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

COMMENTARY NUMBER 874
February Industrial Production, Updated Economic Review

March 17, 2017

Industrial Production May Be Bottoming,
Yet, There Are New Signals of Intensifying Economic Risk

Production Was Flat in February, Minimally Positive Year-to-Year, with
Gains in Manufacturing and Mining Offset by Weather-Distorted Utilities

No Economic Expansion: Activity Held Below Pre-2007 Recession Peaks, with
Production Down by 0.94% (-0.94%), Manufacturing Down by 4.97% (-4.97%)

Major Downside Revisions to Production Activity of Recent Years
Likely Loom with the March 31st Annual Benchmarking Going Back to 1972

General Outlook Remains in Place for Continuing
Near-Term Economic Stagnation and Renewed Downturn

PLEASE NOTE: The next regular Commentary, *scheduled for Friday, March 24th, will cover February New Orders for Durable Goods and New- and Existing-Home Sales. Please call me at (707) 763-5786, if you have questions or would like to talk.*

Best wishes to all — John Williams

OPENING COMMENTS AND EXECUTIVE SUMMARY

Real-World Economic Conditions—Downturn Continues. As noted in the *Reporting Detail*, February industrial production showed the third straight month of positive year-to-year change, despite the broad series basically still holding at its near-term trough. Nonetheless, it could be argued that the broad production series was bottoming out, perhaps along with the real-world, broad economy. While that is possible, such a circumstance is more likely in about a year, subsequent to economic stimulus measures out of the new Administration, assuming legislative cooperation from Congress.

A problem, even with some of the better-quality series such as industrial production, is that deliberately understated government inflation estimates still end up overstating inflation-adjusted growth. In this case, the issues are within certain components of the production series, as discussed in the *Executive Summary*. While underlying economy has not recovered, signals for a new or intensified downturn have begun to surface, threatening near-term hopes for recovery.

Discussed in *Commentary No. 872*, patterns of contracting real average weekly earnings and collapsing real year-to-year change in Money Supply M3 (ShadowStats Ongoing Measure) are generating solid and reliable indications of a pending economic slowing or downturn. Similar signals are likely from private and public surveys in the next several weeks, particularly where the rapidly rising annual pace of headline inflation increasing will ravage headline, inflation-adjusted real numbers.

Underlying economic reality is explored here regularly. The headline links to *Commentary No. 869* and *No. 859 Special Commentary* are incorporated here by reference.

Public forecasts for first-quarter GDP growth have been sinking, as some early, relatively-hard indicators have been published. The trend there should continue to the downside, with a good chance that first-quarter 2017 GDP activity contracted or weakened enough to roil FOMC plans for further, near-term rate hikes. *Commentary No. 873* also is incorporated here, by reference. More detail will follow in the next regular *Commentary No. 875* on March 24th.

Today's *Commentary* (March 17th). The balance of these *Opening Comments and Executive Summary* covers summary detail from the February 2017 Industrial Production reporting, with the headline numbers and graphics detailed and expanded upon in the *Reporting Detail*.

The *Week, Month and Year Ahead* previews next week's reporting of February New Orders for Durable Goods and New- and Existing-Home Sales.

Executive Summary: Industrial Production—February 2017—Looks Like It Could Be Bottoming, but Broad Signals Suggest Renewed Downturn. Headline annual changes in monthly industrial production reporting have been positive for three months. While that could suggest the series is hitting bottom, activity in production and the dominant manufacturing sector formally remains below the levels of pre-2007 recession peak activity. With new signals unfolding of pending or renewed economic downturn (see the *Opening Comments*), headline production activity likely will remain well shy of entering a period of formal expansion. While the production series is one of the best published by the central bank or federal government, headline production detail still overstates economic activity, as discussed in the section *Production Activity and Graphs—Corrected and Otherwise*.

Headline Detail. Headline February 2017 production effectively was flat month-to-month, up by 0.01%. In turn January 2017 activity declined by a revised, less-negative 0.07% (-0.07%), with an upwardly revised 0.65% gain in December 2016. Net of prior-period revisions, February 2017 production increased by 0.17%, instead of the headline "unchanged" at 0.01%.

Detailed by major industry group the "unchanged" production gain of 0.01% was composed of monthly gains of 0.48% in manufacturing and 2.66% in mining activity (including oil and gas production), and a weather-distorted decline of 5.72% (-5.72%) in utilities activity.

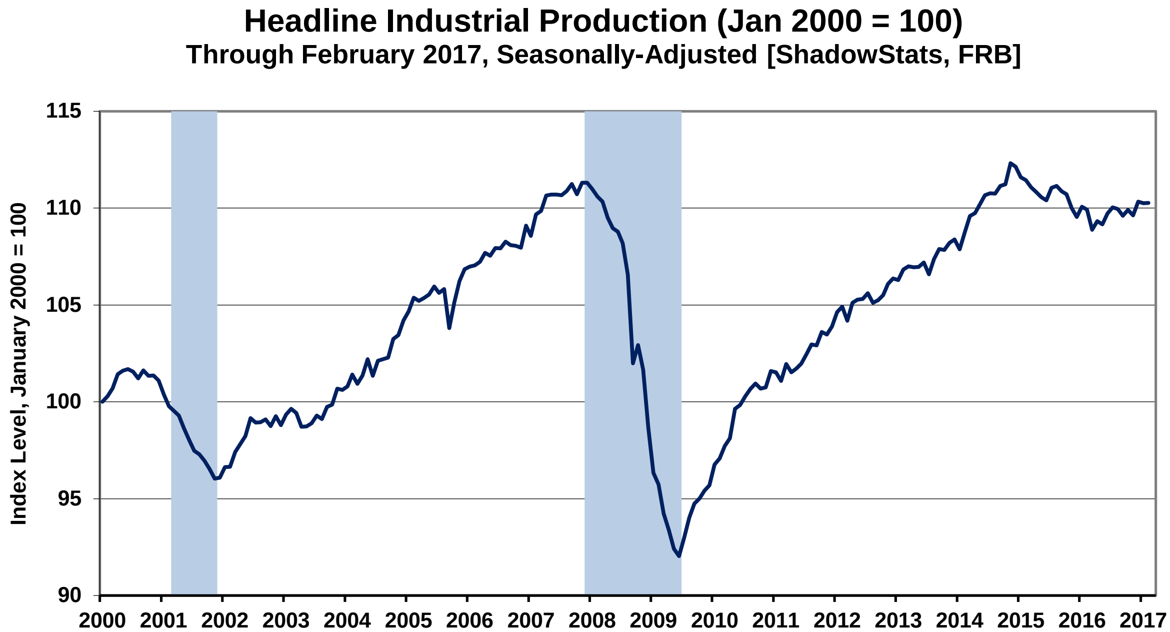
Year-to-year change in February 2017 industrial production was a gain of 0.31%, versus revised gains of 0.17% in January 2017 and 0.72% in December 2016, where the December gain was the first positive year-to-year change in sixteen months. That earlier period of extended headline annual contractions was unprecedented, outside of formal recessions.

Production Activity and Graphs—Corrected and Otherwise. The regular graphs of headline production activity and annual growth detail are found in the *Reporting Detail* (*Graphs 3* to *6*), along with the drill-down graphs of major subcomponents of the production series (*Graphs 7* to *20*).

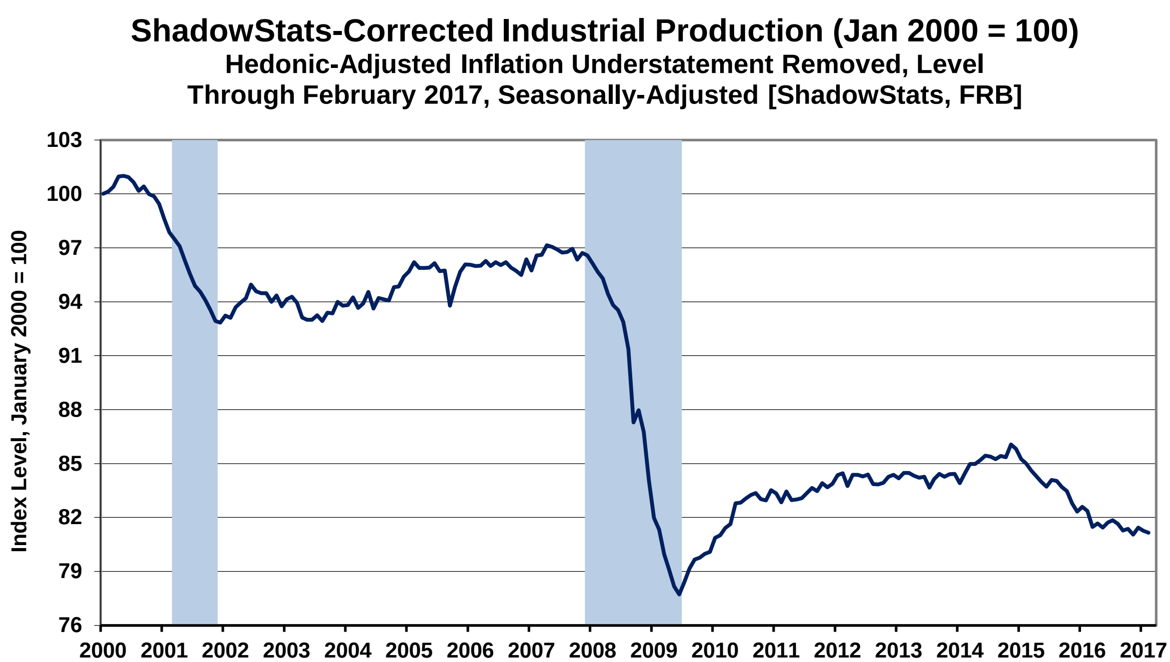
The level of headline production showed a topping-out process late in 2014, followed by a deepening downturn into first- and second-quarter 2015. Third-quarter 2015 showed some bounce, but activity in fourth-quarter 2015 and in first- and second-quarter 2016 turned down anew, dropping sharply into negative year-to-year growth and quarter-to-quarter growth. 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 fifth 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 January and February 2017 headline reporting in hand, first-quarter 2017 activity is head headed for annual and quarterly gains, all subject to a major annual benchmark revision—back to 1972—due to be published at the end of the month.

