms of magnitude or in the purported brevity of the depression. Most of the better-quality series have remained in continuing, not-recovered status, in a period of protracted downturn that now rivals that of the Great Depression (see [Commentary No. 869](#)). With new signals for intensifying, near-term economic woes in hand, the FOMC soon should shift policies, once again, reverting to some form of quantitative easing, in an effort to address related, intensifying solvency risks in the domestic banking system.

Discussed in [No. 859 Special Commentary](#), the Trump Administration faces extraordinarily difficult times, but has a chance to turn the tide on factors savaging the U.S. economy and on prospects for long-range U.S. Treasury solvency and for stability and strength in the U.S. dollar. Any forthcoming economic stimulus faces a nine-month to one-year lead-time—now moved fully into 2018—before it meaningfully impacts the broad economy. Needed at the same time are a plan for bringing the U.S. long-term budget deficit (sovereign solvency issues) under control, and action to bring the Federal Reserve under control and/or to reorganize the banking system. These actions broadly are necessary to restore domestic-economic and financial-system tranquility (again, see *No. 859*).

Prior General Background. [No. 859 Special Commentary](#) also updated near-term economic and inflation conditions, and the outlook for same, including the general economic, inflation and systemic distortions evolving out of the Panic of 2008 that have continued in play, and which, again, need to be addressed by the new Administration in the immediate future (see also the *Hyperinflation Watch* of [Commentary No. 862](#) and [Commentary No. 869](#)).

Contrary to the official reporting of an economy that collapsed from 2007 into 2009 and then recovered strongly into ongoing expansion, underlying domestic reality remains that the U.S. economy started to turn down somewhat before 2007, collapsed into 2009 but never recovered fully. While the economy bounced off its 2009 trough, it entered a period of low-level stagnation and then began to turn down anew in December 2014, a month that eventually should mark the beginning of a “new” formal recession (see [General Commentary No. 867](#)).

Coincident with and tied to the economic crash and the Panic of 2008, the U.S. banking system moved to the brink of collapse, a circumstance from which U.S. and global central-bank policies never have recovered. Unwilling to admit its loss of systemic control, the Federal Reserve has been making loud noises of continuing to raise interest rates, in order to contain an overheating economy. As this ongoing crisis evolves towards its unhappy end, the U.S. dollar ultimately should face unprecedented debasement with a resulting runaway domestic inflation.

Broad economic and systemic conditions are reviewed regularly, with the following *Commentaries* of particular note: [Commentary No. 869](#), [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). Those publications 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](#).

Pending Special Commentaries. Pending *Commentaries* on the *GAAP-Based Accounting of the U.S. Government (Fiscal-Year 2016)*, along with the consolidation of the major *ShadowStats* reporting into one volume, including the recommended reading list, both remain in the works. I apologize to readers for having fallen so far behind on my plans and expectations here. The missives, beginning with the GAAP reporting, will follow in the not-so-distant future, likely incorporated into a regular *Commentary*. Detail will follow here shortly.

Recent Commentaries:

[Commentary No. 880](#) detailed the March 2017 headline reporting the of both Real and Nominal Retail Sales, Real Earnings, the CPI, the PPI and updated Consumer Liquidity, where mounting stresses on consumer income and credit are signaling major economic issues ahead.

[Commentary No. 879](#) covered March Employment and Unemployment, Help-Wanted Advertising and the March Money Supply M3, the *ShadowStats* Ongoing Measure.

[Commentary No. 878](#) reviewed detail on the February 2007 Trade Deficit and Construction Spending, along with the latest update on Consumer Liquidity conditions.

[Commentary No. 877](#) 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](#) 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](#) 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™.

[Commentary No. 874](#) reviewed the prior February 2017 Industrial Production and updated the economic outlook.

[Commentary No. 873](#) discussed prospects for future tightening and/or a return to quantitative easing by the FOMC, along with the prior review of the February 2017 Residential Construction reporting.

[Commentary No. 872](#) offered some initial comment on the FOMC rate hike, in conjunction with the review of last month's February 2017 Retail Sales (real and nominal), Real Earnings and the CPI and PPI.

[Commentary No. 871](#) covered prior reporting of February Labor Conditions, updated Consumer Liquidity and the ShadowStats Ongoing M3 Measure for February 2017, and a revised FOMC outlook.

[Commentary No. 869](#) reviewed and assessed underlying economic reality and a broad variety of indicators in the context of the second-estimate of fourth-quarter 2016 GDP.

