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

#### HYPERINFLATION WATCH – NUMBER FOUR – SPECIAL EDITION

**December 11, 2018** 

Intensifying Risks of Financial-Market and Systemic Instabilities

November U.S. Monetary Base Declined at an Extreme Annual Pace of 12% (-12%); As Seen Similarly With Federal Reserve Policy Errors of 1936/1937 That Helped Trigger the Second Down Leg of the Great Depression

**Current FOMC Tightening Is Triggering an Unfolding New Recession** 

**Sell-Off in Equities Likely Has Just Begun** 

Watch for Heavy Selling of the U.S. Dollar and Heavy Buying of Gold as Portents of Extreme Political and Financial-Market Turmoil and Systemic Instability

A Special Note to Subscribers: Domestic and global financial, economic and political risks and circumstances are evolving, deteriorating rapidly, suggestive of potential near-term upheaval in systemic and financial-market stability. The *Hyperinflation Watch* has been expanded and supplemented to update *Special Commentary No. 973 – ALERT* of October 14th. Incorporated here by reference also is *Commentary No. 970* of September 26th, on a potential, pending Tipping Point in the U.S. financial markets and *Consumer Liquidity Watch No. 5* of November 21st as to underlying consumer-liquidity issues. Long-range prospects for financial-market turmoil and eventual U.S. hyperinflation are closing in rapidly. The U.S. Government must move now to bring its fiscal operations into balance, to restore long-term stability and solvency to the system. Otherwise, current conditions easily could evolve into a hyperinflationary great depression, much sooner than commonly expected, forcing significant overhauls to the domestic and global economic and financial-market systems. These crises no longer are "too far into the future to worry about," as some in the U.S. government and Fed have argued in recent decades.

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

#### **Contents - Hyperinflation Watch No. 4 Major Sections and Graphs**

HYPERINFLATION WATCH DECEMBER 2018	3
Risks of Mounting Market Turmoil as U.S. Monetary and Financial Conditions Deteriorate Current Instabilities Reflect a System at the Brink of Unsustainability Unless Long-Range Treasury Solvency Is Addressed, U.S. Hyperinflation Is Inevitable	3 3 3
NOVEMBER 2018 MONETARY CIRCUMSTANCES	7
November 2018 Money Supply Annual Growth Continued to Soften November Monetary Base Annual Growth Plunge Mirrors 1937 Fiasco FOMC Policies Propping the Banking System Prevented Full Economic Recovery Recent Exit-Strategy Tightening Has Triggered a Renewed Business Downturn	7 7 7 7
Graph HW-1: Comparative Money Supply M1, M2 and M3 Yr-to-Yr Changes through November 2018	9
Graph HW-2: Saint Louis Fed Bi-Weekly Monetary Base, Billions of Dollars (1984 to December 5, 2018)	11
Graph HW-3: Year-to-Year Percent Change, Saint Louis Fed Bi-Weekly Monetary Base (1985 to Dec 5, 2018)	11
Graph HW-4: Saint Louis Fed Monthly Monetary Base, Billions of Dollars (January 1918 to November 2018)	12
Graph HW-5: Year-to-Year Percent Change, Monthly Saint Louis Fed Monetary Base (Jan 1919 to Nov 2018)	12
Real Annual Growth in M3 as a Leading Indicator to GDP	13
Graph HW-6: Real Annual M3 Growth versus Formal Recessions (1960 to October 2018)	13
Third-Quarter 2018 Velocity of Money	15
Graph HW-7: Velocity of Money Supply M1 Through the Third-Quarter 2018 GDP	17
Graph HW-8: Velocities of Money Supply M2 and M3 Through the Third-Quarter 2018 GDP	17
FOMC, THE U.S. DOLLAR AND FINANCIAL MARKETS	18
Waffling on Rate Hikes and Tightening, FOMC Still Cannot Escape from the Panic of 2008	18
Watch for Heavy Selling of the U.S. Dollar and a Sharp Rally in Gold Prices The Dollar and Gold Serve as the Canary in the Coal Mine for Stocks and Bonds	20 20
Graph HW-9: Financial- versus Trade-Weighted U.S. Dollar	22
Graph HW-10: Year-to-Year Change, Financial- versus Trade-Weighted U.S. Dollar	22
Graph HW-11: Nominal Gold versus the Nominal Total Return S&P 500	23
Graph HW-12: Real Gold versus the Real Total Return S&P 500	23
Graph HW-13: Gold versus the Swiss Franc	24
Graph HW-14: Gold versus Silver	24
Graph HW-15: Gold versus Oil	25

#### **HYPERINFLATION WATCH DECEMBER 2018**

Risks of Mounting Market Turmoil as U.S. Monetary and Financial Conditions Deteriorate

Current Instabilities Reflect a System at the Brink of Unsustainability

Unless Long-Range Treasury Solvency Is Addressed, U.S. Hyperinflation Is Inevitable

Stock-Market Woes Reflect a Confluence of Extraordinary Financial-Market and Systemic Issues. A great deal more is involved in recent stock-market selling than a simple correction to overvalued equities. At hand are circumstances that could trigger one of the worst U.S. financial panics/systemic disruptions of the last century.

Some of the involved issues have been festering for decades; others have surfaced only recently and include:

- Rapidly deteriorating, uncontained and unsustainable U.S. deficit spending and burgeoning debt levels, leading to ultimate long-range solvency issues for the U.S. Treasury and full debasement of the U.S. dollar (hyperinflation).
- Unresolved instabilities from actions taken by Federal Reserve and other central banks to save the U.S. and global banking system in 2008.
- Current Federal Reserve tightening.
- An unfolding new U.S. recession.
- Exploding risks of political instabilities in the United States and in major U.S. trading partners and allies.
- Heavily inflated equity prices, an overvalued U.S. Dollar and undervalued precious metals.

These rapidly evolving elements have fallen into place, raising risks of extraordinary financial-market and systemic disruptions.

**Systemic Instabilities/Hyperinflation Issues.** A private consulting economist and writer for 35 years, I began writing the *Shadow Government Statistics* newsletter in 2004. The *2004 Financial Statement of the United States Government*, published in 2005, laid out the disastrous, long-range and untenable fiscal impact of the U.S. Government's unfunded expansion of Medicare at the time, on long-range U.S.

solvency prospects. Shortly thereafter, I began highlighting the long-term insolvency risks of the United States Treasury, leading to a U.S. hyperinflation likely around 2018 or 2019.

Discussed in <u>Hyperinflation 2014—The End Game Begins (Revised)</u>, No. 614, of April 2, 2014: "The [ShadowStats] forecast of a U.S. hyperinflation has been in place since at least 2006. Those who have read the various ShadowStats reports on hyperinflation—as opposed to just catching occasional sensationalized headlines in the press—usually recognize that the forecast has been of a future circumstance, in what used to be the distant future. In the early writings, the outside time limit for the crisis was 2018 or 2019, the end of the current decade. That outside timing was moved in closer in time, to 2014, following the near-collapse of the financial system in 2008. [For those interested, the full series of hyperinflation reports to that point in time is described and linked at the end of the *Definitions and Background* section in <u>No. 614</u>]."

The underlying circumstances that led to the effective-collapse of the banking and financial systems in 2007/2008, and the related underlying fiscal and political fundamentals generally have deteriorated since that crisis, and appear now to be converging into what could be the ultimate economic and financial-system cataclysm, albeit still possible in my original timing estimate of the 2018/2019 range, rather than my later revised and obviously inaccurate 2014 estimate. While an ultimate hyperinflation/debasement of current U.S. dollar is inevitable, if the U.S. government does not to bring its finances into balance, specific timing remains impossible to call, until key elements actually are falling into play.