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](#)*).

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



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



Note: These graphs and related detail are subject to major benchmark revisions on March 31st (see the *Benchmark Revision* discussion in the *Reporting Detail*).

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. 872*, *Commentary No. 868* and *Commentary No. 869*) 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 5* 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 one-month "recovery" in 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 annual and quarter-to-quarter contractions, third-quarter 2016 contracted year-to-year, but was up quarter-to-quarter. Again, fourth-quarter 2016 activity provided the fifth straight quarter of annual contraction. Based on two months of reporting, first-quarter 2017 headline GDP is on track for small annual and quarterly gains, discussed in the *Reporting Detail*.

[The* Reporting Detail *contains significant further analysis and graphs on Industrial Production.]

REPORTING DETAIL

INDUSTRIAL PRODUCTION (February 2017)

[Please note: All detail here is subject to the annual benchmark revision of Industrial Production on March 31, 2017 (see the accompanying discussion)].

Headline Production Looks Like It Could Be Bottoming, but Broad Signals Suggest Renewed Downturn. Headline annual changes in monthly industrial production reporting have been in positive territory for three months. While that could be suggestive of the series hitting a bottom, activity still is formally below pre-2007 recession peak activity, and where this series is one of the best published by the central bank or federal government. Nonetheless, the headline production detail still overstates headline economic activity.

With industrial production representing 61% of the nominal 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 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 12.1% above its pre-recession peak (see *Commentary No. 869*). 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 discussion in *No. 859 Special Commentary*).

As of headline February 2017 reporting, the Industrial Production Index (2012 = 100) stood at 104.736, below its formal pre-recession high by 0.94% (-0.94%) and was down by 1.83% (-1.83%) from its one-month "recovery" peak level of November 2014.

The dominant manufacturing sector (78.5% of Industrial Production, 48% of GDP) never has recovered, with February 2017 manufacturing activity still down by 4.97% (-4.97%) from reclaiming its pre-recession peak level of activity.

Those issues also were expanded upon in *Commentary No. 869*, where the current 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.

Headline Production Activity Is Overstated. Allowing for the merits of the headline Industrial Production series, the understatement of inflation used in estimating some components of the industrial production series still results some overstatement of headline production growth, as discussed in the *Executive Summary* and as 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-2016-benchmark revision era for Industrial Production, the headline (not the ShadowStats-corrected) series, again, recovered its pre-recession high only for only one month, in November 2014, and it has been in fairly-consistent monthly decline ever since, falling month-to-month in 18 out of 27 subsequent months. That said, the headline production downturn, again, appears to be bottoming out at the moment, but these numbers and patterns are subject to the 2017- benchmark revision of industrial, which will be published on March 31st, two weeks from today.

Beware the Annual Industrial Benchmark Revision Set for March 31st! The Federal Reserve Board will publish its annual benchmark revisions to the industrial production series on March 31, 2017, including new annual benchmark manufacturing data as of 2015, and revamped seasonal adjustments and estimation methods, affecting previously reported data from 1972 through fourth-quarter 2016. Historically, these benchmark revisions tend to recast historical activity to the downside (see *No. 796-A: Industrial Production Benchmark Revision*). ShadowStats plans to publish an analysis of the revisions over the April Fool's Day weekend.

Headline Industrial Production—February 2017. The Federal Reserve Board released its first estimate of seasonally-adjusted, February 2017 industrial production, this morning, March 17th. In the context of an upside revision to January activity, headline February 2017 production effectively was flat month-to-month, up by 0.01%. In turn January 2017 activity declined by a revised, less-negative 0.07% (-0.07%) [previously down by 0.25% (-0.25%)], with an upwardly revised 0.65% [previously 0.61%, initially 0.83%] gain in December 2016, a minimally-revised contraction of 0.25% (-0.25%) [previously down by 0.24% (-0.24%), 0.66% (-0.66%), initially down by 0.44% (-0.44%)] in November, and with further minor revisions back through August. Net of prior-period revisions, February 2017 production increased by 0.17%, instead of the headline "unchanged" at 0.01%.

Detailed by major industry group (see *Graphs 5*, *7*, *10* and *14*), the headline February 2017 monthly aggregate "unchanged" at 0.01% was composed of a monthly gain of 0.48% in manufacturing activity, a gain of 2.66% in mining activity (including oil and gas production), and a weather-distorted decline of 5.72% (-5.72%) in utilities activity. The gain in manufacturing was despite unchanged durable goods production, with a decline in nondurable consumer goods production dominated by energy consumption. Durable goods reflected a 0.5% gain in automobile production, which was more than offset by a decline of 3.6% (-3.6%) in production of appliances, furniture and carpeting. The gain in mining reflected continuing increases in oil and gas extraction, oil and gas drilling and coal mining, with some offset from a drop in gold and silver mining. The decline in utilities reflected unusually-warm weather depressing usual heating needs.

Year-to-year change in February 2017 industrial production was a gain of 0.31%, versus revised gains of 0.17% (previously flat at 0.1%) in January 2017 and 0.72% [previously 0.74%, initially 0.51%] in December 2016, which was the first upturn in sixteen months, a circumstance still unprecedented outside of formal recessions. Those details were against revised annual declines of 0.35% (-0.35%) [previously 0.24% (-0.24%), initially 0.74% (-0.74%)] in November 2016, with other small revisions back to August.

Quarterly and Annual Production Contractions. Fourth-quarter 2016 production contracted year-to-year for the fifth straight quarter, down by a revised 0.12% (-0.12%) [previously 0.08% (-0.08%), initially 0.32% (-0.32%)]. Year-to-year growth rates in quarterly production had continued to slow and then decline, ranging from a positive 2.43% in first-quarter 2015, to 0.36% in second-quarter 2015, to 0.12% in third-quarter 2015, to annual declines of 1.62% (-1.62%) in fourth-quarter 2015, 1.57% (-1.57%) in first-quarter 2016, down by 1.08% (-1.08%) in second-quarter 2016 and by a revised 1.04% (-1.04%) [previously 1.01% (-1.01%)] in third-quarter 2016.

<u>Year-to-Year Change for First-Quarter 2017.</u> Based only on the headline February 2017 reporting details, first-quarter 2017 is on early track for year-to-year growth of 0.58% [previously 0.41%, based on the initial January 2017 detail]. Where a headline March 2017 monthly contraction of 1.74% (-1.74%) or more would be needed to turn the current quarterly detail negative year-to-year, such an event is highly unlikely in the normal course of reporting. The intervening March 31st annual benchmark revision, however, leaves open a wide variety of possible reporting.

<u>Annualized Quarter-to-Quarter.</u> Going back a year, first-quarter 2015 industrial production contracted at an annualized quarterly pace of 1.85% (-1.85%), followed by a second-quarter 2015 contraction of 2.75% (-2.75%), with a third-quarter 2015 production gain of 1.53%, followed by a fourth-quarter 2015 contraction of 3.33% (-3.33%).

The first-quarter 2016 quarterly decline was 1.66% (-1.66%), with a second-quarter 2016 quarterly decline of by 0.81% (-0.81%). Third-quarter 2016 industrial production expanded at a downwardly-revised annualized pace of 1.70% [previously 1.74%, initially 1.81%], with fourth-quarter 2016 flipping to the plus-side by 0.31% [previously 0.43%, having contracted initially at by 0.60% (-0.60%)].

Annualized First-Quarter 2017. Based only on the headline February 2017 reporting details, first-quarter 2017 is on early track for an annualized quarterly gain of 1.13% [previously an annualized 0.28%, based on the initial January 2017 detail]. Where a headline March 2017 monthly contraction in excess of 0.85% (-0.85%) or more would be needed to turn the current quarterly detail negative quarter-to-quarter, such an event is not likely, although possible, in the normal course of reporting. The intervening March 31st annual benchmark revision, however, leaves open a wide range of possible reporting.

