Sprott | Gold Report
February 20, 2019

2019 Top 10 List

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During 2018, we started to sound a bit like a broken record. We felt the Fed's dual policy agenda of simultaneous rate hikes and balance sheet reduction was too aggressive in the context of a global economy bloated with debt and addled far too long by salves of quantitative easing (QE) and zero interest rate policies (ZIRP). We even questioned whether the Keynesian academics at the Fed fully appreciated the direct and measurable impacts of QT on global money supply. All the way through December's unanimous decision by the Federal Open Market Committee (FOMC) to hike fed funds for the ***fourth*** time in 2018, our concerns gained very little traction in consensus circles. Because we have remained confident in our analysis, we found the second half of 2018 to be a frustrating investment environment.

How quickly things can change. In the four weeks following the December FOMC rate hike, the Fed executed one of its sharpest policy U-turns in memory. Indeed, the Fed's tonal shift has been so profound, it is difficult to square recent comments from Fed Governors and Regional Bank Presidents with their stated positions just a few weeks prior. What could possibly account for such a dramatic about-face from such a characteristically deliberative body? Is the explanation really as simple as the 19.6% decline in the S&P 500 Index (S&P 500) between Chairman Powell's "long way from neutral" comment on 10/3/18 and Secretary Mnuchin's convening of the President's Working Group on Financial Markets on Christmas Eve?

In our experience, the contemporary Fed is always hyper vigilant about signs of financial stress with perceived potential to evolve into debt deflation. To us, S&P 500 air pockets are but a symptom of a far more troublesome underlying condition: insufficient credit creation to sustain inflated paper claims. Once equities complete their current Pavlovian bounce, consensus will need to confront the more sobering implications of the Fed's policy reversal. ***The Fed is far too tight and has already tripped the switch on long overdue debt rationalization***. Of course, this is precisely the juncture for which we have long prepared.

Similar to early 2016, when global financial markets were destabilized by the Fed's initial 12/16/15 rate hike, the gold price responded quickly to market fallout from Chairman Powell's early October overreach, and has remained in steady uptrend ever since. Importantly, gold's advance has not been derailed by the S&P 500's 18.1% bounce from Christmas Eve through 2/15/19. To us, gold's performance clearly signals Fed policy error and we believe spot gold is coiling for spirited advance as global central banks pivot back toward easing. For gold investors, this is the mix of real-deal fundamentals on which spectacular gains are based.

Given the seminal nature of catalysts now in play for precious metals, we felt the timing appropriate for a comprehensive review of factors driving the gold price. In this report, we have compiled our Top Ten List of fundamentals supporting a portfolio allocation to gold in 2019. Because our gold investment thesis rests on epic global imbalances, our first few sections review underpinnings of our ***long-term gold thesis***. While these variables remain as potent as ever in 2019, frequent readers will be familiar with our thought process and will be excused for skipping ahead. For the balance of readers, we apologize in advance for the length of this report. For those with the energy and resolve to grind their way through, we trust you will find the effort worthwhile.

Sprott Gold Report
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1. Gold has been the Best Performing Global Asset for 18 Years

We often marvel at investor apathy towards gold's investment merits. Especially in institutional circles, gold is generally viewed as an archaic asset offering negligible portfolio utility. To us, it is remarkable that gold could remain such an institutional outcast after posting ***the single best performance of any global asset for eighteen years running***. Since 2000, not only has bullion outperformed traditional investment assets in cumulative total return, but gold's ongoing bull market has also proved to be highly consistent in its annual progression. As shown in the rightmost column of Figure 1, the average of gold's annual performance in nine prominent currencies has been positive in ***16 of the past 18 years***.

Figure 1: Annual Performance of Spot Gold in Prominent Global Currencies (2001-2018)