The U.S. and global financial markets have not returned to normal functioning since before the banking and financial-system crisis of 2007/2008, despite extraordinary interventions and creative manipulations that have generated no more than the façade of temporary financial-market strength and stability and economic health, discussed in today's *FOMC*, *The U.S. Dollar and Financial Markets* section. Today's GAAP (Generally Accepted Accounting Principles)-based shortfall in total U.S. government operations and obligations is an order of magnitude of \$100 trillion (including \$21.9 trillion in U.S. Treasuries and the net present value of unfunded liabilities). That is the amount of cash needed in hand today, in today's dollars, to cover U.S. net obligations going forward. In today's dollars, with a total U.S. Gross Domestic Product (GDP) at \$20.2 trillion, there is no chance of the U.S. covering existing obligations under stable monetary conditions.

Unless the U.S. government meaningfully overhauls its planned expenses (a significant reduction in spending) and/or increases its revenues (a significant increase in tax revenues) going into the future, including overhauling Social Security, Medicare and Medicaid, it has no chance of covering its net obligations going forward, other than by just printing the dollars needed, generating dollar-debasement and hyperinflation. The potential hyperinflation here is every bit the same as seen in the German Weimar Republic post-World War I, Zimbabwe in the 1990s and 2000s and the recent circumstance in Venezuela.

Unless the United States addresses its long-range solvency issues, a hyperinflation will hit the United States, and it could be much earlier than most might anticipate, based on a number of factors that could trigger a panicked sell-off in the U.S. dollar. Again, that scenario easily could be playing out in the unfolding, current market turmoil. Ultimate timing here is a guesstimate, at best, until the underlying elements are falling into place. With full-panic selling of the U.S. dollar, the early stages of a hyperinflation could be brought on rapidly.

The ShadowStats' *Hyperinflation Watch* coverage has evolved over the years into this current standalone missive, in the context of what still remains—shy of corrective government action— an inevitable hyperinflation. Given the present conflux of extreme distortions and instabilities in and disruptions to economic and fiscal policies and conditions, and to the financial markets and the banking, economic and political systems, that day of ultimate financial reckoning could be very close.

Material reviewed in these standalone *Hyperinflation Watches* brings together the various Money Supply measures, previously covered in the regular *ShadowStats Commentaries*, including updated annual growth, both before (nominal) and after (real) adjustment for inflation, and their relationships to economic activity, updated monthly levels and annual growth in the Monetary Base and the Velocity of Money (Nominal GDP/Nominal Money Supply). Financial market circumstances are reviewed from the standpoint of the U.S. Dollar and the precious metals Gold and Silver. Again, those areas act something like the proverbial Canary in a Coal Mine, as early warning of serious trouble in the U.S. financial-system and/or in inflationary developments. They also remain the ultimate stores of wealth for preserving the purchasing power of one's wealth and assets.

**Updated Market Alert.** [Special Commentary No. 973 – ALERT of October 14, 2018, last updated in Commentary No. 978 – Part II, remains in place and will be carried forward as a regular component of the Hyperinflation Watch. It is updated here to reflect evolving circumstances with the Board of Governors of the Federal Reserve System's Federal Open Market Committee (FOMC), as discussed in the Opening Comments of Commentary No. 978 - Part I, and it will be updated regularly for developing instabilities and risks in and to the financial markets.]

Deteriorating Economic, Fiscal and Political Conditions Raise Risks of Intense Dollar and Financial-Market Turmoil, Exacerbated by Mounting Systemic- and Consumer-Liquidity Stresses. In the context of intensifying, negative Stock Market volatility—until recently the happy hype of ongoing stock-market and economic booms—the consensus outlook has begun to pull back a bit. Discussed here are risks of extraordinary financial-market disruptions and turmoil—selloffs—mounting rapidly in the near-term, increasingly in the next six months, but also possible in the next month, or so. Further background and details were discussed in the Opening Comments on Consumer Liquidity and the Week, Month and Year Ahead section of Commentary No. 974, the Opening Comments of Commentary No. 975, with basic background expanded upon in the Special Editions of Consumer Liquidity Watch No. 5 (updated November 21st).

Federal Reserve tightening has impaired consumer liquidity, with heavily negative impact on consumer-driven areas of the U.S. economy, ranging from motor-vehicle and retail sales, to residential construction, home sales and total U.S. construction spending, setting up a new recession. The FOMC Minutes of November 29th, and comments from Federal Reserve Chairman Powell on November 28th, were suggestive of possible policy shifts, waffling on interest rates and/or on tightening, likely in response to mounting recession concerns. Again, such could lead to heavy selling of the U.S. dollar, with attendant financial-market turmoil.

With the backdrop of the *Squirrelly Season* and likely tipping point for the markets, reviewed in <u>Commentary No. 970</u>, rapid deterioration in near-term economic activity and mounting risks of political turmoil/instability and/or increasing perceptions of same have combined to widen the risk of massive selloffs in the U.S. dollar and U.S. equity markets, coming together at the same point in time.

A sudden sell-off in the U.S. dollar likely would be coincident with, if not the proximal trigger for, intensifying flight from liquid dollar-denominated assets such as stocks and bonds. Noted in <u>No. 978 – Part II</u>, watch out in particular for weakness and instability in the U.S. Dollar and for spiking Gold and Silver prices. The dollar and precious metals serve as the Canary in the Coal Mine for the domestic stock and bond markets.

What continues to unfold and befuddle the Federal Reserve is the still-unresolved 2007/2008 banking-system collapse, where the Fed had done its best to bailout, obfuscate, forestall or mask a systemic problem that had neither an easy nor a rapid solution. Despite trillions of dollars used to prop the banks in the last decade, neither the U.S. banking system nor the U.S. economy was able to return to anything close to normal, post-2007. As the FOMC moved to reverse its easing course by raising interest rates and tightening domestic liquidity, it also killed whatever nascent economic recovery was beginning to surface. The effects and political pressures from the unfolding economic weakness already have triggered some initial hemming and hawing by the Fed (again, see the *Opening Comments* of *No. 978 - Part I*).

Excerpted from <u>Hyperinflation Watch – No. 3</u>, [with subsequent language updates] <u>ShadowStats</u> long has contended, "Economic reporting in the week and weeks ahead likely will disappoint consensus expectations. At the same time, consider seriously-conflicting policy issues for the Federal Open Market Committee (FOMC) of the Board of Governors of the Federal Reserve System. While overseeing tightening systemic liquidity at a 'moderate' pace, Federal Reserve Chairman Jerome Powell also has a primary responsibility to maintain banking-system solvency/liquidity." Again, there now are some early hints at a potential shift of FOMC policy.

Yet, the still-current tightening in monetary policy threatens to damage, or to exacerbate, underlying weakness in major sectors of U.S. economy (see the comments on real M3 growth and *Graph HW-6*). In conflict, such an intensifying economic downturn severely would stress banking-system liquidity anew.