Production Graphs. The regular two sets of plots for long- and short-term industrial production levels and annual growth rates (*Graphs 3* to *6*) set the background for the drill-down detail graphs of various components of the aggregate industrial series (*Graphs 7* to *20*). All these graphs and related detail are subject to major benchmark revisions on March 31st (see the earlier *Benchmark* discussion).

Graphs 3 and *4*, and *Graphs 5* and *6* show headline industrial production activity to date. *Graph 4* shows the monthly year-to-year percent change in the aggregate series, in historical context since World War II. Despite the headline annual gain in monthly production at 0.72% in December 2016, growth still was negative for fourth-quarter 2016, the fifth such consecutive quarter. With February 2017 detail, the annual growth has held in positive territory and is on trend for a positive annual change for the quarter.

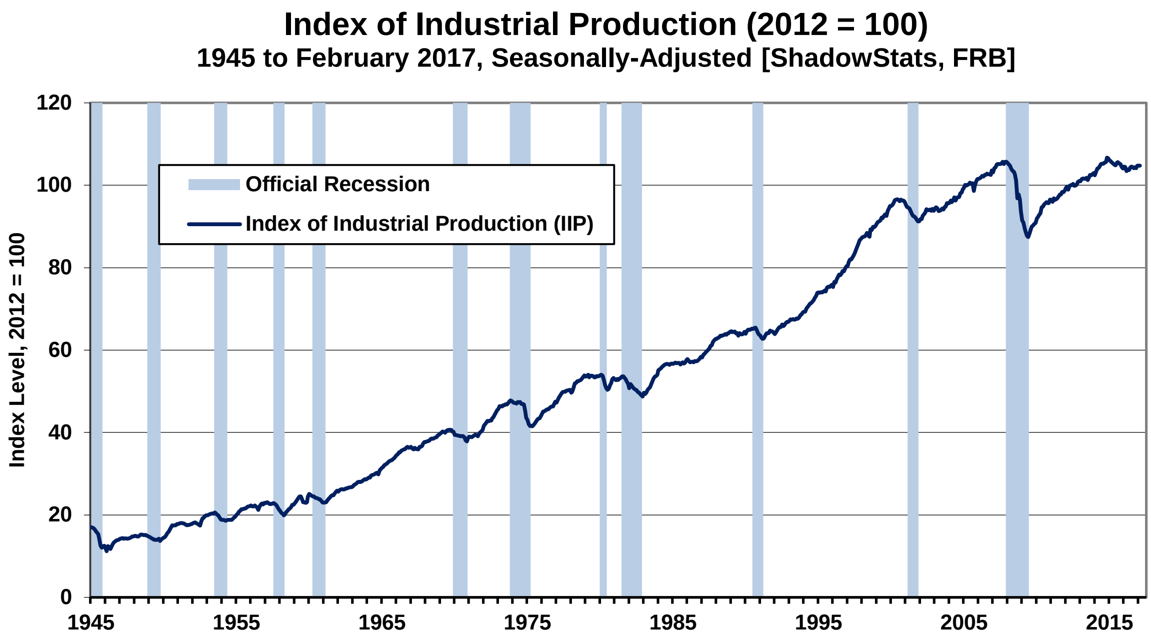
Graph 3 shows the monthly level of the production index post-World War II, with a topping-out and renewed downturn—deepening quarterly contractions in first- and second-quarter 2015, with a bounce in third-quarter 2015, followed by renewed and deeper contractions in fourth-quarter 2015 and first- and second-quarter 2016, a bounce back in third-quarter and a revised quarterly gain in fourth-quarter 2016, with early first-quarter 2017 trending higher. Such patterns of monthly, quarterly and annual declines still were seen last in the economic collapse into 2009, historically, never seen outside of formal recessions. *Graphs 5* and *6* show the same series in near-term detail, beginning in January 2000.

Seen most clearly in *Graph 16*, the pattern of year-to-year activity 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, through 2016 as seen only in formal recessions. Year-to-year growth remains well off the recent relative peak for the series, which was 8.48% in June 2010, going against the official June 2009 trough of the economic collapse. Indeed, as shown in *Graph 4*, the June 2009 (the end of second-quarter 2009) year-to-year contraction of 15.40% (-15.40%) was the steepest annual decline in production since the shutdown of wartime production following World War II.

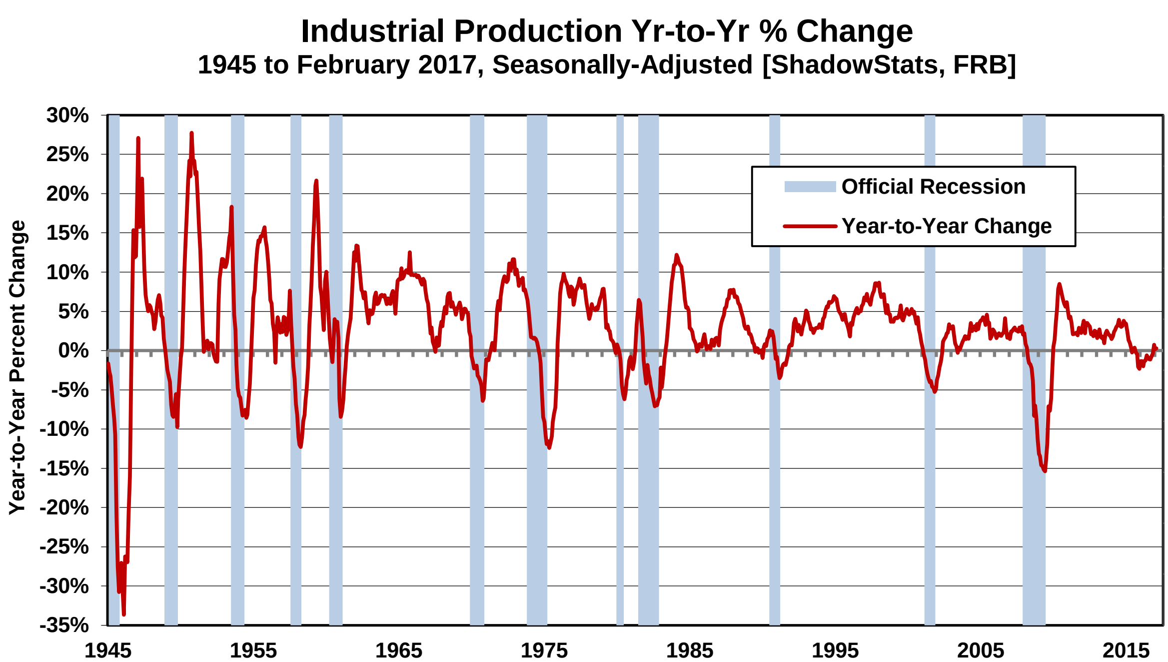
Although generally now-faltering, official production levels had moved higher since the June 2009 trough, corrected for the understatement of inflation used in deflating portions of the industrial production index (see the *Executive Summary* section, *Graph 2*) that series has shown more of a pattern 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, rallied into third-quarter 2015, contracted into second-quarter 2016, bounced in third-quarter 2016 and fourth-quarter 2016 and is on track for another gain in first-quarter 2017. The "corrected" series has contracted quarter-to-quarter throughout 2016 and into 2017.