Year	U.S. Dollar	Euro	Yuan	Rupee	Yen	Pound	CAD	AUD	CHF	Average
2001	2.46%	8.13%	2.45%	5.90%	17.62%	5.25%	8.65%	11.80%	5.32%	7.51%
2002	24.78%	5.76%	24.78%	24.08%	12.64%	12.67%	23.48%	13.85%	3.87%	16.21%
2003	19.37%	-0.21%	19.36%	13.52%	8.04%	7.80%	-1.81%	-11.22%	7.32%	6.91%
2004	5.54%	-2.19%	5.54%	0.54%	0.66%	-1.76%	-2.19%	1.40%	-3.10%	0.49%
2005	17.92%	35.09%	14.98%	22.23%	35.70%	31.44%	14.06%	25.84%	35.97%	25.91%
2006	23.16%	10.51%	19.11%	21.00%	24.32%	8.17%	23.46%	14.61%	14.24%	17.62%
2007	30.98%	18.46%	22.46%	16.64%	22.96%	29.28%	11.40%	17.77%	21.96%	21.32%
2008	5.78%	10.55%	-1.07%	30.62%	-14.10%	43.89%	29.91%	31.59%	-4.90%	14.70%
2009	24.37%	21.09%	24.40%	18.88%	27.38%	12.25%	7.90%	-2.39%	20.40%	17.14%
2010	29.52%	38.88%	25.02%	24.45%	12.75%	34.15%	21.95%	13.66%	16.91%	24.14%
2011	10.06%	13.51%	5.22%	30.74%	4.35%	10.65%	12.53%	9.81%	10.63%	11.94%
2012	7.14%	5.22%	6.04%	10.54%	20.84%	2.31%	4.86%	5.82%	4.39%	7.46%
2013	-28.04%	-31.13%	-30.15%	-18.76%	-12.42%	-29.45%	-23.13%	-16.30%	-30.09%	-24.39%
2014	-1.72%	11.99%	0.79%	0.45%	11.81%	4.48%	7.40%	7.44%	9.92%	5.84%
2015	-10.42%	-0.25%	-6.38%	-6.16%	-10.15%	-5.27%	6.65%	0.33%	-9.90%	-4.62%
2016	8.56%	11.85%	16.13%	11.42%	5.35%	29.57%	5.60%	9.66%	10.46%	12.07%
2017	13.09%	-0.79%	6.03%	6.22%	9.15%	3.23%	5.33%	4.47%	8.24%	6.11%
2018	-1.58%	3.32%	4.04%	7.42%	-4.13%	4.43%	7.04%	9.17%	-0.65%	3.23%

Source: Bloomberg.

Given gold's fringe standing in much of the investment world, it is interesting to note that bullion's cumulative performance since 2000 has ***trounced*** the S&P 500. As shown in Figure 2, gold's cumulative gain from 12/31/00 through 2/15/19 totaled **385.42%**, versus a **110.23%** advance in the S&P 500 price level, and a **201.15%** gain in S&P 500 total return.

Figure 2: Spot Gold vs. S&P 500 Index vs. S&P 500 Total Return Index (12/29/00-2/15/19)

Source: Bloomberg.

MacroMavens captures the degree of gold's near-two-decade outperformance of equities in Figure 3. While the 2,775.60 closing price for the S&P 500 on 2/15/19 represented an impressive ***79% gain*** over the 1,552.87 intra-day high for the index on 3/24/00 (red line), when expressed in gold terms (ratio of S&P 500/spot gold), the S&P 500 still trades today some ***61% lower*** than at its March 2000 peak. An equity bull might challenge the propriety of an equity/gold comparison beginning in March 2000—this is cherry picking because the comparison ***starts*** from a blow-off equity top at the peak of the internet bubble. Our counter would be, "Yes, that's exactly the point!"

Figure 3: S&P 500 Index vs. S&P 500 Deflated by Spot Gold (4/1/82-2/15/19)

Source: Bloomberg; MacroMavens.

During the past two corrections in the S&P 500 (50.50% in 2000-02 and 57.70% in 2007-09), gold provided unparalleled protection of portfolio purchasing power. We expect the next correction in U.S. financial assets to prove no different. Referring back to Figure 3 for perspective, if March 2000 is widely recognized in retrospect as a blow-off equity peak (**orange circle**), what characterization best captures today's equity valuations (**red circle**).

As final footnote to popular precious-metal misnomers, we would have thought gold's performance during the past three years should have logically dispelled the notion of gold as a "catastrophe" asset. During 2016 and 2017, spot gold logged gains of 8.56% and 13.09%, coincident with total-returns of 11.95% and 21.82% for the S&P 500. Gold's relative returns were hardly steep freight to carry for portfolios seeking a reliably diversifying asset. Most recently, gold's 2018 performance served as textbook example of bullion's store-of-value prowess. While the gold price did sustain a modest 1.58% decline during 2018, this performance exceeded ***all traditional financial assets other than cash***. What's not to like?

