

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

CONSUMER LIQUIDITY WATCH - NUMBER 1

June 20, 2018

NOTE TO SHADOWSTATS SUBSCRIBERS: With this ShadowStats *Consumer Liquidity Watch (CLW)*, the *Watch* becomes a standalone document, posted and updated separately on the ShadowStats web site (www.ShadowStats.com), but also always linked from the latest ShadowStats *Commentary*, going forward, beginning with *Commentary No. 956* of June 21, 2018. Despite some minor formatting changes, updated links and updated language, the major points here largely are the same as in the *Consumer Liquidity Watch* published June 18, 2018 in [*Commentary No. 955*](#).

The *Watch* will be updated regularly throughout each month as new details become available, and as coverage is expanded to incorporate new measures and approaches reflecting consumer liquidity conditions, which ultimately drive U.S. economic activity. Major developments will be advised in the regular *Commentaries* and/or by separate e-mail notices of significant new postings in the *CLW*.

Please contact me if you have any questions, suggestions or otherwise would like to talk, at (707) 763-5786 or by e-mail at johnwilliams@shadowstats.com.

— Best wishes, John Williams

CONSUMER LIQUIDITY, INCOME, CREDIT AND RELATIVE OPTIMISM.

Consumer Earnings, Credit and Relative Optimism Continue to Show an Intensifying Consumer Liquidity Squeeze. Today's *Consumer Liquidity Watch* incorporates by reference the *Opening Comments* of the May 9th [Commentary No. 948](#), which reviewed various economic signals ranging from tightening systemic liquidity tied to sinking, inflation-adjusted real annual growth in M3 money supply, to Sentier Research's reintroduction of monthly Real Median Household Income, followed later in this text. The most-recently updated numbers show still-faltering measures of quarterly and monthly real earnings and real household debt and consumer credit outstanding.

Recently, May 2018 details for the Conference Board's Consumer Confidence Index (May 29th) and the University of Michigan's final estimate for May Consumer Sentiment (May 25th) showed a faltering outlook. While headline Consumer Confidence took a hefty jump in May, that was in the context of a downside revision of 2.4% (-2.4%) to the previously-estimated level of April Confidence, which the new initial May estimate did not top.

The final May Sentiment number revised lower by 0.8% (-0.8%), from its initial estimate. The initial estimate of June Sentiment (June 15th), however, notched higher versus an upwardly-revised May, but those readings as well Confidence, remained shy of levels seen in November 2017.

Mounting financial stress on the U.S. consumer bodes poorly for pending domestic economic growth. Noted in the *Opening Comments* of [Commentary No. 952](#), mounting liquidity issues likely already have taken some hit on headline real first-quarter 2018 GDP activity, where consumer real consumption of goods and real investment growth in residential real estate actually declined in the quarter. See also [Commentary No. 948](#) and [Commentary No. 949](#).

Liquidity conditions have been tightening for consumers, with Real Consumer Credit Outstanding having continued to falter in April 2018, with Real Average Weekly Earnings contracting quarter-to-quarter in first-quarter 2018, along with continued faltering/stagnant numbers in April and May, and with monthly Real Median Household Income in April 2018 slowing anew in terms of annual growth. These factors are among the likely elements driving the early signs of a downturn in consumer optimism and consumer consumption and residential investment (a shrinking 72.9% of First-Quarter 2018 GDP). In combination, these various factors should exacerbate financial-market, policy-maker and FOMC concerns as to any ongoing, positive direction in broad U.S. economic activity (see the *Opening Comments* and *Hyperinflation Watch* of [Commentary No. 955](#) and [Commentary No. 953-A](#)).

Weakening consumer liquidity conditions previously had been mirrored in weakening, headline economic activity coming into the series of major natural disasters that disrupted the economy, beginning in August

2017. Intensifying weakness had included Payroll-Employment, Real Retail Sales, Housing and Construction, and the Manufacturing/Production sector, generally pre-natural disaster activity.

Net of what have been mixed, but significant, hurricane and later-wildfire distortions, initial hits to activity were followed by related and transient economic boosts from recovery, replacement and restoration activity, particular in fourth-quarter 2017. Funded by insurance payments and savings liquidation, those distortions increasingly had passed into the recent headline economic data and now begun to recede. Against artificially bloated third- and fourth-quarter 2017 activity of 3.2% and 2.9%, first-quarter 2018 economic activity slowed to a recently-revised 2.2% and likely will revise still lower as better-quality numbers become available. Such effects are discussed in the separate analyses of relevant series in covered in the regular *ShadowStats Commentaries*. Where there are current signals of faltering consumer liquidity (see Consumer Credit Outstanding and Real Earnings), headline consumer optimism has begun to falter, anew, as discussed earlier. Net of a sharp downside revision to April, the May 2018 releases of the Conference Board's Consumer-Confidence Index[®], and given the final-May and advance-June estimate of the University of Michigan Consumer Sentiment, again, both series were off recent peak activity.

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

These underlying pocketbook issues contributed to the anti-incumbent electoral pressures in the 2016 presidential race. The post-election environment showed a near-term surge in both the consumer confidence and sentiment measures to levels generally not seen since before the formal onset of the recession in 2001, let alone 2007. Yet, underlying liquidity conditions, economic reality and limited positive actions out of the government to turn the economy meaningfully, so far, all have continued to remain shy of consumer hopes, despite some booming headline numbers (see [Commentary No. 955](#)), yet those numbers have begun to stumble anew in recent detail.

The temporary liquidity boost fueled by the second-half 2017 disaster effects, such as insurance payments or savings drawdowns to fund replacement of storm-damaged assets, was of a one-time nature and reasonably short-lived in terms of ongoing economic impact. The underlying, fundamental longer-term liquidity issues remain in place. Nonetheless, mirroring the disaster-fueled economic hype in the popular press, consumer optimism had rallied strongly, albeit, again, now faltering or mixed, as discussed shortly.

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

The combined issues here have driven the housing-market collapse and ongoing, long-term stagnation in consumer-related real estate sales and construction activity, and have constrained both nominal and real retail sales. Related, personal-consumption-expenditure and residential-construction categories accounted for 73.1% of the headline real, Fourth-Quarter 2017 U.S. GDP, now down to 72.9% in First-Quarter 2018.

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

Anecdotal Evidence of Business and Consumer Uncertainty Continue to Indicate a Seriously-Troubled Economy and Very Dangerous Financial Markets. Against what appears to be a headline economic consensus that all is right again, with the U.S. economy and financial markets, underlying real-world common experience suggests a much different outlook. Regularly discussed here, ongoing non-recovery, low-level stagnation and signs of renewed downturn remain patterns common to key elements of headline U.S. economic activity. Consider factors ranging from housing sales and broad construction activity, to headline reporting of domestic manufacturing (and recent, sharply-negative benchmark revisions), as well as those series that are heavily gimmicked, such as the Gross Domestic Product (GDP), also regularly discussed and dissected in the regular *Commentaries* (see [Commentary No. 952](#)).