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

Graph 3: Index of Industrial Production (Aggregate) since 1945

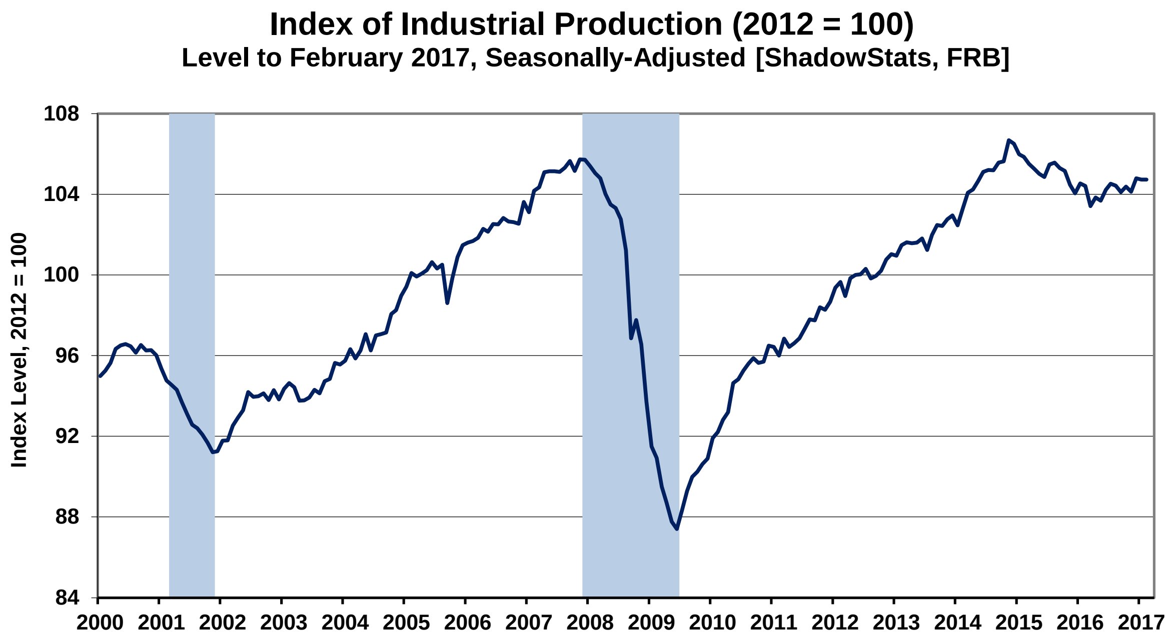


Graph 4: Industrial Production, Year-to-Year Percent Change since 1945

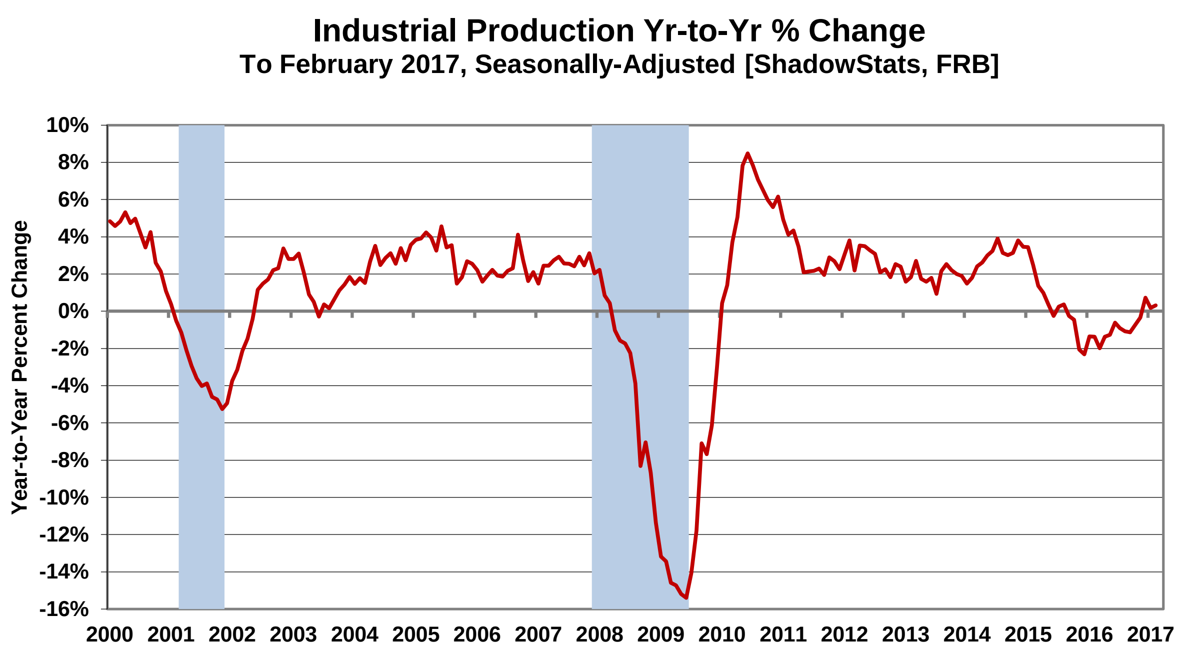


Drilling Down into the February 2017 U.S. Industrial Production Detail. *Graphs 5*, *7*, *12* and *16* show headline reporting of industrial production and its major components.

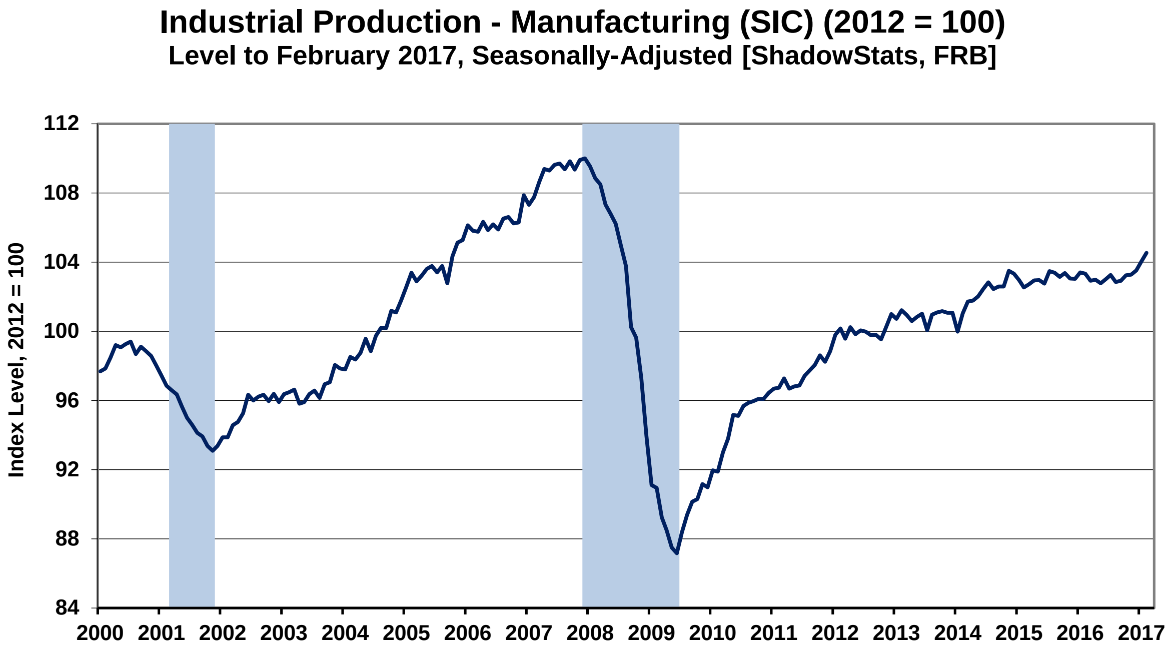
Graph 5: Index of Aggregate Industrial Production since 2000



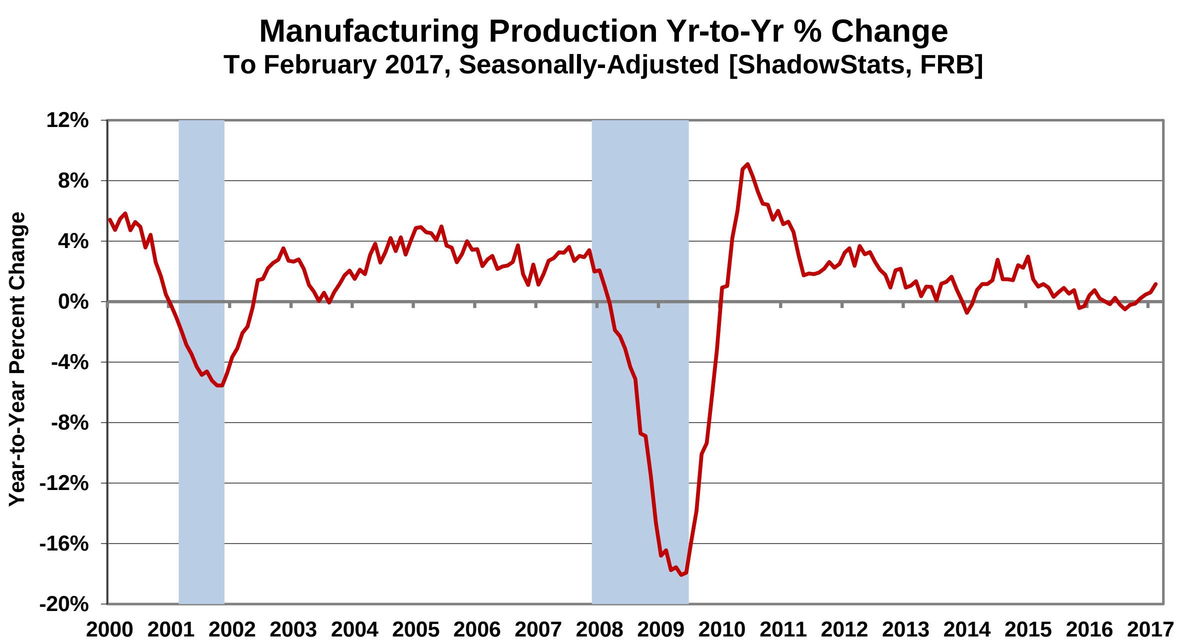
Graph 6: Aggregate Industrial Production, Year-to-Year Percent Change since 2000



Graph 7: Industrial Production - Manufacturing (78.48% of the Aggregate in 2015)



Graph 8: Industrial Production - Manufacturing, Year-to-Year Percent Change Since 2000



The broad, aggregate index (*Graph 5*) contracted in both first- and second-quarter 2015, with a third-quarter 2015 bounce, followed by ongoing, consecutive quarterly and annual contractions in fourth-quarter 2015, first-quarter 2016 and second-quarter 2016, with bounces in third- and fourth-quarter 2016.