2. Paper Claims have Decoupled Completely from Productive Output

If we were to choose a single chart to encapsulate the gold thesis, it would be Figure 4. This graph plots the ratio of total debt-to-GDP (gross domestic product) in the United States during the past 100 years. During this period, the debt-to-GDP ratio has generally ranged between 140% and 170%, outside two black swan events: the Great Depression and Alan Greenspan. The Depression was a ***denominator*** event in which GDP collapsed by half and debt remained constant, catapulting the debt-to-GDP ratio to 287%. Skipping historical details, resultant distrust of the U.S. dollar and a subsequent bank run on U.S. gold reserves motivated President Roosevelt on 4/6/1933 to confiscate all gold held by U.S. citizens at $20.67 per ounce (Executive Order 6102), and then, nine months later on 1/30/1934, to devalue the U.S. dollar 69% versus the gold he had just confiscated. Point being, as with gold's outperformance of the S&P 500 during relentless central bank liquidity since March 2000, gold's timeless function is to protect wealth when currency is failing to provide a stable unit of account.

Figure 4: Ratio of Total U.S. Credit Market Debt-to-GDP (1916-2018 Q3)

Source: BEA; Federal Reserve.

Returning to Figure 4, the more recent experience at the right half of the graph reflects a long-running ***numerator*** event, in which the Greenspan, Bernanke and Yellen Feds have facilitated trillions of dollars of credit creation atop a fairly consistent GDP denominator. Because gold no longer serves as currency touchstone in the post-Bretton Woods dollar-standard system, paper claims (debt) have been able to decouple ***completely*** from underlying productive output (GDP). The Fed's all-encompassing Z.1 Report (*Financial Flows of the United States*) for Q3 2018 informs us that total U.S. credit market debt ($71.423 trillion) now stands at 346% of GDP ($20.660 trillion), barely off the peak ratio of 383% in Q2 2009.

A central component of our gold investment thesis is the simple math that GDP measuring $20.660 trillion can no longer drive healthy capital formation while simultaneously servicing $71.423 trillion in outstanding credit. Indeed, our analysis suggests that current U.S. debt levels require roughly $2.0 to $2.5 trillion in annual nonfinancial credit creation just to prevent the U.S. debt pyramid from toppling. Whenever U.S. nonfinancial credit growth dips below this threshold, such as during the first two quarters of 2008, a process of rolling debt default is immediately triggered. It is at these junctures the Fed has felt compelled to bridge the gap of insufficient credit creation with QE and ZIRP. Indeed, our research confirms that timing of the Fed's QE1, QE2, Operation Twist and QE3 programs has been far more aligned with falloffs in U.S. nonfinancial credit growth than with any variable in the Fed's statutory mandate of stable prices and full employment.

Why is debt-to-GDP analysis important and what does it have to do with gold's portfolio merits? While timing is uncertain, it is inevitable that the U.S. financial system will eventually rebalance to the degree that GDP can productively support total debt levels. There are only two possible routes for the U.S. debt burden to be recalibrated to underlying GDP: default or debasement. Because gold can neither default nor be debased, it is an ideal portfolio component until such time as the U.S. financial system rebalances. Interestingly, gold is a uniquely binary asset because it provides portfolio utility in both inflationary and deflationary environments. Gold has increased in most years since 2000 because central banks have been attempting to ameliorate the world's debt problems by choosing debasement (inflation) over default (deflation). However, should central bank preferences for debasement ever be overrun by a dreaded debt-default cycle, in a global economy with $247 trillion in total debt (Institute for International Finance), gold's portfolio utility is likely to skyrocket.

Figure 5: U.S. Household Net Worth as a Percentage of GDP (1952-2018 Q3)

Source: Federal Reserve.

Expanding our analysis from total U.S. debt to total U.S. financial assets, we find enormous significance in the Fed's Z.1 calculation of Total Household Net Worth (HHNW). Essentially, this figure tracks the net value of U.S. households' aggregate holdings of stocks, bonds and real estate, minus household debt. Figure 5, plots the Fed's ratio of HHNW-to-GDP since 1952. We find this ratio important because it lends excellent perspective to the epic distortions Fed monetary policy has imparted on financial assets since the turn of the millennium. In short, GDP growth and savings rates have been declining in the U.S. for decades. Because these two inputs are the literal building blocks of capital formation, their erosion suggests the intrinsic value of U.S. financial assets should be falling. Instead, ever-increasing amounts of Fed liquidity have levitated financial assets far above their aggregate intrinsic value. Let us explain.