The U.S. central bank's primary concern remains maintenance of solvency and liquidity in a still-troubled banking system. Intensifying economic and financial stresses on that system remain likely to cause the FOMC to back off its current pattern of promised rate hikes and balance-sheet liquidation within the year, to revert again towards expanded quantitative easing, as openly allowed for in FOMC policy, and as tentatively hinted at recently by the FOMC. The planned December 2018 rate hike on December 19th likely still will take place, but watch out if it does not. Consensus expectations for the December rate hike, and even more so for March 2019, are pulling back

As the mounting economic/systemic stresses continue to unfold, market pressures and expectations should shift sharply towards the FOMC pulling back from further tightening (again see the *Opening Comments* of *No. 978 - Part I*). Accordingly, consensus expectations as to the timing and frequency of future rate hikes by the Fed should begin to weaken (already faltering), with negative impact on the U.S. dollar and an upside push to a commodity-driven (oil) U.S. inflation, despite what is or will be recognized as a weakening economy. Banking-system liquidity and solvency remain the dominant policy considerations of the FOMC, not the headlined "maintaining relative strength of the economy." That [dominant underlying FOMC policy] has been demonstrated frequently from the 2008-banking crisis to date.

Regularly discussed here, unexpected, negative economic shocks lie ahead, not only in regular, near-term monthly reporting of popularly-followed series, but also as seen with recent annual benchmark revisions of economic series, excepting the recent GDP benchmarking (see *Commentary No. 954*, for example).

As the economy turns down anew, the banking system should come under renewed liquidity/solvency stresses. In turn, that again should bring the Fed around to reversing policy, re-embracing quantitative easing or a quasi-reincarnation of same. In turn, that should crash the U.S. dollar, along with intensified flight of foreign capital from the United States, likely also crashing the U.S. stock and equity markets.

Accordingly, the U.S. dollar and financial markets remain at extreme risk of intense, panicked declines that could happen at any time. The financial system and the markets eventually should become self-healing, but not without likely significant cost to, or alteration of, existing circumstances.

Separately, there are political risks that could disrupt the financial markets and the U.S. dollar or other related currencies. Mounting efforts (still likely unsuccessful) by political adversaries to remove President Trump from office (see <u>Special Commentary No. 888</u>), will be coming to the fore, with the Democrats taking control of the House of Representatives early in the New Year.

Internal political or economic stresses for allies such as Great Britain, France and Germany, or for trading partners such as China, also can have heavy impact on respective currency exchange rates and related markets. The currency markets like political stability, not instability.

Holdings of physical gold and silver remain the ultimate hedges—stores of wealth—for preserving the purchasing power of one's U.S. dollar assets, during times of what could become high U.S. inflation and currency debasement and/or political- and financial-system upheaval. These crisis circumstances increasingly are likely in the next six months, but, again, could break at any time.

#### **NOVEMBER 2018 MONETARY CIRCUMSTANCES**

November 2018 Money Supply Annual Growth Continued to Soften

November Monetary Base Annual Growth Plunge Mirrors 1937 Fiasco

FOMC Policies Propping the Banking System Prevented Full Economic Recovery

Recent Exit-Strategy Tightening Has Triggered a Renewed Business Downturn

Where Recent FOMC Policy Has Strangled Consumer Liquidity, the Fed Now Has Hinted at a Possible, Recession-Driven Policy Shift Towards Easing. The Federal Reserve Board's Federal Open Market Committee (FOMC) has begun to waffle on the further raising of interest rates and tightening, likely in response to rapidly increasing signs of slowing domestic economic activity and a developing downturn in the stock market. This was discussed in the *Opening Comments* and general reporting of *Commentary No.* 978 - Part II and in Commentary No. 978 - Part II.

Aggressive tightening and interest hikes by the FOMC, particularly since late-2017, in turn tightened systemic liquidity, as discussed later in the *Real Annual Growth in M3 as a Leading Indicator to GDP* section, and in consumer liquidity, discussed in *Consumer Liquidity Watch No. 5*. The effect has been to strangle consumer liquidity and to slow economic activity. Residential real estate sales and construction, and aggregate construction spending all are in quarterly contractions and deepening downtrends, with slowing or contracting real retail sales, including motor vehicle sales and related orders for and production of same.

Systemic- and consumer-liquidity conditions are tightened by the FOMC reducing growth in the Monetary Base and the domestic Money Supply. Negative liquidity stresses on the U.S. consumer flow through to the consumer-dependent domestic economy (again, see *Consumer Liquidity Watch No. 5*).

Reviewed in <u>Special Commentary No. 968-Extended</u> and <u>Commentary No. 976</u>, ShadowStats contends that the U.S. economy never recovered its pre-recession peak of fourth-quarter 2007. Although corrected GDP numbers suggest the economy is off bottom, the FOMC's tightening already has killed any nascent recovery that had been in the works, given a six-to-nine month lead time between monetary conditions and the broad economy. Noted in prior <u>Hyperinflation Watch – No. 3</u> [August 12, 2018]:

*Killing a Nascent Economic Recovery.* With the Federal Reserve's targeted "Core" annual inflation rate just having hit a 10-year high in July 2018, and given the headline 4.1% growth boom in GDP, Federal Reserve tightening likely will intensify in the months ahead, if the FOMC's interest-rate hawks get their way. Such likely would kill any a potential or nascent economic recovery and would throw the U.S. domestic financial system and financial markets into renewed turmoil, as discussed in the later *FOMC*, the U.S. Dollar and Financial Markets section.

Chairman Powell Allowed for the Possibility of Shift to More-Accommodative Monetary Policy. Where the economy is not as strong as hyped or headlined, the Fed most likely recognizes that, internally, and Chairman Powell also has indicated that he remains open to shifting policy, when the headline economy slows. Where the Fed and the banking system very much would like to see higher interest rates, the economy indeed is slowing anew, as should be increasingly obvious in better-quality economic releases of the month or two ahead. The banking system remains far from normal or "pre-crisis" conditions. As liquidity stresses on the banking system intensify from the weakening economy, that should be enough to have the Fed pull the trigger on altering policy. Intensifying liquidity stresses on Main Street U.S.A., by itself, does not appear to be enough to trigger FOMC action. Circumstances have to begin to threaten ever-fragile, banking-system solvency, before FOMC action is taken.

Despite Hints of a Pending Policy Shift, Current Fed Actions Constrain Economic Activity. Before any consideration for inflation, nominal annual M3 growth in November 2018 was at a 15-month low, having declined month-to-month for five months straight, where M2 annual growth has been reasonably steady holding near an eight-year low, and M1 annual growth has been declining broadly, just taking a negative hit to a ten-year low. No sign of monetary easing, so far.

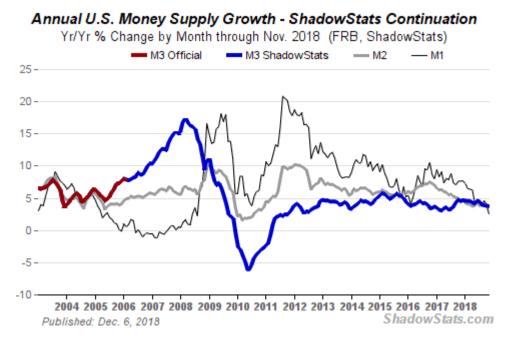
With annual CPI-U inflation rising into July 2018, then fluttering a bit lower since, the pattern broadly remains one of tightening real liquidity as reflected in *Graph HW-6*. These patterns are suggestive of weakening or declining economic activity, of the FOMC actively pushing to slow domestic economic growth, which still largely never recovered from the banking-crisis-induced economic collapse of 2008.