Fourth-quarter 2016 was the fifth consecutive annual contraction, again, a circumstance simply not seen outside of recessions, as discussed earlier, although annual growth appears headed for a positive reading in first-quarter 2017.

Shown in *Graphs 7*, *12* and *14*, of the three major industry groups, manufacturing, mining and utilities, only manufacturing and mining showed monthly increases in February 2017 reporting.

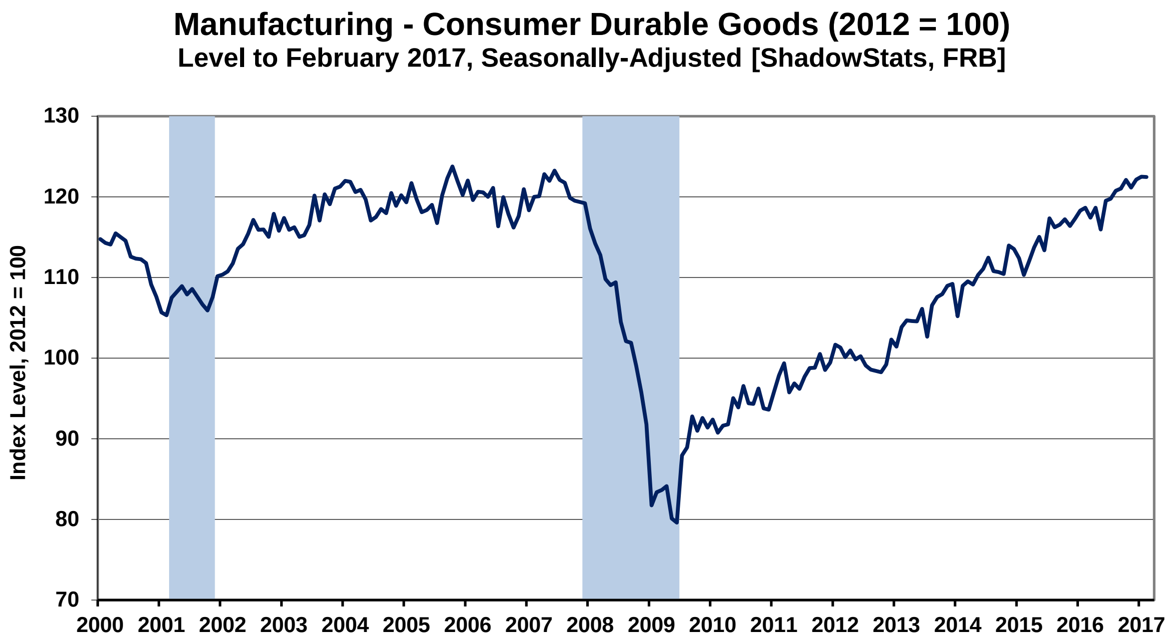
Graph 7 of the dominant manufacturing sector showed a month-to-month gain of 0.48% in February 2017, following a revised 0.50% [previously 0.19%] gain in January 2017. *Graph 8* reflects annual growth patterns in manufacturing, which had been fluttering at low levels since an initial bounce off the 2009 trough, down year-to-year in the six months through October, turning to the plus-side in November 2016 to date.

Consumer Goods production declined in February 2017 by 0.40% (-0.40%), the fifth monthly decline in the last six months (see *Graphs 9* to *11*). Noted earlier, the gain in manufacturing was despite unchanged Consumer Durable Goods production (*Graph 10*), with a decline in Consumer Nondurable Goods (*Graph 11*) dominated by weaker energy consumption. Durable goods reflected a 0.5% gain in automobile production, which was more than offset by a decline of 3.6% (-3.6%) in production of appliances, furniture and carpeting.

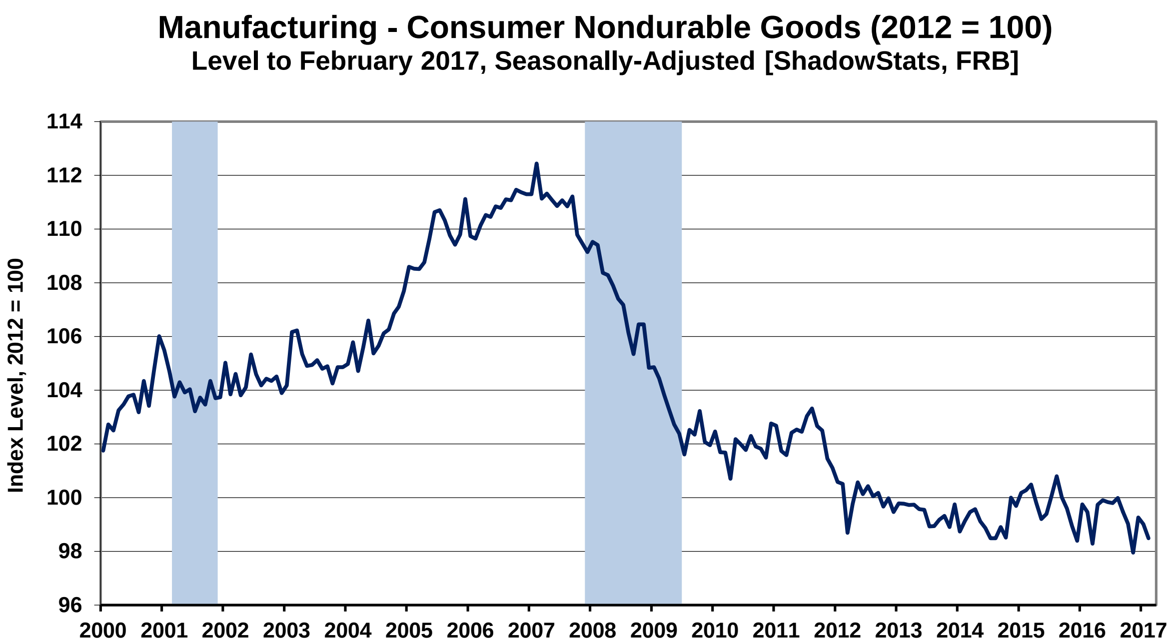
Graph 9: Consumer Goods (27.08% of the Aggregate in 2015)

[Graphs 10 and 11 follow on the next page.]

Graph 10: Durable Consumer Goods (6.36% of the Aggregate in 2015)

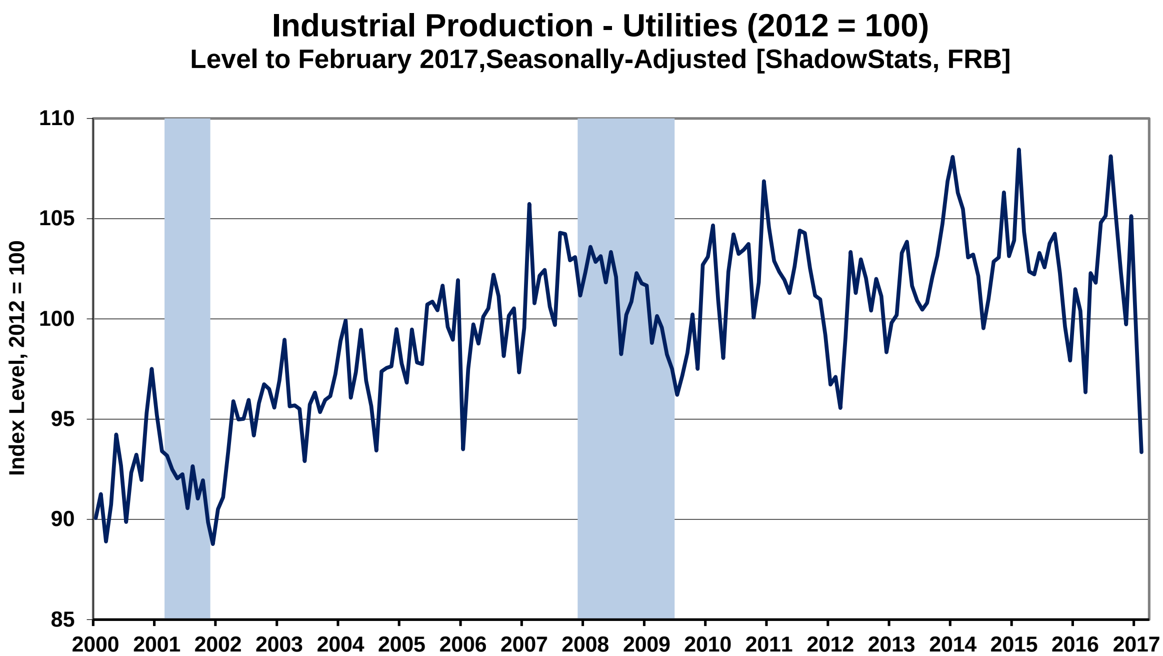


Graph 11: Nondurable Consumer Goods (20.73% of the Aggregate in 2015)