We have developed what we believe to be an appropriate formula for estimating economic wealth formation:

(Real GDP Growth Rate + Net National Savings as % of GDP) / Real GDP Growth Rate = Projected HHNW/GDP Ratio

Back-testing real world inputs for GDP and savings rates, our formula confirms that the 353% observed average for HHNW-to-GDP ratio during the ***50 years*** prior to the Greenspan/Bernanke/Yellen era was a fair approximation of how healthy GDP and high savings-rates actually drove capital formation in America. However, in recent years, trend GDP growth has fallen roughly in half and net national savings have utterly collapsed from 10% of GDP in the 1950's and 1960's to less than 2% today. Therefore, our formula suggests U.S. wealth formation should be falling towards a HHNW-to-GDP ratio closer to 225%. A ratio in this zip code is where the true intrinsic value of U.S. financial assets actually resides. However, increasingly promiscuous Fed policy since the March 2000 equity-market watershed has driven the HHNW-to-GDP ratio in ***precisely the opposite direction*** from where true GDP and savings rates suggest this metric should be migrating.

Amazingly, the Fed's 2018 Q3 Z.1 reports that the current HHNW-to-GDP ratio stands at an unprecedented 528%, which we find patently absurd. Zooming in on how the ratio got to this level, between Q1 2009 and Q3 2018, nominal GDP increased a respectable ***$6.570 trillion*** (from $14.090T to $20.660T), while HHNW exploded an astonishing ***$54.248 trillion*** (from $54.790T to $109.038T). ***This means that for the past 9 ½ years HHNW has grown over eight times faster than GDP***. We are unsure of many things, but we are quite certain no country, economy or society can increase wealth eight times faster than output forever.

We cite Andy Lees (Macro Strategy) for concise precis of the risks inherent in such lofty detachment of HHNW from underlying productive output:

> "The Z.1 Flow of Funds Report also showed U.S. wealth up US$2.07 trillion to US$109 trillion, a record 527.8% of GDP. Whilst this is lauded by the press and politicians as the success of policies, the inference is that the productivity of that "wealth" or capital would be the lowest since records began 71 years ago. As every security is both an asset to the holder and a liability to the issuer, the other side of elevated asset prices are elevated liabilities, requiring ever lower interest rates for their service. Ironically, as the cash flow necessary to support lower interest rates comes at the expense of underinvestment and capital depletion, the growth of this paper wealth relative to GDP is indicative of a loss of real wealth…With the Fed shrinking base money and raising rates, it seems increasingly likely there will be insufficient cash flow to sustain the imbalance, let alone grow it."

Eventually, the HHNW-to-GDP ratio will gravitate to a level more reflective of true, underlying capital formation. A return just to the pre-Greenspan 353% average would imply a $36 trillion reduction in the aggregate value of U.S. stocks, bonds and real estate. To us, the only question is which asset class will bear the greatest readjustment burden. Until outstanding financial asset claims are rebalanced with underlying productive output, gold stands as a virtually mandatory portfolio-diversifying asset.

3. Central Banks are Admitting Tightening is No Longer Possible

One of the most interesting aspects of contemporary debt dynamics is the fact that most investors recognize debt levels are a serious long-term problem, but choose to ignore this elephant in the room when formulating their current portfolio allocations. To most investors, especially in the institutional community (where a few poor years can shorten a career), debt concerns have been filed away under the label "structural issue—to be determined." High pedigree money managers and their star strategists tend to ignore structural issues because timing of their resolution is hard to predict. Institutional participants are more focused on identifying an optimal mix of tactical issues and finely-tuned solutions to boost relative performance over a predetermined measurement interval. This is how the institutional world is incentivized, so this is how the institutional world behaves. We don't blame them one bit.

Figure 6: 10-Year U.S. Treasury Yield—Financial Crises Highlighted (1975-Present)

Source: MacroMavens.

As gold investors, we are focused on structural imbalances long in the making which will require remediation just as profound. To us, an intriguing riddle of contemporary consensus is the popular perception that interest rates can rise without tanking the U.S. financial system. As shown in Figure 6, not only have 10-year Treasury yields been contained in a declining channel for some 37 years, but on ***every*** occasion this declining channel has been challenged to the upside, a financial crisis has invariably ensued.

If long rates have been unable to rise for almost four decades, why would investors conclude rates are now free to rise magically with no ill effects? What relevant fundamentals have changed to make the long-ignored elephant less weighty? Certainly not debt levels, which on every conceivable plane of analysis, are worse today than during the Great Financial Crisis (GFC). Certainly not productivity, which remains pinned between ZIRP malinvestment and the capex wasteland of share repurchase. And certainly not American exceptionalism, which after a budget-busting two-year flirt with Trumponomics, is rapidly descending into vitriolic quagmire.