Similar signals of such economic stress are seen in patterns of activity that move along with the real-world broad economy. They range from indicators such as freight volume and domestic consumption of petroleum to factors such as levels of real consumer debt outstanding, real average weekly earnings and measures of employment stress in the broad economy. Those stresses are reflected in historically-low levels of the employment-population ratio and the labor-force participation rate (see [Commentary No. 953-B](#)). With the liquidity-starved U.S. consumer driving three-quarters of the GDP, there is no way for the broad economy to boom—happy Retail Sales headlines aside—without some meaningful shift in underlying consumer circumstances. Links to background discussions in these various areas are found in the *Week, Month and Year Ahead* section of *Recent Commentaries*, along with links to background discussions on the more-politicized GDP ([Commentary No. 952](#)) and employment/ unemployment details discussed in the *Supplemental Labor-Detail Background* of [Commentary No. 953-B](#).

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

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

Economic reporting, and business and financial-market stories sometimes receive happy year-end spikes in the press. That circumstance was supplemented in late-2017 by near-term hurricane boosts to, and distortions of, some current economic activity. The latter circumstance has tended to become increasingly fleeting, except for Retail Sales, to be discussed in *Commentary No. 956* of June 21st. The underlying, broadly-faltering U.S. economy should be dominating headline economic reporting, once again, and all too soon, most likely in the next couple of months. That said, albeit reflecting some of the headline economic hype in the popular press, headline consumer optimism remains strong albeit faltering..

Consumer Optimism: Consumer Sentiment and Confidence Remain Off Recent Peaks. Reflected in *Graphs CLW-1* and *CLW-2*, May 2018 details for the Conference Board's Consumer-Confidence Index[®] (May 29th) and the advance-June 2018 estimate of University of Michigan's Consumer Sentiment (June 15th) reflected faltering consumer optimism. While headline Consumer Confidence took a hefty jump in May, such was in the context of a downside revision of 2.4% (-2.4%) to the previously-estimated level of April Confidence, which the new initial May estimate did not top. The advance-June Sentiment (June 15th) number notched higher versus May, but remained shy of recent highs. The three-month moving average continued to turn down, while the six-month moving average still was rising, as reflected in the accompanying *Graphs CLW-1* to *CLW-3*. While both measures remain at high levels, both remain shy of levels seen in November 2017.

For the Conference Board's seasonally-adjusted [unadjusted data are not available] Consumer-Confidence Index[®] (*Graph CLW-1*), and the University of Michigan's not-seasonally-adjusted Consumer-Sentiment Index (*Graph CLW-2*), the monthly and three-month moving averages remain above pre-2007 recession highs, yet the still-high moving averages had slowed in their gains, have begun to falter along with the softening detail and related headline consumer activity on a monthly basis.

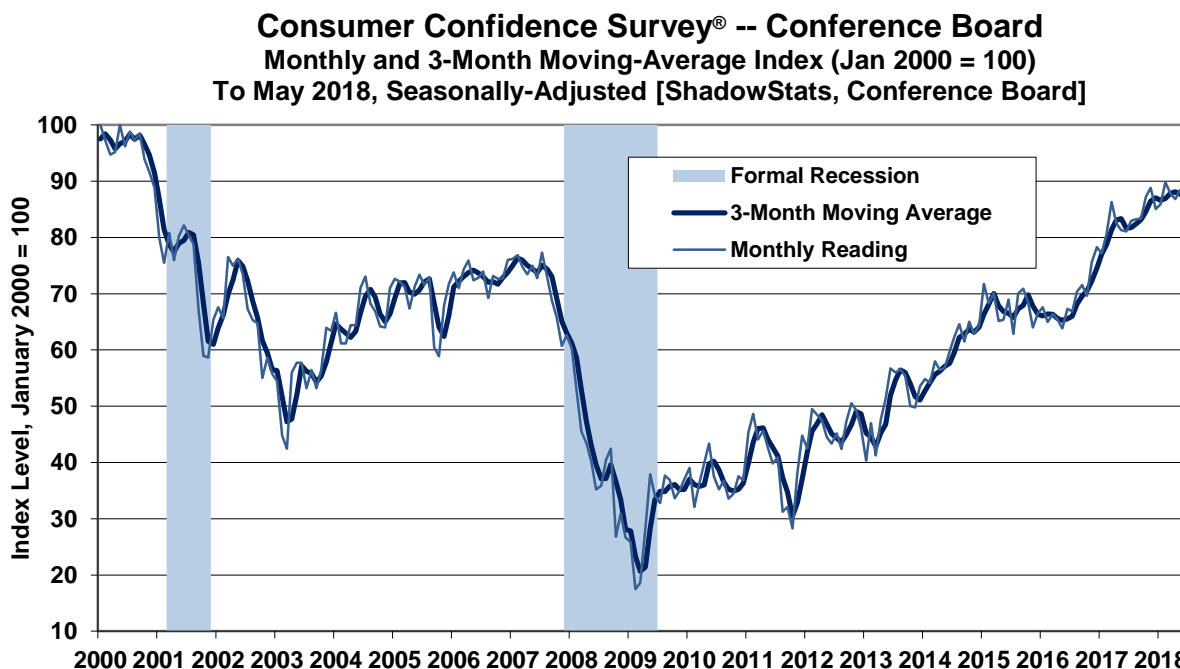
Pre-election, September 2016 Confidence and Sentiment jumped and then plunged in October 2016, likely reflecting concerns as to the direction of the presidential race. Post-election, both measures rallied sharply, reflecting surges in consumer optimism into early-2017. Both series then topped and pulled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