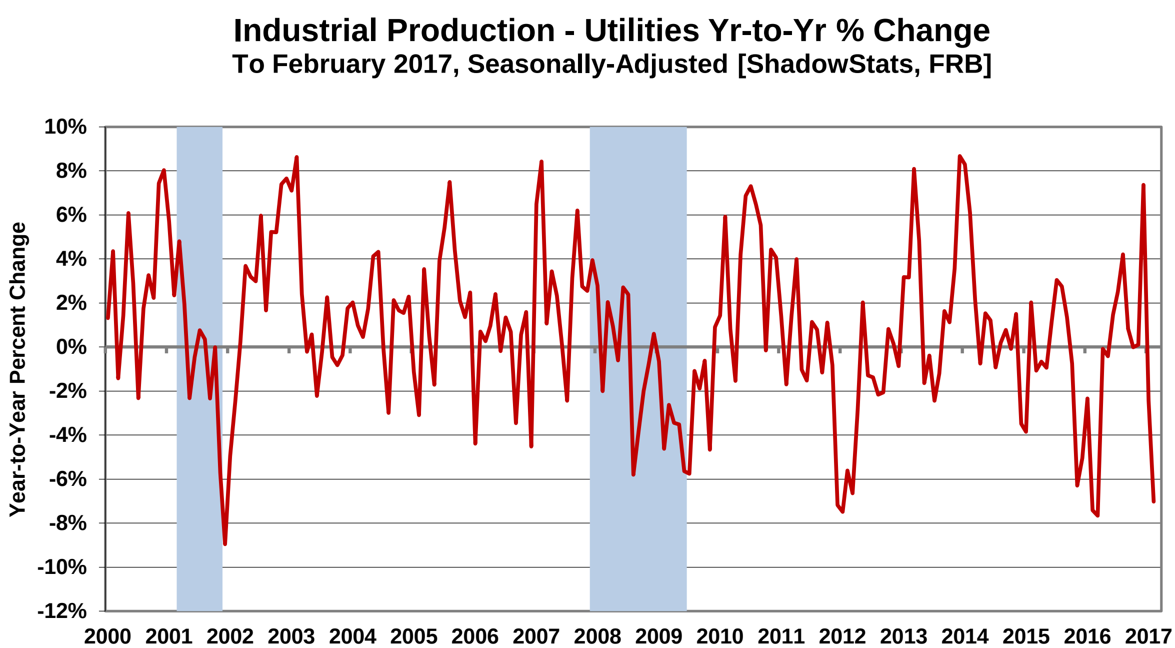


Monthly volatility in the utilities sector (*Graph 12*) usually reflects unseasonable shifts in weather conditions and reversals of same. The 5.72% (-5.72%) monthly plunge in February 2017, following a similar drop of a revised 5.81% (-5.81%) [previously 5.68% (-5.68%)] in January 2017 activity, where January largely offset an upwardly -revised 5.42% [previously 5.05%] monthly surge in December 2016, all were of that nature. The story for February is that warmer-than-expected temperatures unseasonably dampened heating needs. Such distortions tend to balance out over time.

Graph 12: Industrial Production - Utilities (10.76% of the Aggregate in 2015)

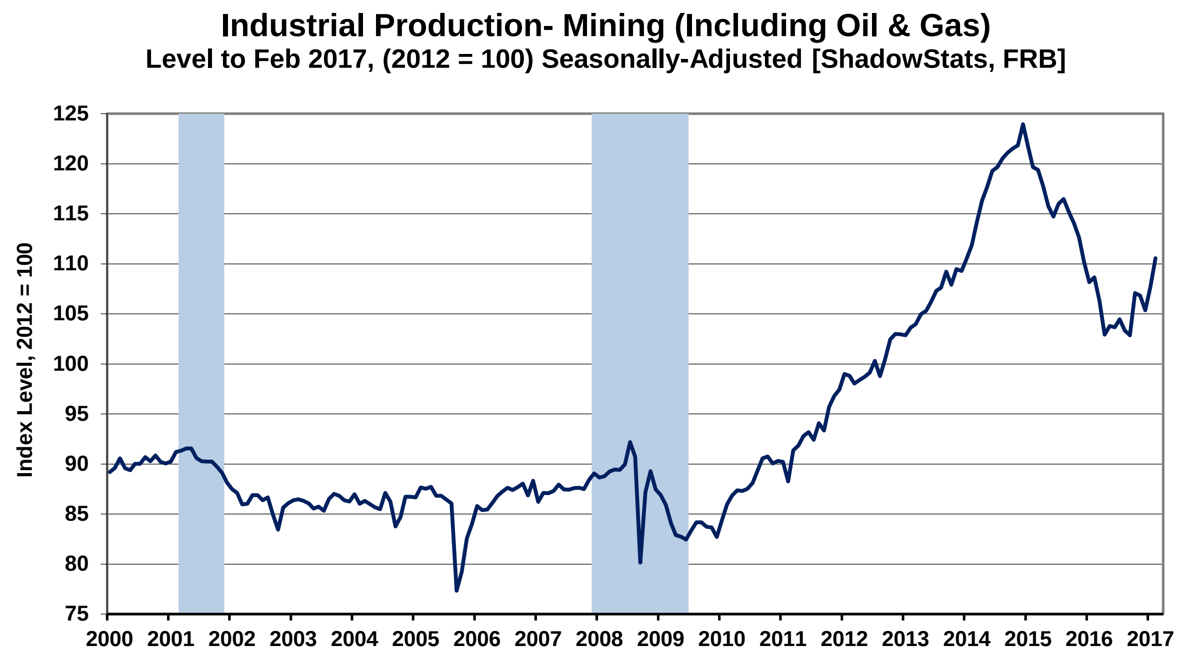


Graph 13: Industrial Production - Utilities, Year-to-Year Percent Change Since 2000

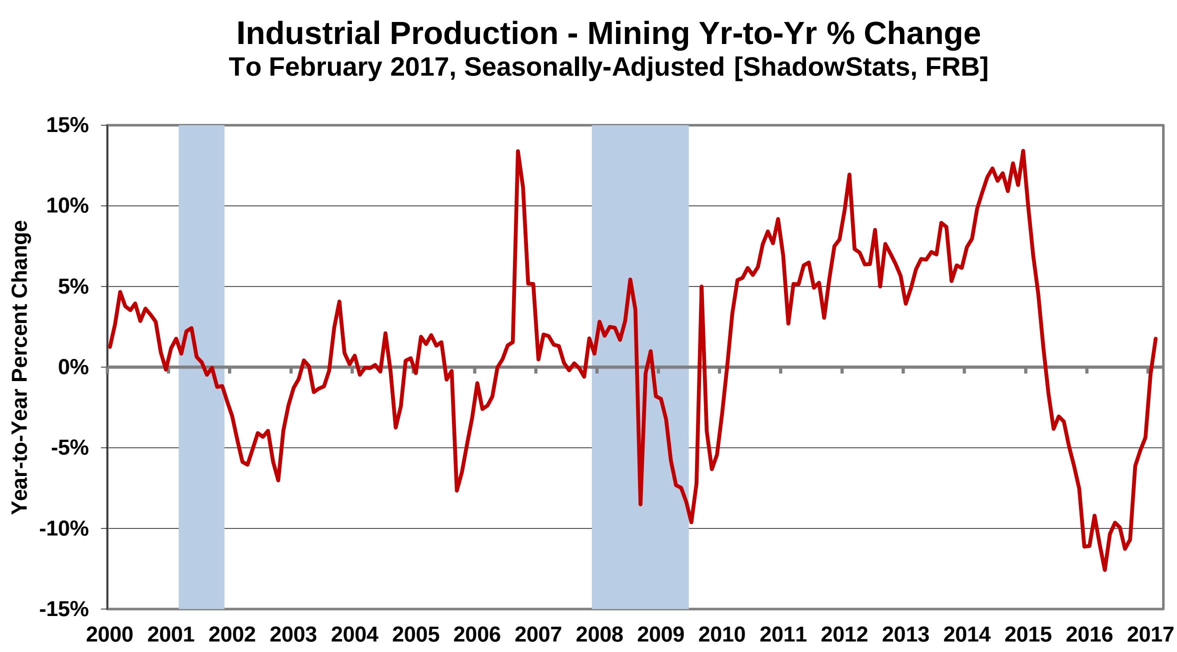


Activity in the mining sector (*Graph 14*), particularly in oil and gas exploration and production, and in coal production, remains the near-term focus of this analysis.