With respect to short rates, we chronicled throughout 2018 the deleterious effects of Fed rate hikes. We wondered how large a financial calamity would be necessary to convince our plain-spoken Fed Chairman and his FOMC colleagues that their hawkish bravado had jumped the shark. Apparently, a near 20% Q4 drawdown in the S&P 500 finally did the trick, and the unqualified tone of the Fed's January mea culpa suggests they had no clue such a train wreck was in the offing.

Looking back, it is fairly amazing that as recently as this past September, Governor Brainard and Chairman Powell were floating the likelihood of a short-term neutral rate for fed funds ***higher*** than the 3% long-term neutral rate in the Fed's dot plot. As Governor Brainard opined 9/12/18:

> "It appears reasonable to expect the shorter-run neutral rate to rise somewhat higher than the longer-run neutral rate. These developments raise the prospect that, at some point, the Committee's setting of the federal funds rate will exceed current estimates of the longer-run federal funds rate."

At the time, we were so perplexed by the Fed's dismissal of gathering evidence of financial stress, we postulated in our October report that the Fed must be bluffing:

> "Why would Fed Governors suddenly propose temporarily hiking rates above long-term targets so painstakingly established in prior dot plots? We contemplate two opposing explanations. Perhaps the Fed fears fiscal stimulus and tight labor conditions are combining to spur steeper-than-desired inflation. Alternately, the Fed may be recognizing that its dual policy agenda is pinching global dollar liquidity to an unacceptable degree, and, in preparation for imminent policy downshift, is jawboning markets to accomplish desired long-end tightening the Fed has so far failed to engender."

Chair Powell's detached defiance peaked during his 10/3/18 interview with PBS's Judy Woodruff. After falling into a classic central-banker trap in proclaiming, "There's no reason to think this cycle can't continue for some time, effectively ***indefinitely***," Chair Powell's clumsy iteration of the Brainard doctrine of a higher short-term neutral rate likely crystalized the ultimate turning point for this tightening cycle:

> "Interest rates are still accommodative, but we're gradually moving to a place where they will be neutral. We may go past neutral, but ***we're a long way from neutral at this point***, probably."

Immediately following Chair Powell's comments, 10-year Treasury yields spiked to seven-year highs at 3.234% on 10/5/18, and the S&P 500 slumped 6.7% in six trading sessions (to a 10/11/18 close of 2,728.37). During a New York Economics Club speech on 11/28/18, Chair Powell attempted to soothe unsettled markets by modifying his perceptions of fed funds from being "a long way from neutral," to "just below neutral." While we give Mr. Powell credit for attempting such a simple gambit, it usually requires a bit more sincerity and resolve from a Fed Chair to calm skittish markets—stocks promptly tanked. Either undaunted or oblivious to the S&P's steepening decline, Chair Powell orchestrated a unanimous FOMC rate hike on 12/19/19. In his post-meeting press conference Chair Powell telegraphed two additional rate hikes in 2019 and asserted the Fed's scheduled balance sheet reduction was on autopilot and not subject to change.

Since then, the Fed's about-face has been so profound, the biggest riddle in financial markets is what could possibly have served as the underlying trigger. Was it the S&P 500 swoon, pressure from President Trump or some signal of financial stress not yet publically disseminated? We suspect it was a combination of all three. Whatever the true mix of catalysts, the message has been received, not only by the Fed, but by all global central banks, which have discarded in unison their collective resolve for policy tightening.

- After officially terminating its QE program in early December, the European Central Bank (ECB) grew its balance sheet by $45 billion in the first four weeks of January.
- After remaining level for months, the Bank of Japan expanded its balance sheet by $35 billion over the same span.
- On 2/5/19, Reserve Bank of Australia Governor Philip Lowe flipped future guidance on the bank's "cash rate" from a likely rate hike to a likely rate cut.
- On 2/7/19, The Reserve Bank of India surprised markets with a quarter point rate cut.
- On the same day, the Bank of England slashed growth forecasts and retracted prior guidance for two additional rate hikes in 2019.

Amid the global pivot towards reflation, no other central bank can hold a candle to the People's Bank of China (PBOC). After announcing a 100 basis point cut in the reserve requirement ratio, which released a net 800 billion yuan ($110 billion) from bank reserves in equal installments on 1/15/19 and 1/25/15, the PBOC conducted record reverse repo operations during the week of 1/14/19, injecting an additional 1.14 trillion yuan ($168 billion) into the economy "to keep reasonable and sufficient liquidity in the banking system." Then, on 2/15/19, the PBOC reported that Chinese financial institutions made a record 3.23 trillion yuan ($477 billion) of new loans in January, a new record for a single month, and total Aggregate

Social Financing exploded to 4.64 trillion yuan ($685 billion) during the month, also a new single-month record. Wow that was quick!