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

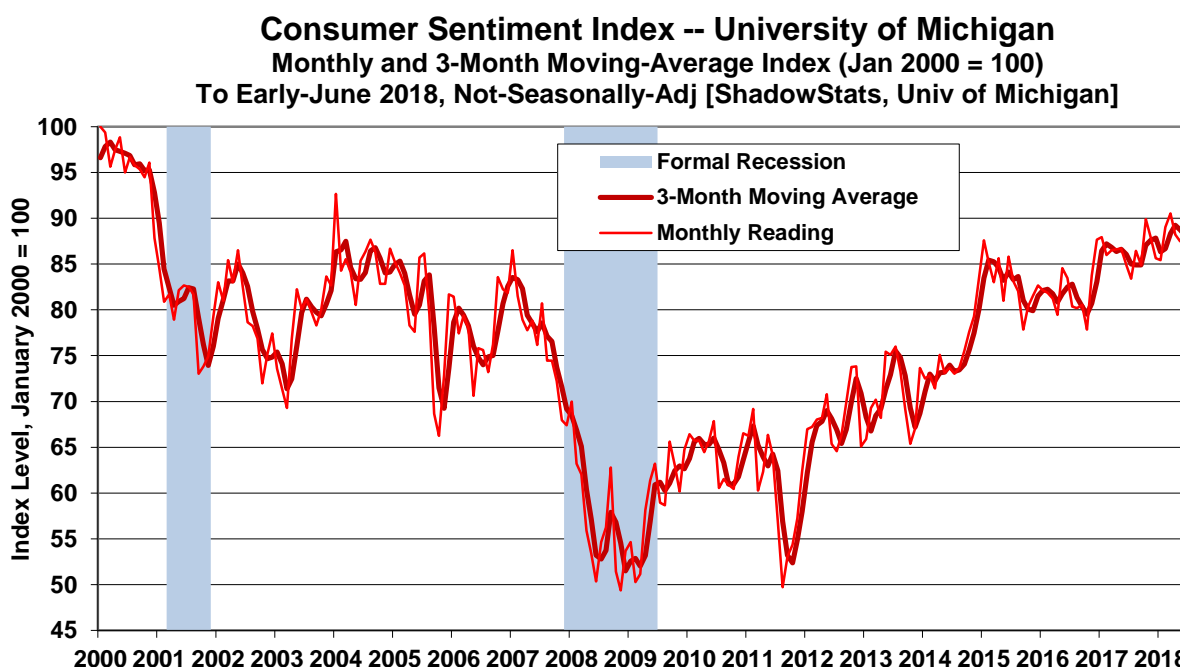
The Confidence and Sentiment series tend to mimic the tone of headline economic reporting in the press (see discussion in [Commentary No. 764](#)), and often are highly volatile month-to-month, as a result. Recent press has been highly positive on the headline economic and employment news, particularly with unemployment and retail sales. As headline financial and economic numbers turn increasingly-negative and unstable, so too should the recently-contained "optimism." A downturn in consumer outlook should take hold, despite any euphoric headlines, reflecting some deep-seated consumer liquidity issues.

Broadly, though, the harder, financial consumer measures remain well below, or are inconsistent with, periods of historically-strong economic growth suggested by GDP growth into fourth-quarter 2017, although consumer measures such as goods consumption a residential investment took hits in first-quarter 2018 GDP. In an environment of what had been surging optimism, beyond having happy feelings about the future, consumers still need actual income, cash-in-hand or credit in order to increase their spending.

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

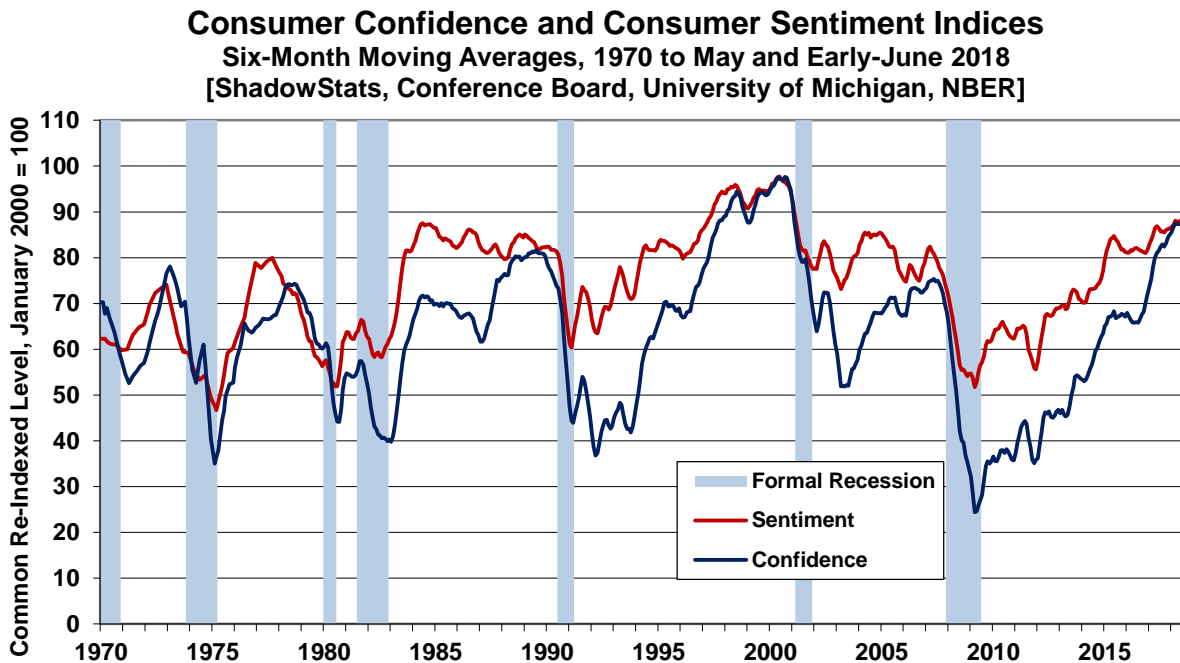


Graph CLW-2: Consumer Sentiment (2000 to 2018)



Smoothed for irregular, short-term volatility, the two series still generally had held at levels seen typically in recessions, until the post-2016 election circumstance. Suggested in *Graph CLW-3*—plotted for the last 48 years—the latest readings of Confidence and Sentiment recently have recovered levels seen in periods of normal, positive economic activity of the last four decades, with their six-month moving averages at levels last seen going into the 2001 recession, although increasingly, they appear to be topping out.

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



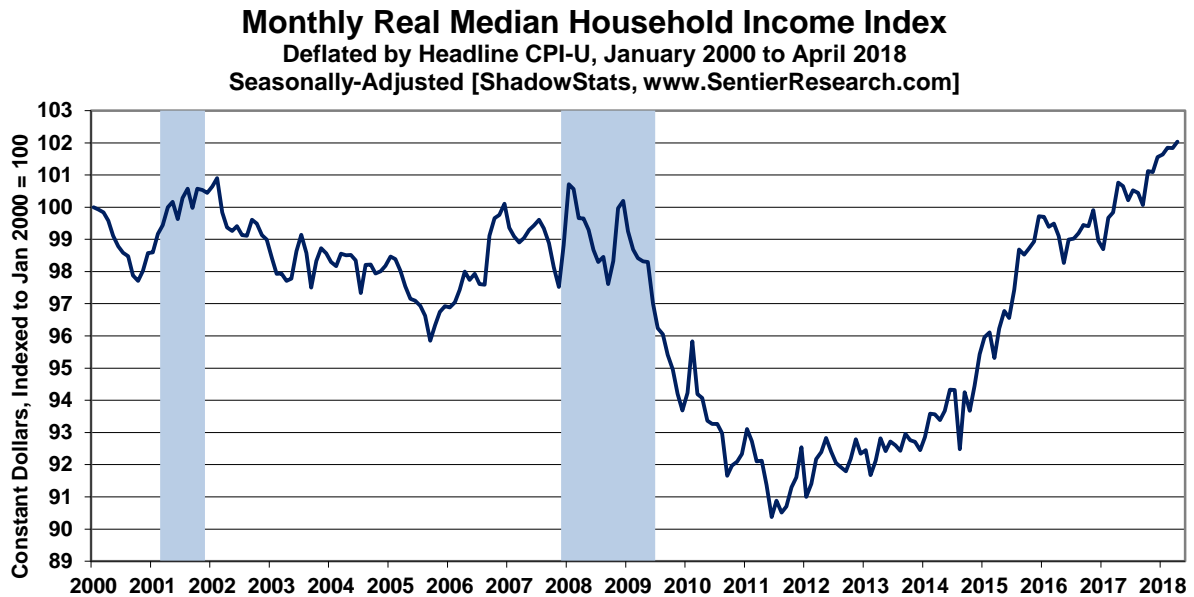
The Sentier Research Series of Monthly Real Median Household Income, Notched Higher in April, With Slowing Annual Growth, Broadly Showing Stagnant Activity. Discussed in the Opening Comments of [Commentary No. 948](#), Sentier Research (www.SentierResearch.com) reinstituted its monthly reporting of Real Median Household Income (the Household Income Index or HII), where publication had been suspended, temporarily, following the release of May 2017 detail.