The previous relative weakness in annual M3 growth, versus M2 and M1 (M2 includes M1; M3 includes M2) had reflected a shift over time in funds from accounts included just in M3, such as large time

deposits and institutional money funds, into accounts in M2 and M1. The recent relative strength in annual M3 growth, however, reflected a returning flow of cash from M2 back into M3 accounts, again, such as large-time deposits, institutional money funds and Fed funds repurchase agreements. Still, the recent, softening headline details likely reflect and/or will tend still to induce softening business activity, particularly net of inflation consideration. The latest estimates of level and annual changes for November 2018 M3, M2 and M1, and for earlier periods are detailed in <a href="www.ShadowStats.com">www.ShadowStats.com</a>, the <a href="https://december.com/Alternate Data">Alternate Data</a> tab, with the plot of nominal year-to-year change shown in <a href="mailto:Graph HW-1">Graph HW-1</a>. See the <a href="mailto:Money Supply Special Report">Money Supply Special</a> Report for full definitions of those money supply measures.

Annual Money Supply Growth Continues in a Deepening Downturn, As the Monetary Base Plunges Year-to-Year as Though It Were 1937. Mirroring Fed tightening policies and a collapsing Monetary Base, annual growth in November 2018 ShadowStats Money Supply M3 dropped to a 15-month low, based on detail reported December 6th by the Federal Reserve Board (see *Graph HW-1*).

Graph HW-1: Comparative Money Supply M1, M2 and M3 Yr-to-Yr Changes through November 2018



Money Supply M1, M2 and M3 in November 2018. Reflected in Graph HW-1, and detailed on the Alternate Data tab of www.ShadowStats.com, monthly average annual growth in November 2018 M3 growth slowed to 3.70%, which was the lowest annual rate of growth since August 2017. October 2018 growth slowed to a revised 3.77% [previously 3.78%], versus a revised 3.85% [previously 3.86%] in September 2018, a revised 3.91% [previously 3.92%] in August 2018 and an unrevised 4.44% in July 2018. November 2018 annual growth in the narrower M2 came in at 3.78%, versus a revised 3.74% [previously 3.73%] in October 2018, an unrevised 3.89% in September 2018 and in August 2018. November 2018 annual growth in M1 slowed sharply to a ten-year low of 2.55% in November 2018, from a revised 4.08% [previously to 4.33%] in October 2018, a revised 4.58% [previously 4.59%] in September 2018 and a revised 3.84% [previously 3.85%] in August 2018 (M2 includes M1; M3 includes M2, see the Money Supply Special Report for full definitions of those measures).

Based on Its Latest Two-Week Reporting the Saint Louis Fed's Adjusted Monetary Base Plunged Year-to-Year by 11.9% (-11.9%), In a Continuing, Near Record Decline. The Federal Reserve Board's Federal Open Market Committee (FOMC) continued to tightening domestic liquidity at what has become an intensifying pace. For the two-week reporting period closest to month-end November 2018, the two weeks ended December 5th, the Saint Louis Fed's Adjusted Monetary Base was down year-to-year by 11.92% (-11.92%), a level breached on the downside only twice on a monthly basis since 1930, as discussed in the following monthly average detail.

The Monetary Base traditionally has been the FOMC's tool for targeting growth in the Money Supply (and inflation and economic activity), following annual drops of 8.36% (-8.36%) in the two weeks ended October 24th, 7.56% (-7.56%) for the two-weeks ended September 26th, 9.38% (-9.38%) August 29th and 5.92% (-5.92%) August 1st. Such broadly has been in a continuous stream of deepening annual declines since the May 14th period, and continual slowing in annual growth from a peak of 9.67% in the two-week period ended January 3, 2018, as reflected in *Graph HW-2*. The Monetary Base in the two weeks ended December 5th, was down from its April 15, 2015 peak by 17.90% (-17.90%).

Annual Drop of 11.02% (-11.02%) in the November 2018 Monetary Base, Was Hit Before in July 1937, When the FOMC Triggered the Great Depression's Second Down Leg. Graphs HW-4 and HW-5 show the monthly Adjusted Monetary Base as calculated and provided by the Saint Louis Federal Reserve. The graphs show respectively both the monthly level (1918 to date) and monthly year-to-year change of the nominal Saint Louis Fed's Adjusted Monetary Base. Plots show periods of formal recessions shaded in blue. President Roosevelt abandoned the domestic gold standard in 1933, with President Nixon completing the process on an international basis in 1971. Gold had been the primary determinant of the money supply up until 1933, with ongoing impact into 1971. The Federal Reserve reportedly began targeting the Monetary Base in the early-1980s as a way of generating desired growth in the Money Supply, the Economy and Inflation.

Shown in *Graph HW-5*, annual year-to-year change in the monthly monetary base since 1930 has breached an annual decline of 11% (-11%) on the downside only three times. Most recently was November 2018, before that was October 2016 and before that was July 1937.

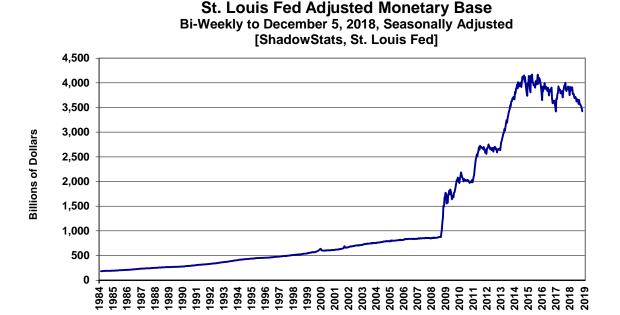
Milton Friedman and Anna Jacobson Schwartz discussed in *A Monetary History of the United States 1867-1960* as to how the FOMC's raising reserve requirements in 1937 and being slow recognize a renewed economic downturn helped to trigger the steep, second down-leg to the Great Depression.

The FOMC has done its best to mute recent Monetary Base impact on Money Supply growth. Where explosive growth in the Monetary Base during Quantitative Easing broadly did not flow through to the Money Supply, some parallel weakness in the "tightening" Money Supply has been seen in the early stages of reversing the process, enough to dampen current economic activity.

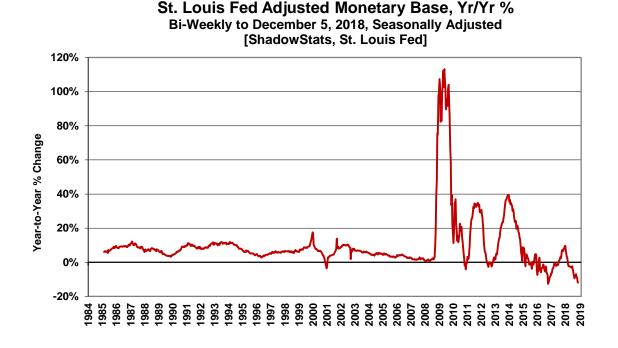
Given continued tightening and still-possible rate hikes by the FOMC, the annual contraction in the Monetary Base should continue to deepen, possibly hitting meaningfully deep, record levels of annual contraction. While the level of the Monetary Base has remained within the bounds of activity seen in the last several years, it now is trending sharply lower. Prior to Quantitative Easing, changing the level of the Monetary Base had been the primary tool of the FOMC for targeting growth in the money supply. Late-2017 upside movements in annual growth for M3 and the Monetary Base have reversed, dropping off sharply, together. With the current activity confirming a sharp tightening in FOMC policy, despite a one-

month jump in annual M2 and M3 money growth in June, intended negative economic consequences already have started to flow, as discussed earlier.