4. The Return of Negative Interest Rates

In unison, global central banks are swinging quickly and hard back towards an easing posture. On 12/28/18, the Bank of Japan (BOJ) permitted the yield on the benchmark 10-year Japanese Government Bonds (JGB) to drop below zero for the first time since BOJ adoption of the zero-bound target in September 2017. BOJ Governor Haruhiko Kuroda commented at the time, "It's no problem if bond yields become negative, as long as they reflect economic fundamentals and remain within the BOJ's target range." Despite negative yields, a 2/7/19 auction of 10-year JGB's drew the highest bid-to-cover ratio since 2005, as investors buckled-in for a new era of declining rates. NatWest strategist Andrew Roberts predicted negative yields on JGB's are a precursor to negative yields in Europe, "The euro area and Japan are now in the same space. The path of least resistance is lower yields."

Figure 7: 10-Year German Bund Yield (12/31/2013-2/15/19)

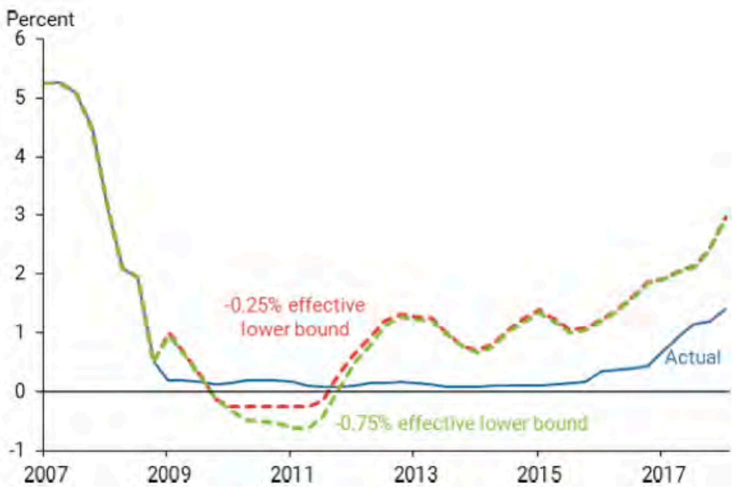
Source: Bloomberg.

On 2/13/19, Citigroup Strategist Jamie Searle cited rapidly deteriorating conditions in Europe (including stalling growth and inflation and reaccelerating political risks related to Brexit, Italy, France and Spain), in calling for "deeply negative rates" on benchmark 10-year German bunds within six months. Mr. Searle calculated that recent economic data-points equate to a manufacturing gauge of 48 in the next four-to-five months and inflation falling to 2016 levels, resetting benchmark sovereign yields firmly in negative territory. Turning to home field perspective, Jorg Rahn, Chief Investment Officer of German investment adviser Wirtgen Invest suggested, "The likelihood of negative bund yields in the first quarter is relatively high and may even happen relatively fast. The current developments are bitter." As shown in Figure 7, the 10-year German bund yield has been cascading towards the zero-bound (**red line**) throughout the Fed's four 2018 rate hikes.

We view the global pivot back towards negative rates as an inevitable outgrowth of prior central bank QE and ZIRP policies. Once such unconventional policies are deployed, they can never be abandoned. With debt levels as grossly extended as they are, global economies will require perpetual credit creation to forestall the inevitable process of debt rationalization. These concepts may seem academic, but they are now transpiring in real time across the globe.

For the balance of 2019, now that the Fed has acknowledged its December rate hike may have been ill advised, the operative question has become how severely will the lagging effects of 2018 rate hikes impact the U.S. economy. Goldman Sachs Economist Michael Cahill may have summarized things best, "While the euro area has been slowing for the past year, U.S. activity levels are now slowing faster, from a higher level, and in a more reactive setting for policy makers."

Figure 8: Actual Path of Fed Funds versus Simulated Paths for Fed Funds Assuming Effective Lower Bounds of -0.25% and -0.75% (2007-1/31/2019)



Source: Federal Reserve; Vasco Curdia.