The series was updated for the April 2018 detail on May 21st, showing a small monthly gain, along with sharply-slowng annual growth, and a continuing long-range pattern of stagnation in median household income, adjusted for CPI-U inflation. The current monthly series is plotted here, both as to level (*Graph CLW-4*) and as to year-to-year change (*Graph CLW-5*).

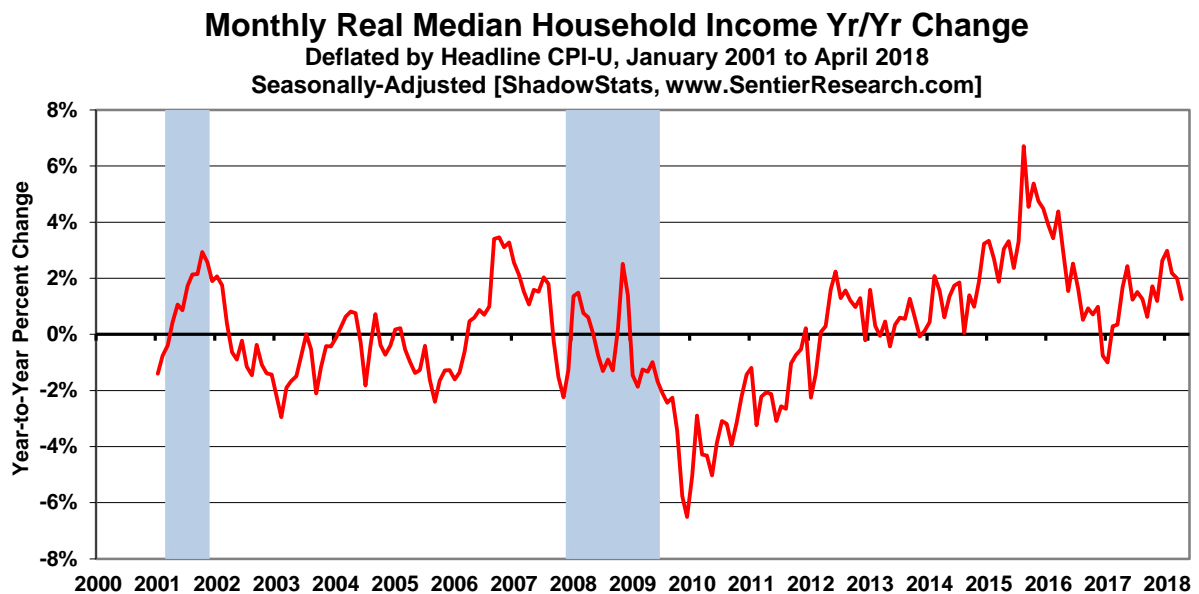
Monthly Real Median Household Income, provided by Sentier Research generally can be considered a monthly version of the annual detail shown in following *Graphs CLW-6* and *CLW-7*, based on the most-recent (2016) release by the Census Bureau in September 2017, and, again as discussed in the *Opening Comments* of [Commentary No. 948](#) (see also [Commentary No. 909](#)).

Methodological understatement of the CPI-U by the Bureau of Labor Statistics broadly has had the effect of overstating the growth in headline real or inflation-adjusted income series (see the [Public Commentary on Inflation Measurement](#)). In a related area, recent extreme volatility in monthly gasoline prices has had varying impact on the headline data.

Graph CLW-4: Monthly Real Median Household Income (2000 to April 2018) Index, January 2000 = 100



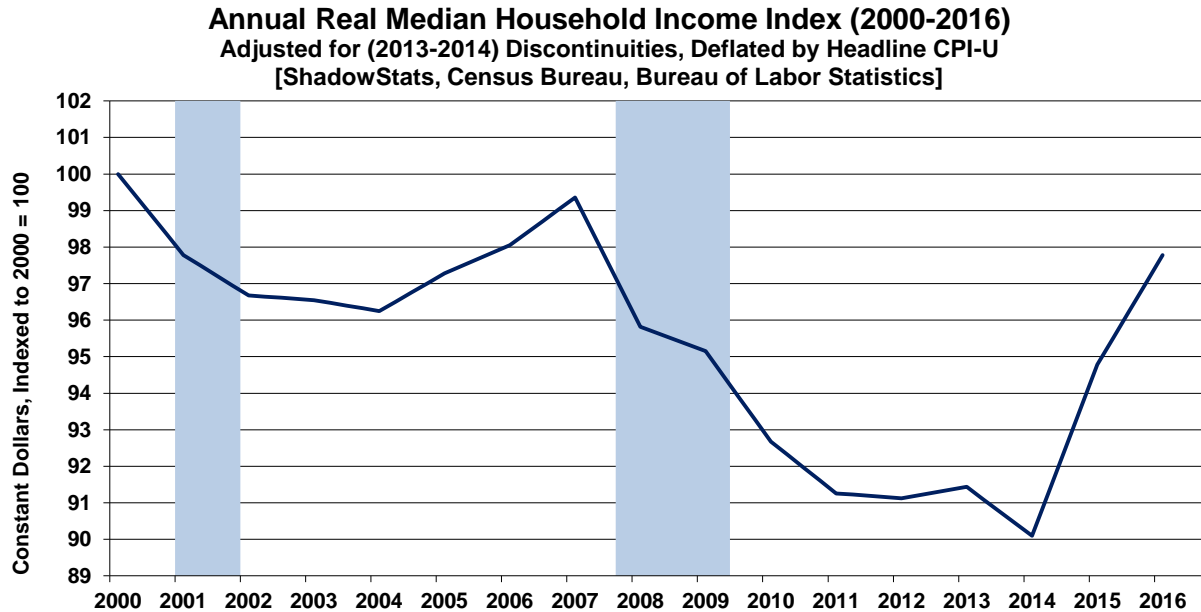
Graph CLW-5: Monthly Real Median Household Income (2000 to April 2018) Year-to-Year Change