[General Commentary No. 867](#) 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](#) 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](#) 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. The GAAP-detail will be reviewed this month in a *Special Commentary*.

[No. 859 Special Commentary](#) reviewed and previewed economic, financial and systemic developments of the year passed and the year or so ahead.

Note on Reporting-Quality Issues and Systemic-Reporting Biases. Significant reporting-quality problems remain with most major economic series. Beyond the pre-announced gimmicked changes to reporting methodologies of the last several decades, which have tended to understate inflation and to overstate economic activity—as generally viewed in the common experience of Main Street, U.S.A.—ongoing headline reporting issues are tied largely to 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 provide particularly unstable headline economic results, with the use of concurrent seasonal adjustments (as seen with retail sales, durable goods orders, employment and unemployment data). 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 year or two 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](#)). John Crudele of the *New York Post* continues his investigations in reporting irregularities: [Crudele Investigation](#), [Crudele on Census Bureau Fraud](#) and [John Crudele on Retail Sales](#) (watch for the annual benchmark revisions here on April 26th).

PENDING RELEASES: Existing- and New-Home Sales (March 2017). March 2017 Existing-Home Sales are due for release on Friday, April 21st, from the National Association of Realtors (NAR), with the March 2017 New-Home Sales report due from the Census Bureau on Tuesday, April 25th. Both Existing- and New-Home Sales will be covered in the *Commentary No. 882* of April 27th.

The extreme liquidity bind besetting consumers continues to constrain residential real estate activity, as updated in prior [Commentary No. 880](#) and as fully reviewed in the *CONSUMER LIQUIDITY* section of [No. 859 Special Commentary](#). Without sustainable growth in real income, and without the ability and/or willingness to take on meaningful new debt in order to make up for the income shortfall, the U.S. consumer remains unable to sustain positive growth in domestic personal consumption, including real estate activity. That circumstance—in the last nine-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.

Headline Existing-Home Sales should continue their current general pattern of low-level stagnation. Although there is an uptrend in the smoothed, six-month moving average, that should flatten out again.

Smoothed for regular extreme and nonsensical monthly gyrations, a pattern of low-level stagnation in New-Home Sales also should remain in play for that series. While the pattern of low-level stagnation in new sales has continued to fluctuate in recent months, it recently has begun to show somewhat of weakening trend, which likely will intensify. Monthly changes in activity here rarely are statistically-significant, amidst otherwise unstable headline reporting and revisions.

New Orders for Durable Goods (March 2017). The Census Bureau will report March New Orders for Durable Goods on Thursday, April 27th, which will be covered in *Commentary No. 882* of that date. Net of irregular activity in commercial aircraft orders, aggregate orders likely continued a pattern of down-trending real stagnation, despite likely positive consensus expectations.

Commercial aircraft orders are booked for the long-term—years in advance—so 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.

In inflation-adjusted real terms, reflecting PPI-related inflation for manufactured durable goods, nominal order weakness increasingly will be exacerbated by rising inflation, with monthly inflation of 0.24% in March 2017, versus 0.18% in February and 0.30% in January. Year-to-year annual inflation continued to rise, hitting 1.75% in March 2017, versus 1.45% in February 2017 and 1.33% in January 2017 (see prior [Commentary No. 880](#)).

Gross Domestic Product (GDP)—First-Quarter 2017, “Advance” or First-Estimate. The Bureau of Economic Analysis (BEA) will publish its first guesstimate or “advance” estimate of first-quarter 2017 Gross Domestic Product (GDP) on Friday, April 28th. Detail will be covered in *Commentary No. 883* of that date.

Noted in the *Opening Comments*, consensus expectations likely will settle in around 1.0% annualized real growth. If so, the consensus likely will be surprised on the downside. As has happened in recent years, the BEA tends to target the consensus outlook with its initial estimate. Unless the consensus turns to an outright quarterly contraction in the next couple of days, however, the BEA likely will do its best to guide, but not to shock the market expectations lower

If the consensus moves to an outright quarterly contraction, the BEA likely will accommodate those expectations. If the BEA sees a contraction, but the consensus does not, the BEA would tend to keep initial headline reporting above zero, in its initial but well below consensus. When headline detail comes in much below consensus, that usually is a signal for a downside first revision, with barely positive headline detail usually a precursor to a headline contraction to follow in the first revision to follow.