Graph HW-2: Saint Louis Fed Bi-Weekly Monetary Base, Billions of Dollars (1984 to December 5, 2018)

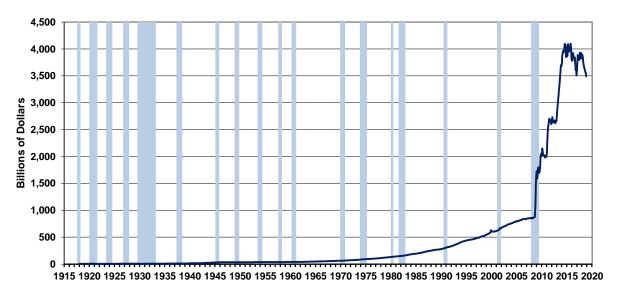


Graph HW-3: Year-to-Year Percent Change, Saint Louis Fed Bi-Weekly Monetary Base (1985 to Dec 5, 2018)



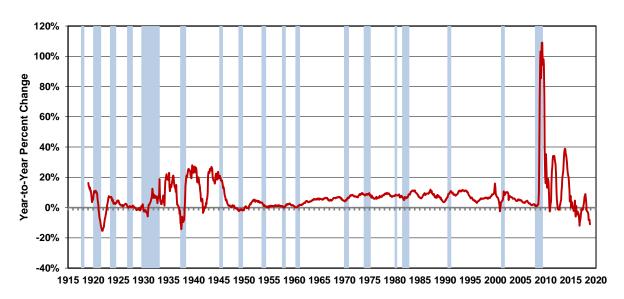
Graph HW-4: Saint Louis Fed Monthly Monetary Base, Billions of Dollars (January 1918 to November 2018)

St. Louis Fed Monetary Base
1918 to November 2018, Seasonally-Adjusted [ShadowStats, St. Louis Fed]



Graph HW-5: Year-to-Year Percent Change, Monthly Saint Louis Fed Monetary Base (Jan 1919 to Nov 2018)

St. Louis Fed Adjusted Monetary Base (Yr-to-Yr Percent Change) 1919 to November 2018, Seasonally-Adjusted [ShadowStats, St. Louis Fed]



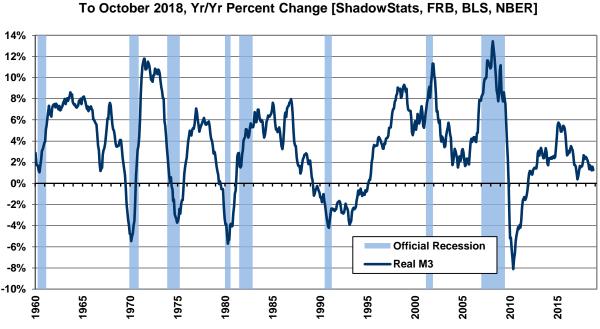
#### Real Annual Growth in M3 as a Leading Indicator to GDP

A Leading Indicator to Broad Economic Activity, Real Money Supply M3—October 2018—Annual Change Dropped to 1.26% from 1.58% in September 2018. Covered in *Commentary No. 978 - Part I*, annual growth in nominal October 2018 M3, notched lower, but annual CPI-U inflation notched higher. Accordingly, annual real growth in Money Supply M3 declined to 1.26% in October 2018, from 1.58% in September 2018, dropping back close to its sixteen-month low of 1.22% in August 2018.

Nominal annual growth in October 2018 M3 initially eased to 3.78%, from 3.86% in September 3.92% in August 2018 and 4.44% in July 2018 [these growth rates have been revised minimally at the second decimal point, as discussed earlier, and they will be fully updated shortly along the headline CPI-U reporting for November 2018]. At the same time, year-to-year change in the October 2018 CPI-U rose to 2.53% from 2.28% in September 2018, versus 2.70% in August 2018 and 2.95% in July 2018. That combination reduced the level of real or inflation-adjusted annual M3 growth to 1.26% in October 2018, from 1.58% in September 2018, versus 1.22% in August 2018 and 1.49% in July 2018.

**Real M3 versus Formal Recessions** 

Graph HW-6: Real Annual M3 Growth versus Formal Recessions (1960 to October 2018)



## For the month of October 2018, annual real growth in Money Supply M3 was 1.26%. On a quarterly basis, third-quarter 2018 annual real growth in Money Supply M3 stood at 1.43%, down from 1.61% in

second-quarter 2018, the weakest since 0.68% in first-quarter 2017, which was the weakest seen since a

long series of outright monthly year-to-year contractions throughout 2010 and 2011. Net of year-ago hurricane disruptions to annual CPI inflation, third-quarter 2018 annual real growth in Money Supply M3 would have been 1.22% (instead of 1.47%). The system is close to generating a formal recession signal.

The signal for a double-dip, multiple-dip or simply protracted, ongoing recession, based on annual contraction in the real broad money supply (M3), had been re-triggered/intensified over a year ago, in February 2017. Yet, that signal then softened or flattened out with a contrary bounce from May 2017 into December 2017, turning down anew after the Federal Reserve's Federal Open Market Committee (FOMC) began more-aggressive tightening in December 2017. The previous recession signal of December 2009 had remained in place, despite real annual M3 growth having rallied into positive territory post-2011.

[Note: If realistic, not headline, inflation numbers were used here, there would be no question of an ongoing negative real annual growth in M3, or a renewed deepening of the economic collapse into 2009, as discussed in *Commentary No. 957* and *Public Commentary on Inflation Measurement*.]

FOMC Policy Is Setting Up a Formal, "New" Economic Downturn. A formal recession signal from low-level or negative annual real money supply growth has become increasingly likely in the near term. That reflects a continued, general weakening trend in nominal annual M3 growth, driven by FOMC policy, in combination with a continued (renewed) pick-up in annual CPI inflation, ex-temporary hurricane distortions, albeit temporarily muted by declining oil prices. Headline inflation generally has surged in recent months, driven by unstable political/supply conditions in the oil markets, not by an overheating U.S. economy that the FOMC had touted as the reason for its continued spiking of interest rates.

Reflected in *Graph HW-6*, and noted in prior section, third-quarter 2018 annual real growth in Money Supply M3 stood at 1.47%, its weakest showing in more than year, closing rapidly on signaling a downturn, when annual inflation reporting returns to normal.

What recently had been higher, albeit tepid, real annual growth, likely was a temporary reversal in the pattern of plunging annual growth, which had held at levels last seen in plunging growth into the 2009 economic collapse, a level never seen outside an economy falling into, or already in a recession.

The Signal. The signal for a downturn or an intensified downturn in economic activity is generated when annual growth in real M3 first slows sharply, approaches zero and turns negative in a given cycle; the signal is not dependent on the depth of the downturn or its duration. Breaking into positive territory does not generate a meaningful signal one way or the other for the broad economy. The previous "new" downturn signal was generated in December 2009, even though there had been no upturn since the economy purportedly hit bottom in mid-2009. The ongoing issue here confounding the regular signal is that the U.S. economy never has recovered fully from its collapse into 2009 (see <u>Commentary No. 877</u>, <u>Commentary No. 902-B</u> and the latest GDP coverage in <u>Commentary No. 957</u>). The initial economic downturn never evolved into a meaningful or sustainable recovery. The current level and pattern of real annual M3 growth generally has been followed by annual contraction and a recession signal.

When real M3 growth breaks above zero, there is no signal; the signal is generated only when annual growth moves to zero and into negative territory, from which it has backed off at present. The broad economy tends to follow in downturn or renewed deterioration roughly six-to-nine months after the

signal. Weaknesses in a number of economic series have continued to the present. Actual post-2009 economic activity has remained at relatively low levels—in protracted stagnation—with negligible recovery that already may sinking anew due to current FOMC policies (see <u>Commentary No. 970</u> and today's *Week, Month and Year-Ahead* section.)