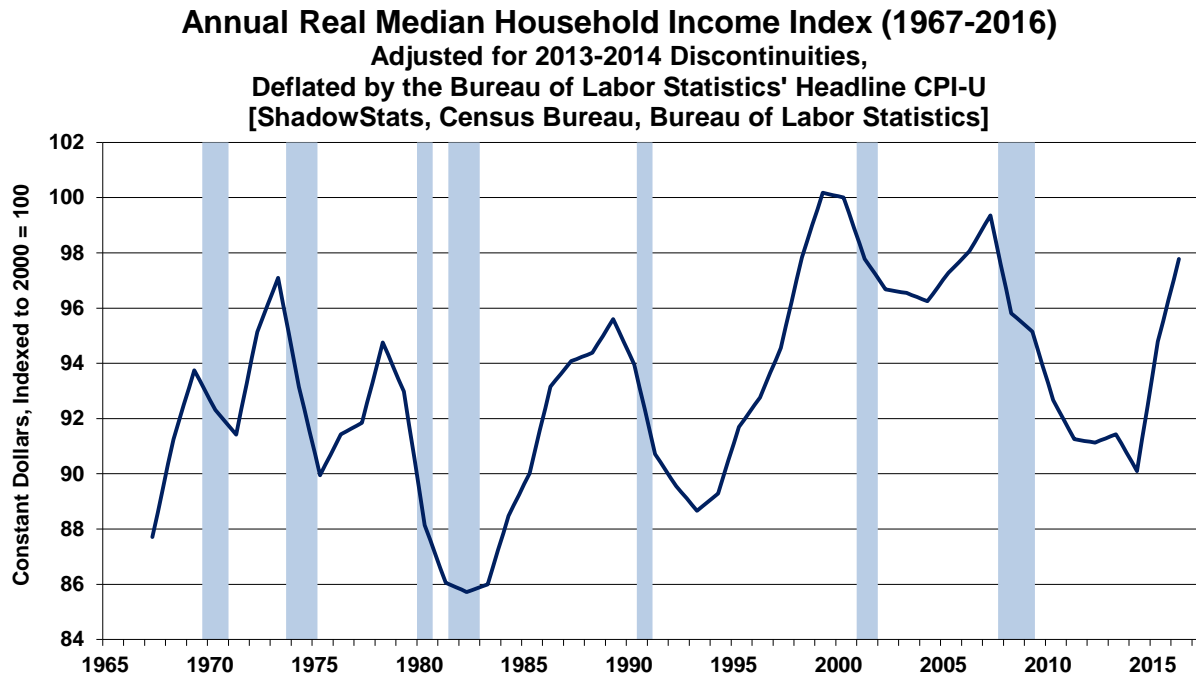
Details of the monthly were reviewed the *Opening Comments* of [Commentary No. 948](#), where annual average growth in the series since its January 2000 onset has been roughly 0.1% per year. Given the independence and quality of the Sentier research, and the known definitional biases and gimmicks used by Bureau of Economic Analysis (BEA) in its income and economic measures, the Sentier numbers suggest that actual domestic economic activity is not and has not been as robust as suggested by the BEA's headline reporting of Gross Domestic Product (GDP), for example.

Annual Real Median Household Income in 2016 Held Below Its 2007 Pre-Recession Peak, Below Late-1990s Activity and About Even with the Mid-1970s, Monthly Activity Has Been Broadly Stagnant. Following *Graphs CLW-6* (time scale consistent with Sentier Research) and *CLW-7* plot headline annual real median income, as reviewed and discussed in *Opening Comments* of [Commentary No. 909](#). That *Commentary* also reviews various measures of Annual Household Income dispersion, variance and inequality, all general historically-negative extremes.

Graph CLW-6: Annual Real Median U.S. Household Income (2000 to 2016)



Graph CLW-7: Annual Real Median U.S. Household Income through 2016, 2013-2014 Discontinuities Removed



Differences in the Monthly versus Annual Median Household Income. The general pattern of relative monthly historical weakness has been seen in the headline reporting of the annual Census Bureau numbers, again, shown in *Graphs CLW-6* and *CLW-7*, with 2014 real annual median household income having hit a ten-year low, and, again, with the historically-consistent 2015 and 2016 annual number still holding below the 2007 pre-recession high.

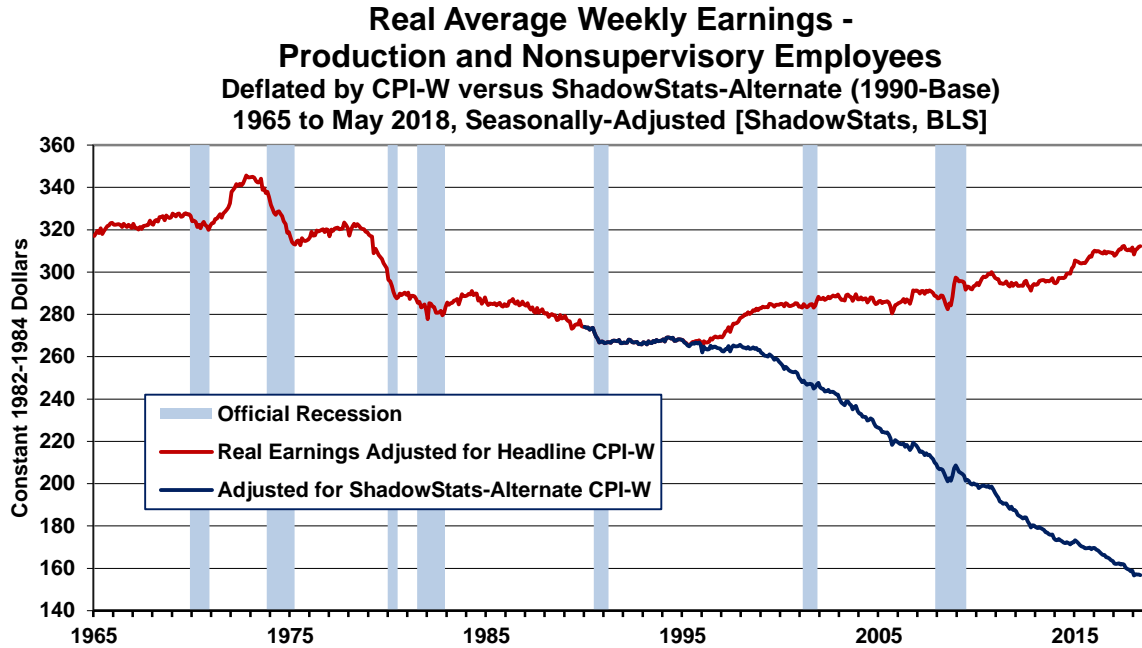
The Sentier numbers have suggested a small increase in 2014 versus 2013 levels, low-inflation induced real increases in 2015 and 2016. Allowing for the direction difference in 2014, and continual redefinitions and gimmicks in the annual series (again, see the *Opening Comments* of [Commentary No. 909](#))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