Amid the cascade of Fed jawboning during the past few weeks, the San Francisco Fed published an interesting white paper on 2/4/19, entitled, *How Much Could Negative Rates Have Helped the Recovery?* In this report focused on the global financial crisis (GFC), San Francisco Fed Research Advisor Vasco Curdia examined whether, "Allowing the federal funds rate to drop below zero may have reduced the depth of the recession and enabled the economy to return more quickly to its full potential." Unsurprisingly, as shown in Figure 8, the paper concludes that reducing the lower bound from 0% to -0.75% would have shortened the duration of necessary Fed accommodation and optimized the path of economic recovery,

> "Interestingly, a negative lower bound in this model implies that the economy is constrained for much less time than it actually was in the financial crisis. Indeed, by the end of 2011 the median federal funds rate would have already risen above zero. The intuition behind this result is that allowing the interest rate to go negative stimulates the economy relative to the zero lower bound case and sets it on a faster recovery path."

In eerie coincidence, International Monetary Fund (IMF) Economists Ruchir Agarwal and Signe Krogstrup published two days later, on 2/6/19, an examination of the benefits of using electronic money in tandem with cash to allow any "central bank to implement as negative an interest rate as necessary for countering a recession, without triggering any large-scale substitutions into cash." The IMF economists reasoned that dividing the monetary base into two separate currencies—cash and electronic money—could allow rates to be cut even deeper below zero. E-money would pay whatever the policy rate is, and cash would have an exchange rate against the e-cash.

Figure 9: Spot Gold versus Bloomberg Barclays Global Aggregate Negative Yielding Debt Market Index
(2/1/17-2/15/19)

Source: Meridian Macro.

While we recognize San Francisco Fed and IMF research papers hold limited predictive value for actual central bank policies, the analytical trend is pretty clear: the world is quickly refocusing on the likelihood and utility of negative interest rates. As shown in Figure 9, the global total of negative yielding sovereign bonds has exploded 56% from $5.733 trillion on 10/3/18 to $8.944 trillion on 2/15/19. Already within $1 trillion of its September 2017 high, how large will the ultimate supply of negative-yielding sovereigns become in the unfolding cycle? While just one of many factors influencing the gold price, correlations in Figure 9 confirm that gold is taking notice of the global pivot to negative rates.

5. Fed Credibility Under Siege

Blunt criticism of the Fed can be a self-impeaching endeavor in much of the investment world. For whatever reason, the vast majority of professional investors still view Fed officials as above reproach. Common reasoning holds that Fed stewards are highly capable, well supported and privy to reams of nonpublic information on every facet of the U.S. economy and banking system. Additionally, a good portion of "don't fight the Fed" logic undoubtedly stems from the Fed's capability to print trillions of dollars with the flick of a switch. We would add that another aspect of default respect for the Fed stems from the human tendency to find comfort in a higher order.

While we recognize Fed power borders on the divine, we have always found the proposition that 19 individuals, no matter how capable and well-supported, might possibly price the world's reserve currency more efficiently than free markets to be a fairly absurd notion. Sidestepping our perceptions of Fed Governors and Regional Bank Presidents, both individually and as a deliberative body, we have detected since early 2018 distinct erosion in the Fed's ***factual*** credibility.

In our June report, *Periphery to Core*, we highlighted Chairman Powell's curious 5/8/18 Zurich speech, in which he argued that "the role of U.S. monetary policy is often exaggerated" with respect to its impacts on "global financial conditions and capital flows." We wrote at the time that many of Chairman Powell's arguments were so specious, we detected beneath his soft-spoken demeanor a defiant resolve to roll back the QE he had adamantly opposed as Governor, even if a few important things were to break along the way.

Fast forwarding to the Fed's December 2018 rate cut, among all the questionable signals Chairman Powell delivered in his 12/19/18 post-FOMC press conference, we want to zero-in on his assertion that the Fed's balance sheet runoff was working well, on autopilot and not subject to review. The impression Chairman Powell's comments conveyed was significantly different from the impression one forms when reading the actual December FOMC discussion summarized in meeting minutes released 1/9/19.

In contrast to Chairman Powell's longstanding characterization of scheduled balance sheet reduction as being on autopilot, there was considerable discussion among FOMC participants about altering the pace, composition and ultimate target of balance sheet reduction to address increased volatility in fed fund and money market rates "as banks and financial markets adjusted to lower levels of reserve balances." Indeed, the discussion about alternatives to scheduled balance sheet runoff was so extended, JP Morgan Chief U.S. Economist Michael Feroli described the FOMC debate as "spitballing," or virtually an opposite sense from Chairman Powell's "autopilot." Clearly as startled in reading the minutes as we were, Mr. Feroli tactfully concluded,

> "We have been expecting, and continue to expect, the Fed to opt in favor of continuity and predictability by sticking with the current normalization principles and plans, but we concede that this aspect of the longer-run Fed outlook is now less certain."