#### Third-Quarter 2018 Velocity of Money

Third-Quarter 2018 Velocity of Money Turned Slightly Higher for Money Supply M3, Primarily Due to Slowing M3 Growth; Impact Was Neutral on M1 and M2. The Velocity of Money turned higher for M1, M2 and M3 with the initial reporting of second-quarter 2018 GDP on July 27th, reflecting a combination of upwardly spiked headline GDP and rapidly slowing annual growth in the Money Supply growth. With the initial reporting of somewhat slower third-quarter 2018 GDP and somewhat stronger M1 and M2, but weaker M3, velocity flattened out quarter to quarter, despite a minimal uptrend for M3.

Reflected in accompanying graphs, only quarterly data from 1959-on are used, where that is the starting point of consistent, historical estimates of Money Supply M1, M2 and M3. When the Federal Reserve ceased publishing its M3 measure in 2006, ShadowStats began publishing a continuing M3 estimate based as closely as possible on the Federal Reserve definitions. This Velocity of Money analysis is discussed and plotted based on the initial estimate of Third-Quarter 2018 GDP, as discussed in *Commentary No.* 976. Where the second and third GDP estimates rarely undergo enough of a revision to alter the accompanying velocity calculations and graphs, ShadowStats usually uses the "advance" or first-estimate of the quarterly GDP for the velocity calculation. In the current circumstance, the second estimate of third-quarter 2018 GDP effectively was unrevised (see *Commentary No.* 978 – Part II).

Reflecting continued nominal growth in the third-quarter GDP broadly in parallel with the headline money supply measures (albeit slightly faster than M3 growth), the third-quarter 2018 Velocity of Money held steady versus second-quarter 2018 Money Supply M1, M2 and M3. Second-quarter velocity, however, had notched higher in a manner not seen since bottoming of the economic collapse in 2009, all as reflected in *Graphs HW-7* and *HW-8*. Velocity is a measure of how many times the money supply turns over in a year, versus the broad economy (GDP). The higher the velocity, usually the higher the pace of inflation and often the level of economic activity.

Velocity is calculated simply as the ratio of the nominal GDP to the nominal Money Supply measure. Nominal GDP is in the numerator and the nominal Money Measure is in the denominator of the velocity ratio. Slowing velocity indicates a relatively slower pace of nominal economic growth versus the money supply growth, and vice versa.

Both before and after the various recent GDP benchmark revisions, Velocity had plunged into first-quarter 2015 for M1 and M2. Since the end of 2010, however, the broader measure of M3 velocity had been reasonably steady through third-quarter 2014, when it also turned lower. With the exception of an uptick in second-quarter 2015, all velocity measures had been declining since late-2014, except for the flattening or small increase seen in the broader measures in fourth-quarter 2017 and first-quarter 2018.

Consider that perhaps 70% or more of the cash-in-circulation component of that M1 (with cash accounting for about 43.2% of M1 in September 2018) could be physically outside the United States, per the Federal Reserve. Where that has been an increasing trend, a true measure of domestic M1 velocity well could be showing a significant uptrend. In like manner, where M1 includes cash, M2 includes M1, and M3 includes M2, M2 and M3 velocities also would be higher (headline cash accounts for roughly 11.3% of M2 and 8.5% of M3).

M3, versus M1 and M2, had been showing opposite patterns since 2011, because growth in M3 had been weaker than growth in M1 and M2, a pattern that had intensified. The reason behind that difference was that much of the relatively stronger M1 and M2 growth reflected cash moving out of M3 categories—such as large time deposits and institutional money funds—into M2 or M1 accounts. The clarity of what happened there is why ShadowStats still tracks what had been the broadest money measure (M3) available. More recently, M3 had started to rise anew, with M1 and M2 annual growth rates starting to reverse. Since third-quarter 2017, however, all three monetary aggregates generally have been showing sharply slowing annual growth rates, in tandem, despite some recent monthly fluctuations.

Subscribers often ask for specifics on the velocity of the money supply, with the result that this section has become a standard feature for *Hyperinflation Watches* and *Commentaries* covering the "advance" GDP reporting of a given quarter. The nature of velocity is discussed in further detail in the 2008 *Money Supply Special Report*. Again, velocity simply is the number of times the money supply turns over in the economy in a given year, or the ratio in nominal terms (not adjusted for inflation) of GDP to the money supply. It is a residual number, not otherwise open to calculation or independent surveying.

Velocity has theoretical significance. In combination with money-supply growth, it should be a driving force behind inflation. Yet, since velocity is a ratio of two not-particularly-well or realistically-measured numbers, its actual estimate is of limited value. As an inflation predictor, it has to be viewed in the context of accompanying money-supply growth and vice versa, generally as a coincident indicator. Again, full definitions can be found in the *Money Supply Special Report*, with headline money supply estimates for July 2018 discussed here and in the earlier *Money Supply* section, detailed on the <u>Alternate Data</u> tab of www.ShadowStats.com.

[Graphs HW-7 to HW-8 follow on the next page.]

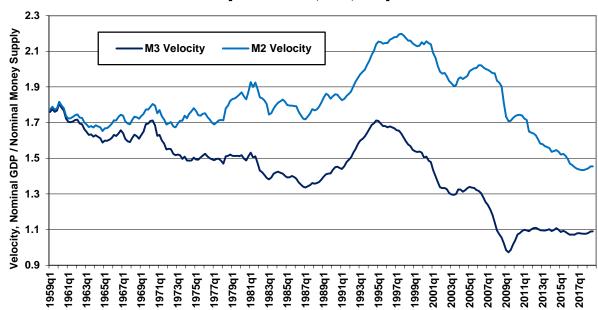
Graph HW-7: Velocity of Money Supply M1 Through the Third-Quarter 2018 GDP

#### Velocity of Money Supply M1 (1q1959 to 3q2018) Nominal Gross Domestic Product/Nominal Money Supply [ShadowStats.com, FRB, BEA]



Graph HW-8 : Velocities of Money Supply M2 and M3 Through the Third-Quarter 2018 GDP

### Velocities of Money Supply M3 and M2 (1q1959 to 3q2018) Nominal Gross Domestic Product/Nominal Money Supply [ShadowStats, FRB, BEA]



#### FOMC, THE U.S. DOLLAR AND FINANCIAL MARKETS

#### Waffling on Rate Hikes and Tightening, FOMC Still Cannot Escape from the Panic of 2008

Intended Consequences: Beware "Unexpected" Economic Weakness and FOMC Policy Change! [Portions of this section are repeated from <u>Hyperinflation Watch - No. 1</u>, <u>Hyperinflation Watch - No. 2</u>, <u>Hyperinflation Watch - No. 3</u> (including the headline for this paragraph) and <u>Hyperinflation Watches</u> of earlier <u>Commentaries</u>.] Despite the Fed touting heavily upside-gimmicked GDP growth and artificially-low unemployment as reasons for timing its tightenings, the 2007 economic crash was much worse than headlined (see <u>Special Commentary No. 968-Extended</u> and <u>Commentary No. 976</u>). Despite a 49-year-low unemployment rate in November 2018, underlying labor-market stresses, such as the employment-population ratio, remain more consistent with unemployment at record highs than at record lows. Real Median Household Income, Real Average Weekly Earnings and Real Consumer Credit Outstanding also suggest that recent headline, economic strength has not been as advertised, discussed in <u>Consumer Liquidity Watch No. 5</u>.