Where Sentier uses monthly questions surveying current annual household income, the headline annual Census Bureau detail is generated by a once-per-year question in the March CPS survey, as to the prior year's annual household income. The Median Household Income surveying results are broadly consistent with Real Average Weekly Earnings. Separately, Sentier Research deflates its income measures using the headline CPI-U, standardly used by economists and the Saint Louis Fed, for example, for such measures. In contrast, the Census Bureau uses the CPI-U-RS, which heavily understates economic activity (overstating inflation-adjusted activity), as detailed and discussed specifically in the [Public Commentary on Inflation Measurement](#).

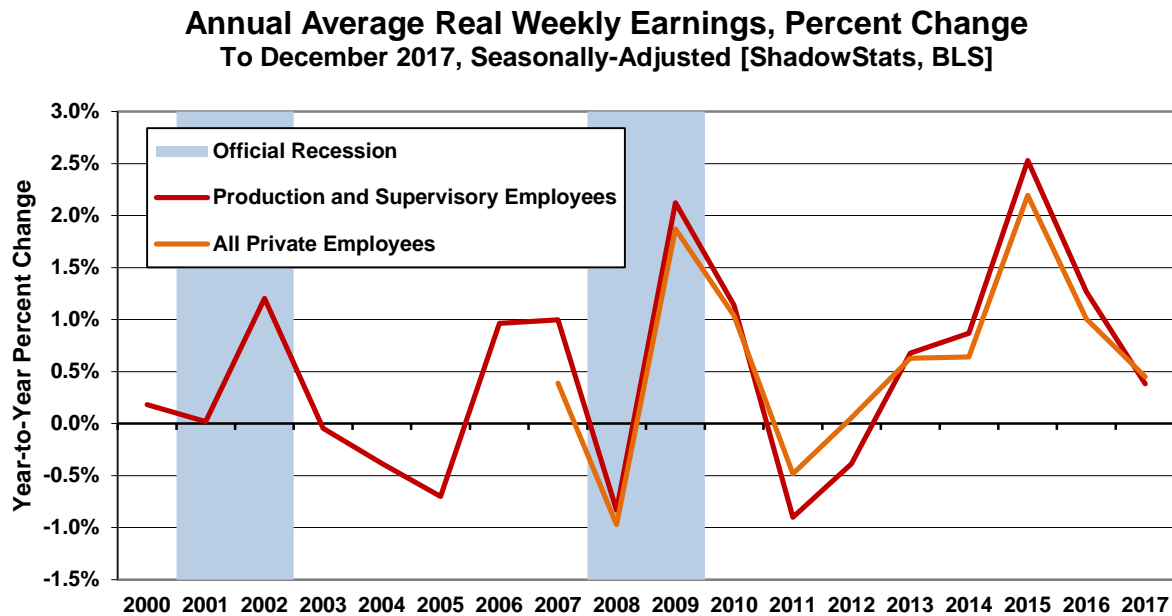
Real Average Weekly Earnings—May 2018—May Earnings Increased Minimally, with the First-Quarter's Third-Consecutive Quarterly Contraction Holding in Place. For the production and nonsupervisory employees category—the only series for which there is a meaningful history, discussed in the *Reporting Detail* of [Commentary No. 955](#) and plotted here in *Graph CLW-8*, real average weekly earnings rose minimally in May by 0.08%. Despite recent, near-term monthly volatility, often triggered by unstable monthly inflation numbers, first-quarter 2018 real earnings remained a quarterly contraction for the third-consecutive quarterly decline in real earnings for the production and nonsupervisory employees category, the fifth real quarterly contraction of the last six quarters. Separately, real quarterly earnings for the broader all-employees category had contracted in first-quarter 2018, for the second consecutive quarterly contraction, but it also was minimally higher (up by 0.09%) in May 2018.

Graph CLW-8 plots the seasonally-adjusted earnings as officially deflated by the BLS (red-line), and as adjusted for the ShadowStats-Alternate CPI Measure, 1990-Base (blue-line). When inflation-depressing methodologies of the 1990s began to kick-in, the artificially-weakened CPI-W (also used in calculating Social Security cost-of-living adjustments) helped to prop up the reported real earnings. Official real earnings today still have not recovered their inflation-adjusted levels of the early-1970s, and, at best, have been in a minimal uptrend for the last two decades (albeit spiked recently by negative headline inflation). Deflated by the ShadowStats (1990-Based) measure, real earnings have been in fairly-regular decline for the last four decades, which is much closer to common experience than the pattern suggested by the CPI-W. See the [Public Commentary on Inflation Measurement](#) for further detail.

Graph CLW-8: Real Average Weekly Earnings, Production and Nonsupervisory Employees, 1965-to-Date
(Same as Graph 1 in the Opening Comments of [Commentary No. 955](#))



Graph CLW-9: Annual Average of Weekly Earnings, Annual Percent Change (2000 to 2017)



When income growth is inadequate to support consumption growth, consumers often make up the difference in debt expansion. Yet, real Consumer Credit Outstanding has shown a pattern of declining annual real growth for the last several quarters, irrespective of the specific series, as reflected in the plots of real monthly year-to-year change in *Graph CLW-14*.

Household Debt and Consumer Credit Outstanding: Contraction/Lack of Expansion in Real Consumer Credit Constrains Economic Growth. The final five graphs on consumer conditions address consumer borrowing. In the absence of real income growth, debt expansion can help to fuel growth in personal consumption, but debt expansion has been nonexistent. On top of downside revisions to the last several years of quarterly activity, seasonally-adjusted, first-quarter 2018 real household credit-market debt outstanding just contracted for the first time since 2015. In terms of unadjusted monthly data through April 2018, there were minimal downside revisions to prior months, with decelerating real annual growth.