Graph 14: Industrial Production - Mining, Including Oil and Gas (10.76% of the Aggregate in 2015)



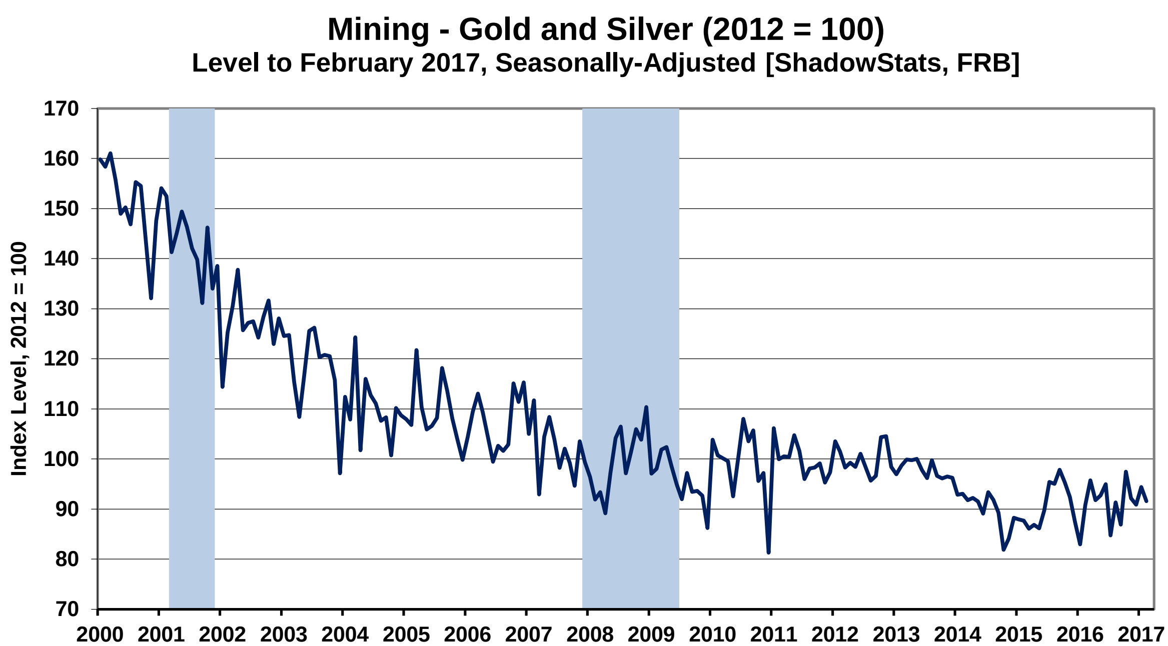
Graph 15: Industrial Production - Mining, Year-to-Year Percent Change



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 month of November 2014), seen in the aggregate Industrial Production detail since the economic collapse. 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 been up and down 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 15*) broke to the plus-side for the first time since April 2015, up by 1.76% in February, having been down by a revised 0.44% (-0.44%) [previously up by 0.44%] and down by a revised 4.36% (-4.36%) [previously down by 4.02% (-4.02%)] in December 2016 and by as much as 12.58% (-12.58%) in April 2016. 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 (see *Graphs 17* through *20*).

Graph 16 reflects slowing monthly production continuing off the near-term-trough in fluctuating activity for gold and silver, irrespective of the pummeling given the prices of precious metals in recent years by central-bank orchestrated market manipulations as well as recent price volatility in the markets.

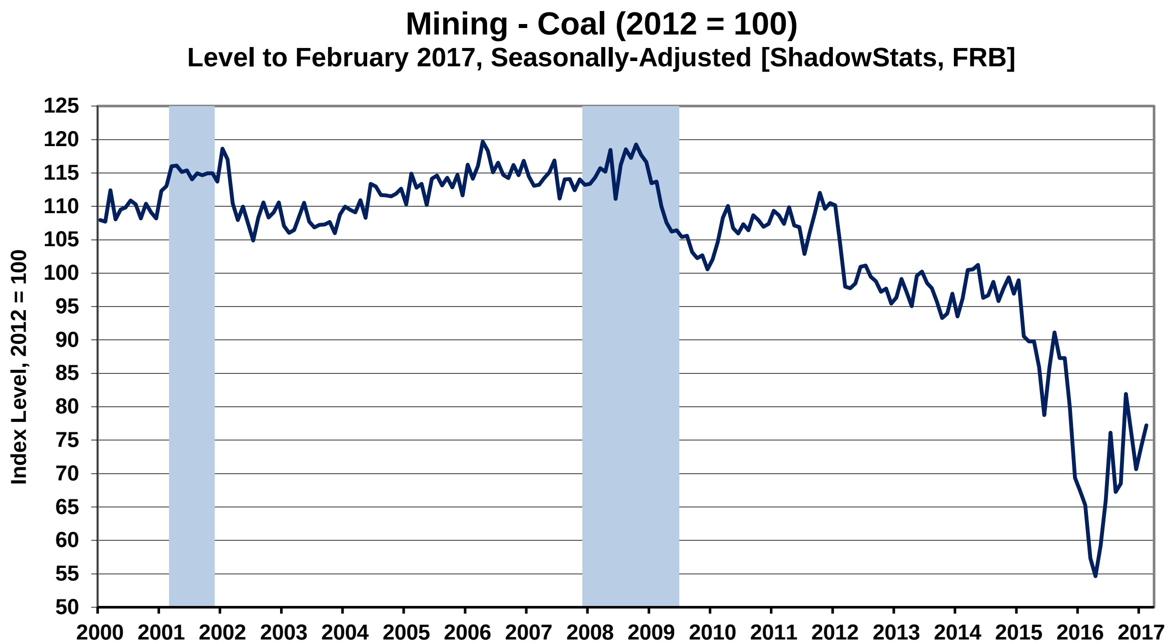
Graph 16: Mining – Gold and Silver Mining (Since 2000)



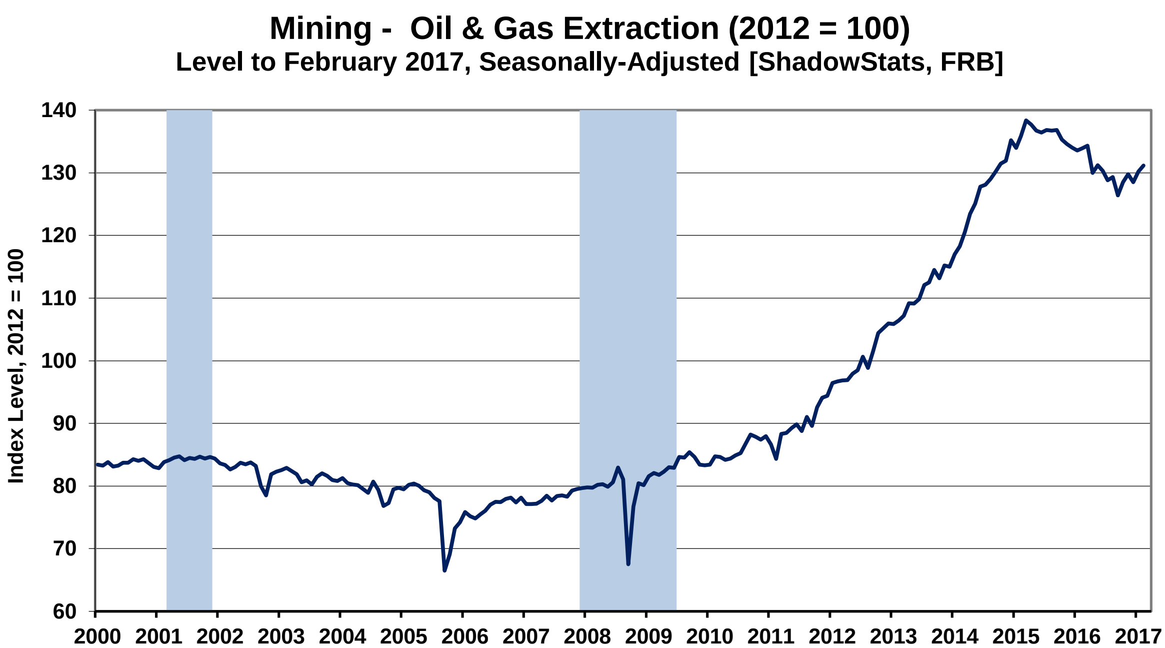
Graph 17 still shows an extraordinary rebound in the level of monthly coal production, which was down year-to-year by 26.23% (-26.23%) in August 2016, but now is up year-to-year by 18.33% as of February 2017. Although the latest month-to-month activity gained 4.32%, current activity still is down sharply, by 23.71% (-23.71%), from its near-term production peak in May 2014.

[Graphs 17 and 18 follow on the next page.]