Economic reporting in the days and weeks ahead likely will disappoint consensus expectations. At the same time, consider seriously-conflicting policy issues for the Federal Open Market Committee (FOMC) of the Board of Governors of the Federal Reserve System. While overseeing tightening systemic liquidity at a "moderate" pace, Federal Reserve Chairman Jerome Powell also has a primary responsibility to maintain banking-system solvency/liquidity. Accordingly, as discussed earlier, he has hinted at a possible easing shift in policy.

Yet, the ongoing current tightening in monetary policy continues to damage, or to exacerbate underlying weakness in major sectors of the U.S. economy (see the earlier comments on real M3 growth and related *Graph HW-6*). In conflict, such an intensifying economic downturn would stress banking-system liquidity anew.

The U.S. central bank's primary concern remains the maintenance of solvency and liquidity in a still-troubled banking system. Intensifying economic- and financial-stresses on that system remain likely to cause the FOMC to back off its current pattern of promised rate hikes and balance-sheet liquidation within the year, to revert again towards expanded Quantitative Easing, as openly allowed for in FOMC policy.

Discussed earlier, as the mounting economic/systemic stresses continue to unfold, market pressures and expectations should shift sharply towards the FOMC pulling back from further tightening. Accordingly, consensus expectations as to the timing and frequency of future rate hikes by the Fed increasingly should continue to waver, with negative impact on the U.S. dollar and an upside push to a commodity-driven

U.S. inflation (Oil), despite what is or will be recognized as a weakening economy. Banking-system liquidity and solvency remain the dominant policy consideration of the FOMC, not the headlined "maintaining relative strength of the economy." That has been demonstrated frequently from the 2008-banking crisis to date. Regularly discussed here, unexpected, increasingly negative economic shocks lie ahead.

Shifting Global Interest-Rate and Global-Political-Stability Perceptions Recently Boosted the U.S. Dollar; Intensifying Risks of a Day-of-Reckoning for the U.S. Currency and the Financial Markets Should Pummel the Dollar. A confluence of some unhappy factors has continued to evolve, where increasingly they could hit the U.S. financial system very hard in the next several months. Claiming a booming economy and recovered inflation, the FOMC has continued its quarterly boosts to its targeted federal funds rate by 0.25%, with one further hike largely expected for December 19th, but that could be the last for a while, as discussed earlier.

Nonetheless, with recent U.S. interest rates rising and European rates indicated as likely to be flat for a while, but with the headline U.S. economic perceptions beginning to falter, the U.S. dollar still has stayed strong through November (see *Graphs HW-9* and *HW-10*), where annual change in the Trade Weighted Dollar has continued to push into positive territory as of recent reporting. Watch out, though, if the FOMC does not tighten on the 19th.

What lies ahead is far from stability. The U.S. economy, which never recovered fully from its crash into 2009, now has been pushed beyond the stalling-point and into a new downturn, given the unfortunate FOMC policy. As the economy turns down anew, the banking system should come under renewed liquidity/solvency stresses. In turn, that again should bring the Fed around to reversing policy, reembracing Quantitative Easing. In turn, that should crash the U.S. dollar, along with an intensified flight of foreign capital from the United States, likely also crashing the U.S. stock and equity markets.

Some of the issues here have been slower to break than expected by ShadowStats, but they all remain in play. Issues and potential issues include:

- A marked and intensifying deterioration in current consumer liquidity conditions has continued (faltering Real Earnings, Real Consumer Credit Outstanding and Consumer Optimism), as updated in *Consumer Liquidity Watch No. 5*.
- Headline economic reporting of November, December and January data increasingly should disappoint expectations, weakening the broad consensus outlook for U.S. economic conditions even further.
- Those factors combined, increasingly should move financial-market expectations towards an easing shift in FOMC monetary policy.
- Mounting global currency and credit market concerns as to U.S. government finances (budget deficit and funding needs) and related long-term sovereign-solvency issues (see today's section on *Systemic Instabilities/Hyperinflation Issues*.
- Potential for trade deficit/tariff disputes to intensify.
- Potential for new conflict in the Middle East (oil supply/political disruption).

 Mounting turmoil tied to efforts (still likely unsuccessful) by political adversaries to remove President Trump from office (see <u>Special Commentary No. 888</u>), where the House of Representatives, controlled by Democrats, likely will try.

The circumstances here remain the tinder for igniting a financial-market firestorm, which likely would engulf the U.S. dollar in conjunction with intensifying flight of foreign capital from liquid U.S. financial assets, particularly stocks and U.S. Treasury bonds.

**Watch Out for the U.S. Dollar!** Given the still heavily gimmicked headline GDP boom, the real-world U.S. economy is not recovering or booming as advertised, despite heavy hype in the press of a full-employment economy, and in the context of continued, albeit possibly fluttering FOMC tightening intentions. Again, watch the FOMC Meeting results on December 19th!

Keep in mind that recent tightening actions by the FOMC have been instrumental in accelerating a new downturn in a U.S. economy that had yet to recover fully from its collapse into 2009.

An unhappy period of market readjustment to underlying real-world circumstances looms, where Wall Street's proponents of a never-ending stock-market rally had parlayed temporary, nonrecurring economic boosts from natural disasters into a year-end 2017 economic boom, that has faltered with recent stock-market selling. Nonetheless, increasingly-negative economic "surprises" should shock the markets and the U.S. dollar on the downside. As the reported economic downturn intensifies in the months ahead, the FOMC eventually should face an "unexpected" policy retrenchment, reversing recent moves and moving back towards Quantitative Easing, whether or not it publicly indicates that in the weeks ahead.

## Watch for Heavy Selling of the U.S. Dollar and a Sharp Rally in Gold Prices The Dollar and Gold Serve as the Canary in the Coal Mine for Stocks and Bonds

**With Looming Turmoil, Physical Gold and Silver Provide a Hedge, Protecting the Purchasing Power of One's Wealth and Assets.** What had been a fundamental disconnection between happy hype in the media, the financial markets and from the FOMC as to a rapidly expanding U.S. economy, and the underlying reality of broad U.S. economic activity never having recovered its pre-recession 2007 peak, has begun to shift, likely disrupting FOMC policy and already hitting financial-market tranquility. Oncoming headline economic detail increasingly should confirm a renewed economic contraction (see *Special Commentary No. 935*).

Again, the FOMC eventually should be forced to abandon its current path of policy tightening, for a renewed and expanded Quantitative-Easing program to bolster the still liquidity-challenged domestic banking system. The market response to, or increasing anticipation of a shift in policy, should pummel the value of the U.S. dollar in the global markets, spiking gold, silver and oil prices. In turn, domestic equity and credit-market prices should fall sharply, as significant capital flees the weakening U.S. dollar

and the domestic markets. Recent weakness in precious metals prices and relative strength in the U.S. dollar should prove to be fleeting in the weeks ahead.

Holdings of physical gold and silver remain the ultimate hedges—stores of wealth—for preserving the purchasing power of one's U.S. dollar assets, in the context of liquidity and portability, during the difficult and highly inflationary times that lie ahead.