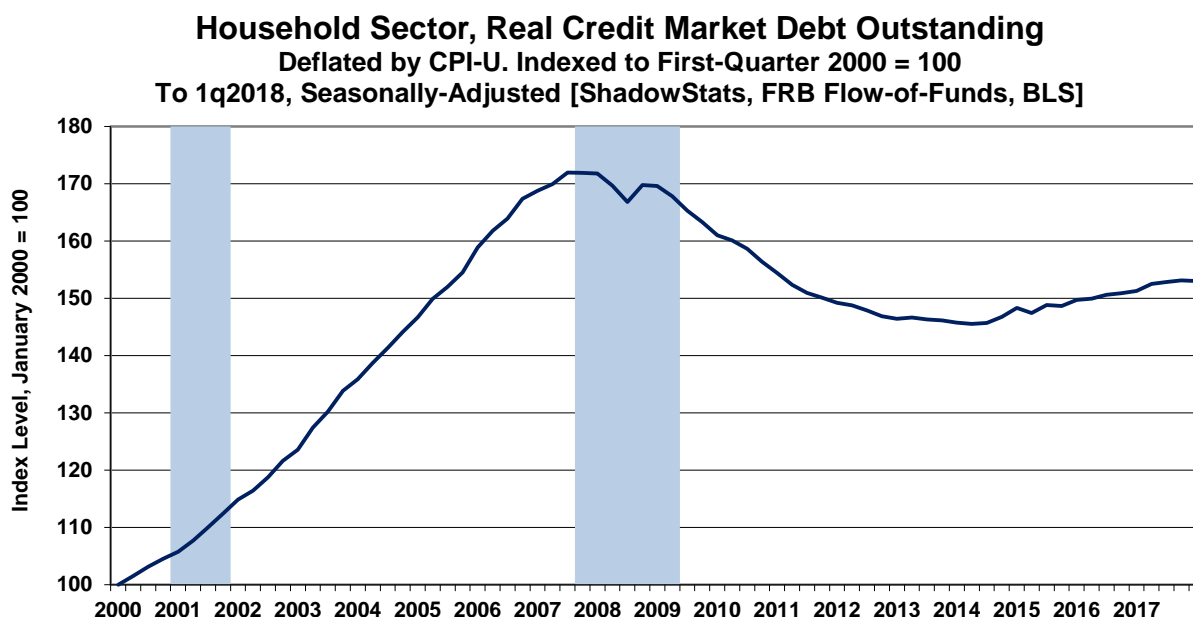
Quarterly Series. Consider *Graph CLW-10 of Household Sector, Real Credit Market Debt Outstanding*. The level of real household debt declined in the period following the Panic of 2008, reflecting loan defaults and reduced bank lending, and it has not coming close to recovering fully, based on the Federal Reserve's flow-of-funds accounting through first-quarter 2018 (released June 7th). Household Sector, Real Credit Market Debt Outstanding in first-quarter 2018 still was down by 11.0% (-11.0%) from its pre-recession peak of third-quarter 2007. That was against a fourth-quarter 2017 decline of 10.9% (-10.9%). The visually flattened-to-down latest point in *Graph CLW-10* reflected a slowing in real year-to-year change to 1.1% in first-quarter 2018, versus 1.5% in fourth quarter 2017, along with the first seasonally-adjusted quarterly contraction in real consumer debt since fourth-quarter 2015, down at an annualized 0.3% (-0.3%) in first-quarter 2018, versus a real gain of 0.9% in fourth-quarter 2017. Such completes 42 straight quarters—a full decade-plus—of credit non-expansion, versus its pre-recession peak.

This series includes mortgages, automobile and student loans, credit cards, secured and unsecured loans, etc., all deflated by the headline quarterly CPI-U. The level of real debt outstanding has remained stagnant for several years, reflecting, among other issues, lack of normal lending by the banking system into the regular flow of commerce (FOMC Quantitative-Easing Policy). The slight upturn seen in the series through 2015 and into 2016 was due primarily to gasoline-price-driven, negative CPI inflation, which continued to impact the system through second-quarter 2016 and intermittently into first-quarter 2018. Activity also reflects relative strength from student loans, as shown in the *Graphs CLW-11 to 14*.

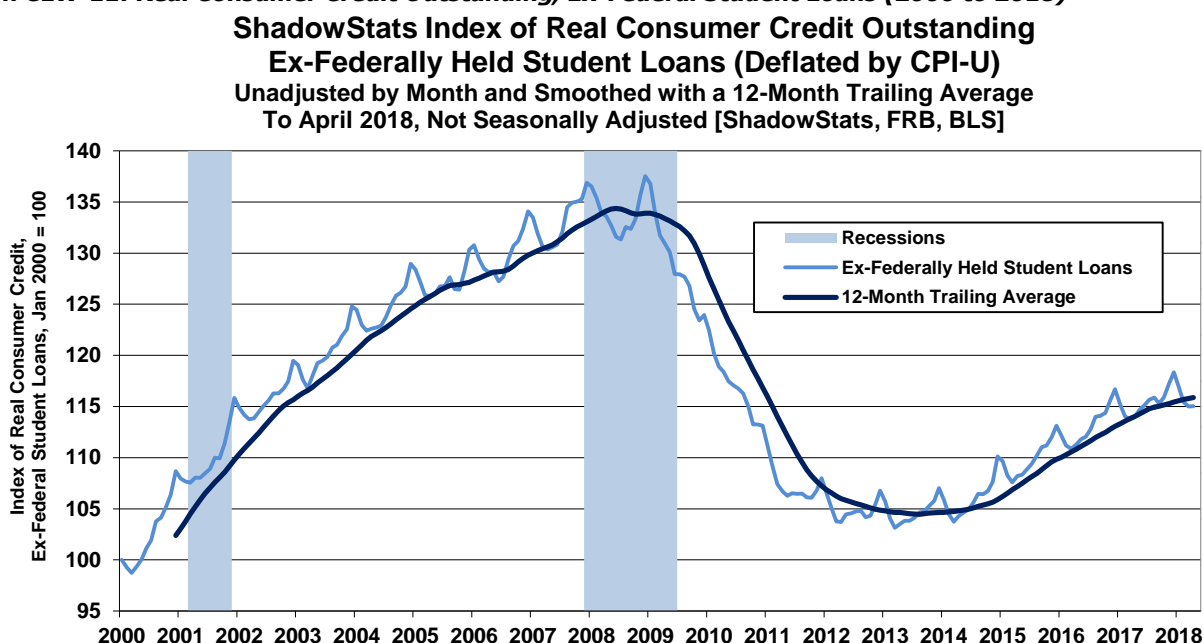
Shown for comparative purposes is *Graph CLW-11*, real, not-seasonally-adjusted Consumer Credit Outstanding, Ex-Federally-Held Student Loans, has not recovered on a monthly, let alone the 12-month trailing-average basis used as a surrogate here or seasonal adjustment. Discussed in the next section, this measure of consumer credit now has been through 124 months 41-plus quarters of non-expansion. That is reflected on a parallel basis through first-quarter 2018 reporting shown in *CLW-10*. Please note that the scale in *Graph CLW-11* is indexed to Consumer Credit Outstanding Ex-Federal Student Loans equal to 100 in January 2000. In *Graphs CLW-12 to 14*, that indexing is applied to the total Consumer Credit Outstanding number, which is greater than the dominant Ex-Federal Student Loans subcomponent.