Graph 17: Mining - Coal Mining (Since 2000)



Graph 18: Mining – U.S. Oil & Gas Extraction (Since 2000)

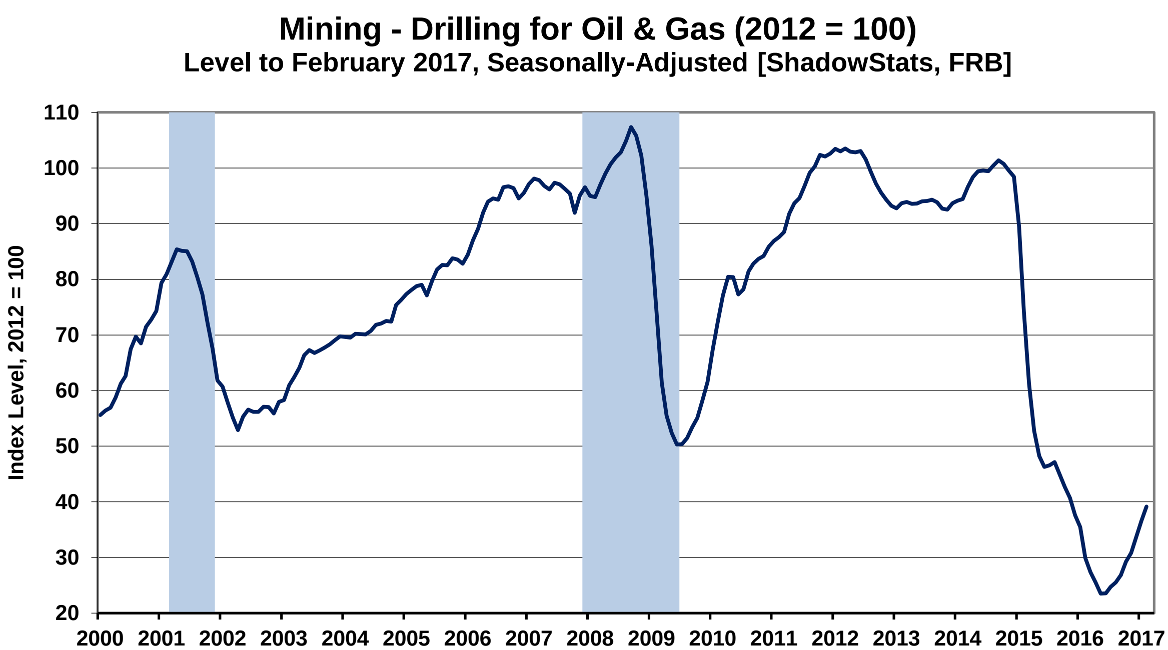


With oil prices fluctuating above recent lows, oil and gas extraction gained 0.74% for the month of February 2017, following a revised monthly gain of 1.32% [previous 1.27%] in January. Activity in February remained 5.20% (-5.20%) off its all-time high of March 2015.

Exploration in terms of oil and gas drilling (*Graph 19*) has continued to move higher in what increasingly looks like a bottoming process, up by 7.12% month-to-month in February 2017, following monthly gains of 8.55% in January 2017, and 9.35% in December 2016. The series remains collapsed, although year-to-year growth broke to the plus-side by 2.97% in January 2017, soaring to 31.00% in February 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 September 2014 peak in oil drilling, February activity was down by 61.12% (-61.12%).

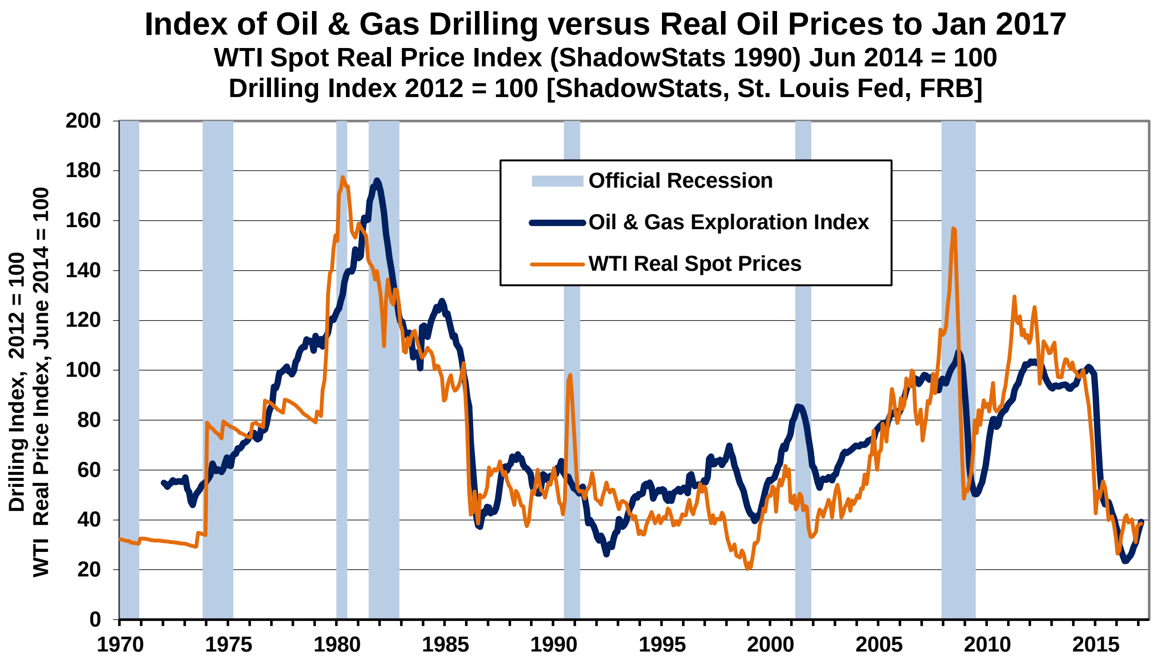
Graph 19: U.S. Drilling for Oil & Gas (Since 2000)



Shown in *Graph 20,* 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 somewhat differently this month, so as to show more clearly the price-level movement, which graphically has coincided with the movement in the drilling levels for the last two 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. 873*)—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 be eased.

Graph 20: Mining – U.S. Drilling for Oil & Gas versus Real Oil Prices (WTI ShadowStats 1990 Base)



WEEK, MONTH AND YEAR AHEAD

Despite the March 15th Rate Hike, Continued Economic Woes Promise a Compromised, Frustrated Fed and Deteriorating U.S. Dollar Support. The outlook for future FOMC actions was reviewed in the *Opening Comments* of yesterday's (March 16th) *Commentary No. 873*, while the latest assessment of current economic activity is found in today's *Opening Comments.*

Accordingly, this opening section of the *Week, Month and Year Ahead* will not be separately updated, other than for links, until the next regular *Commentary No. 875*, planned for March 24th.

Prior General Background. Separately, *No. 859 Special Commentary* 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 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 fully recovered. 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 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 raising 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: *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*.

Recent Commentaries:

Commentary No. 873 discussed prospects for future tightening and/or a return to quantitative easing by the FOMC, along with a 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 February 2017 Retail Sales (real and nominal), Real Earnings and the CPI and PPI.

Commentary No. 871 covered February Labor Conditions, updated Consumer Liquidity and the ShadowStats Ongoing M3 Measure for February 2017, and a revised FOMC outlook.

Commentary No. 870 assessed the headline details for the January 2017 Trade Deficit and January Construction Spending, and reviewed prospects for an FOMC rate hike on March 15th.

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.

Commentary No. 868 covered the January 2017 reporting of New Orders for Durable Goods.

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 is 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 January 2017 New- and Existing Home Sales.

Commentary No. 866 reviewed the prior headline January 2017 detail of the CPI (and related series), PPI, Industrial Production, Residential Construction and Retail Sales, both nominal and real.

Commentary No. 864 analyzed the prior 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*.

PENDING RELEASES: Existing- and New-Home Sales (February 2017). February 2017 Existing-Home Sales are due for release on Wednesday, March 22nd, from the National Association of Realtors (NAR), with the February 2017 New-Home Sales report due from the Census Bureau on Thursday, March 23rd. Both Existing- and New-Home Sales will be covered in the *Commentary No. 875* of March 24th.

The extreme liquidity bind besetting consumers continues to constrain residential real estate activity, as updated in *Commentary No. 871* 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. Smoothed for regular extreme and nonsensical monthly gyrations, a pattern of low-level stagnation in New-Home Sales also should remain 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 (February 2017). The Census Bureau will report February New Orders for Durable Goods on Friday, March 24th, which will be covered in *Commentary No. 875* 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 0.18% in February 2017, versus 0.30% in January 2017 and 0.18% in December 2016. Year-to-year annual inflation continued to rise, hitting 1.45% in February 2017, versus 1.33% in January 2017 and 0.97% in December 2016 (see *Commentary No. 872*).

PENDING SPECIAL COMMENTARIES: ***GAAP-Based Accounting of the U.S. Government (Fiscal-Year 2016).*** With some preview in *Commentary No. 861* and *No. 859 Special Commentary*, full analysis is planned as a *Special Commentary* before the March 30th GDP revision and the March 31st annual benchmark revisions to Industrial Production.

The consolidation of the major *ShadowStats* reporting into one volume, including the recommended reading list is targeted now for the third full week in April.