*U.S. Dollar - Intensifying Weakness Should Lie Ahead. Graphs HW-9* and *HW-10* plot the Federal Reserve Board's (FRB) Major-Market Trade-Weighted Dollar (TWD), which reflects the U.S. dollar exchange rate weighted versus the Euro, Yen, Pound Sterling, Australian Dollar, Swiss Franc and the Canadian Dollar; and the ShadowStats Financial-Weighted Dollar (FWD), which reflects the U.S. dollar exchange rate weighted versus the same currencies, based on respective currency trading volume in the markets, instead of merchandise trade. Current relative strength in the U.S. dollar broadly has reflected prospects for higher domestic interest rates and strong economic circumstances, both of which should be reversing.

ShadowStats modified the FWD to add the Chinese Yuan, at such time as it was recognized as a global reserve currency by the Bank for International Settlements in 2015, but there was no resulting visual difference in the ShadowStats plot, until recently, given the relatively low weighting of the CNY at present, and the closely tied movement of the CNY to USD over time. The plots of the FWD versus the TWD both had shown recent weakness in the U.S. dollar, with the declining year-to-year change. Yet, there has been a short-term relative dollar rally, largely reflective of current global political instabilities and higher relative U.S. interest rates. In times of global political stress, the dollar often has been viewed as a safe-haven, as have gold and silver.

Gold and Silver, and Gold versus Stocks. Graphs HW-11 and HW-12 show plots of the price level of the S&P 500 Total Return Index (all dividends reinvested) versus the price of physical gold, with both series indexed to January 2000 =100, with the first plot showing both series in nominal terms and the second plot in real, inflation-adjusted terms, deflated by the CPI-U. While Gold has outperformed the S&P 500 since the beginning of millennium, it is interesting to note that the S&P 500, net of inflation, did not break above parity until 2013.

*Graphs HW-13* to *HW-15* are the traditional ShadowStats gold graphs, respectively versus the Swiss Franc, versus Silver and versus Oil (Brent).

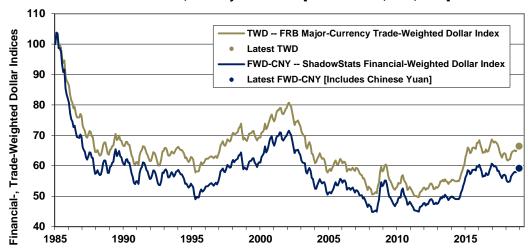
Again, the final price points in the various graphs reflect the closing or late-day New York quotes of Monday, December 10, 2018, unless indicated otherwise.

[Graphs HW-9 to HW-15 begin on the next page.]

The graphs in this section reflect New York late-afternoon or closing prices of December 10th.

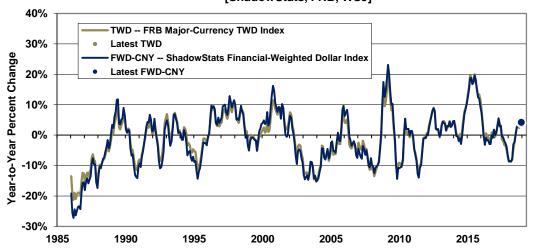
Graph HW-9: Financial- versus Trade-Weighted U.S. Dollar

# Financial- vs. Trade-Weighted U.S. Dollar Monthly Average Dollar Indices through November 2018 Last Point is Late-Day New York for December 10, 2018 ShadowStats FWD-CNY and FRB Major Currency TWD Indices Indices, January 1985 = 100 [ShadowStats, FRB, WSJ]



Graph HW-10: Year-to-Year Change, Financial- versus Trade-Weighted U.S. Dollar

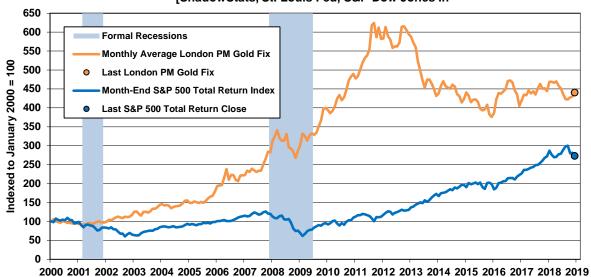
# Financial- vs. Trade-Weighted U.S. Dollar Monthly Average Year-to-Year Percent Change, Movember 2018 Last Point is Late-Day New York for December 10, 2018 ShadowStats FWD-C and FRB Major Currency TWD Indices [ShadowStats, FRB, WSJ]



Graph HW-11: Nominal Gold versus the Nominal Total Return S&P 500

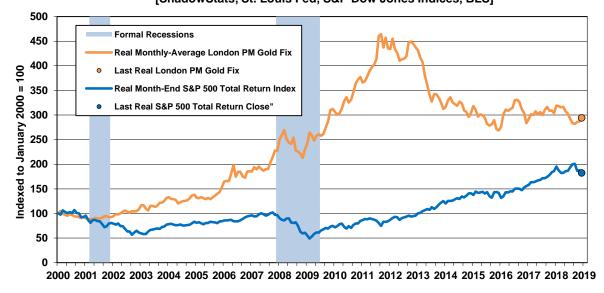
### Nominal London P.M. Gold Fix versus the Total Return S&P 500® Index (Reinvested Dividends)

Monthly Jan 2000 to Nov 2018, Indexed to Jan 2000 = 100
Latest London PM Gold Fix, S&P Total Return Close, Dec 10, 2018
[ShadowStats, St. Louis Fed, S&P Dow Jones In

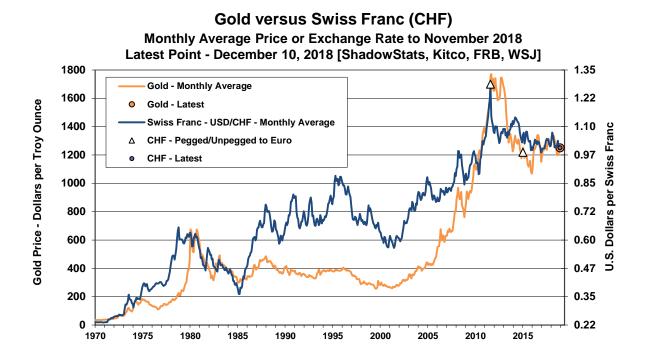


Graph HW-12: Real Gold versus the Real Total Return S&P 500

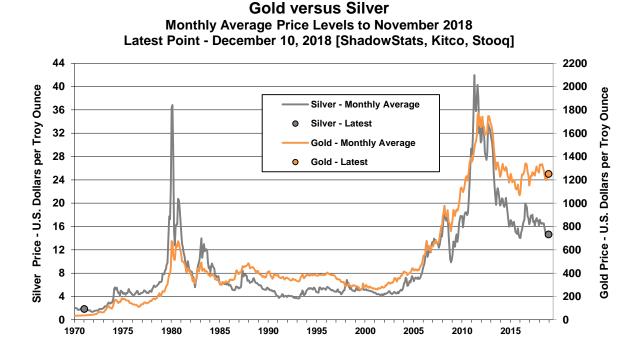
## Real London P.M. Gold Fix versus the Total Return S&P 500® Index Deflated by the Unadjusted CPI-U, Monthly to November 2018 Latest Real London PM Gold Fix, S&P Total Return Close of December 10, 2018 [ShadowStats, St. Louis Fed, S&P Dow Jones Indices, BLS]



Graph HW-13: Gold versus the Swiss Franc



Graph HW-14: Gold versus Silver



#### Graph HW-15: Gold versus Oil

### Gold versus Oil (Brent/WTI) Monthly Average Prices to November 2018, Pre-1987 is WTI Latest Point - December 10, 2018 [ShadowStats, Kitco, DOE]