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

Graph CLW-10: Household Sector, Real Credit Market Debt Outstanding (2000 through First-Quarter 2018)



Graph CLW-11: Real Consumer Credit Outstanding, Ex-Federal Student Loans (2000 to 2018)



Monthly Series. Indeed, the ShadowStats analysis usually focuses on the particular current and continuing weakness in monthly levels of consumer credit, net of what has been rapidly expanding government-sponsored student loans. Where detail on that series only is available not-seasonally-adjusted, the following three related graphs and the preceding *Graph CLW-11* are so plotted. Shown through the April 2018 reading (released June 7th), the headline nominal monthly Consumer Credit Outstanding (*CLW-12*) is a subcomponent of the nominal Household Sector debt. Where *Graph CLW-13* reflects the real or inflation-adjusted activity for monthly Consumer Credit Outstanding terms of

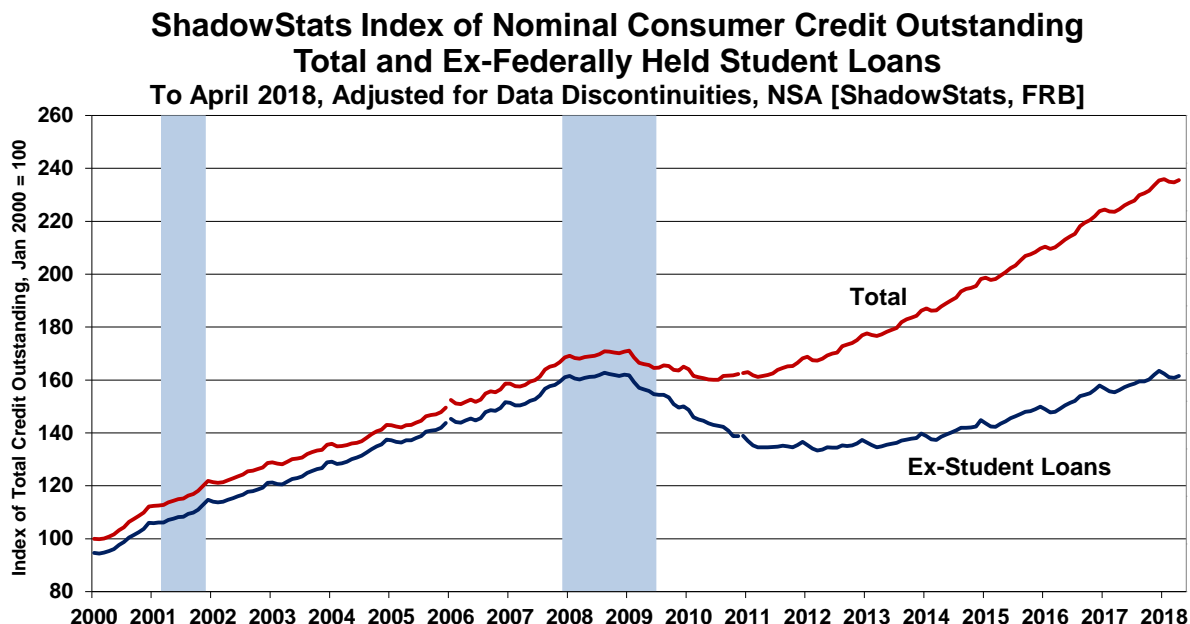
both level (*Graph CLW-13*) and year-to-year change (*Graph CLW-14*). *Graphs CLW-13* and *CLW-11* are comparable to the inflation-adjusted Household Sector plot in *Graph CLW-10*.

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

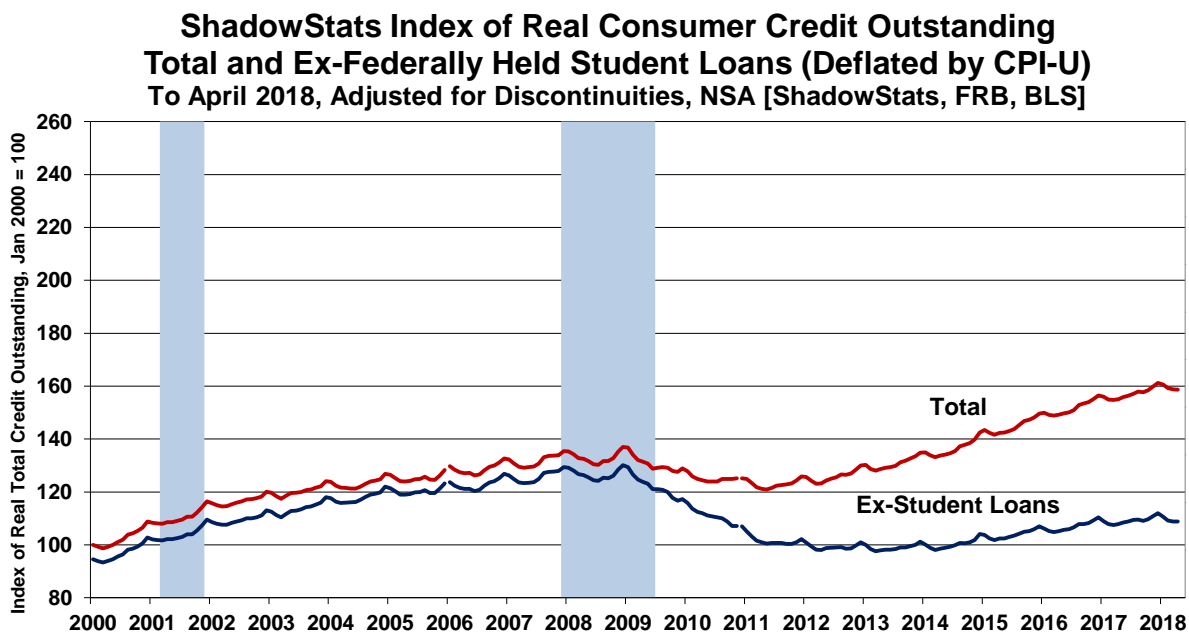
Adjusted for inflation, the lack of recovery in the ex-student loan area is more obvious. Where the recent monthly downside move in the not-seasonally-adjusted real consumer credit reflected something of a seasonal pattern, the pattern of year-to-year growth has been in an intensifying downtrend, suggesting tightening of credit conditions. Adjusted for discontinuities and inflation, ex-student loans, consumer credit outstanding in April 2018 was down from recovering its pre-recession peak of December 2007 by 15.9% (-15.9%). That is 124 months, 41-plus quarters or ten-plus years of non-expansion of credit. Year-to-year real growth shown in *Graph CLW-14* tends to resolve most monthly seasonal distortions in the not-seasonally-adjusted data.

[Graphs CLW-12 to CLW-14 begin on the next page.]

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



Graph CLW-13: Real Consumer Credit Outstanding (2000 to 2018)



Graph CLW-14: Year-to-Year Percent Change, Real Consumer Credit Outstanding (2000 to 2018)