Amid the barrage of January position-reversals from FOMC participants, statements related to balance sheet runoff have been particularly jarring. First, as early as 1/4/19, Chairman Powell had significantly modified his 12/19/18 assertions:

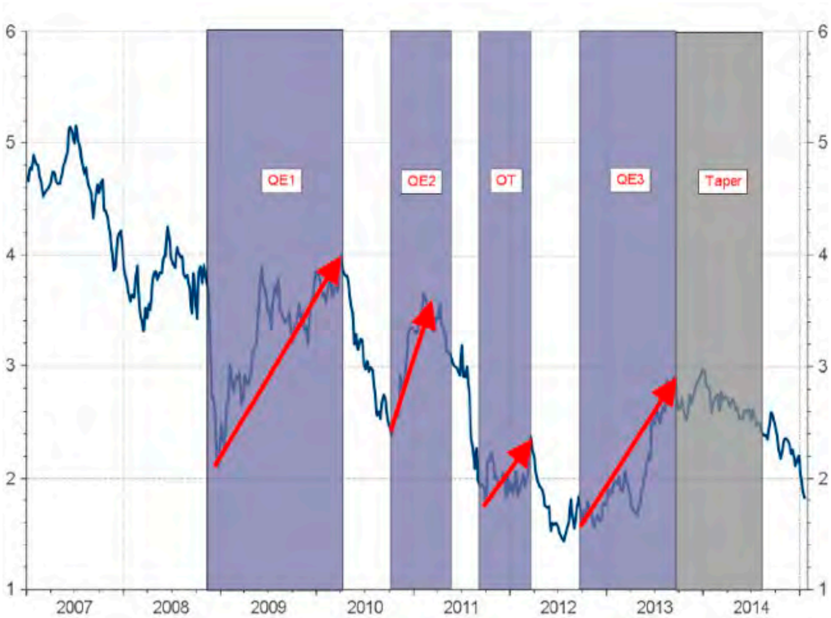
> "We don't believe that our issuance is an important part of the story of the market turbulence that began in the fourth quarter of last year. But I'll say again, if we reached a different conclusion, we wouldn't hesitate to make a change. If we came to the view that the balance sheet normalization plan—or any other aspect of normalization—was part of the problem, we wouldn't hesitate to make a change."

Then, on 2/12/19, in prepared remarks at Xavier University, Cleveland Fed President Loretta Mester surprised her audience in stating, "At coming meetings, we will be ***finalizing*** our plans for ending the balance sheet runoff and ***completing*** balance-sheet normalization." [Our emphasis]

Finally, on 2/14/19, Fed Governor Lael Brainard raised eyebrows in a CNBC interview, claiming the Fed's "balance sheet normalization process has really done the work it was intended to do," [Huh?] and "should come to an end later this year."

Well, there you have it. The Fed's characterization of balance sheet runoff progressed from "autopilot" to "finished this year" in the space of two months. To us, the only explanation for the Fed's quick about-face which might be more troubling than questionable transparency is incompetence. We have made the case that the Fed's balance sheet runoff constitutes quantitative tightening (QT) and therefore will effect reverse impacts on global dollar liquidity than those accomplished by QE. Chairman Bernanke estimated every $200 billion of QE equated to an effective 25-basis-point rate cut, so we have always struggled to understand arguments that QT will not accomplish the reverse.

Figure 10: 10-Year U.S. Treasury Yield (1/1/07-2/1/15)



Source: Macro Strategy.

To properly understand the impacts of QT it is important to review the ***observed*** (as opposed to ***designed***) impacts of QE. Amazingly, most investors still labor under the misconception that QE lowered Treasury yields. As shown in Figure 10, QE1, QE2, Operation Twist and QE3, without exception, ***increased*** Treasury yields. While countless PhD dissertations will no doubt be written on the topic, we cite the succinct analysis of James Ferguson (Macro Strategy) for explanation:

> "QE involved the Fed buying massive quantities of Treasuries which, according to the Fed's theory, should have entailed Treasury prices rising and yields falling. Reality was the exact opposite, so instead of twisting the data to bail out its theory, the Fed really needed to ask itself, 'Why?' The answer is that QE purchases put new deposits in sellers' bank accounts, which increased the money supply (ie. inflationary): bad for all other holders of Treasuries but equally supportive of risk assets."

The simple elegance of this thesis is that it explains how both Treasury yields and equities rose during QE periods. A troublesome implication however, is that the Fed either does not recognize, or simply does not place that much significance on the negative impacts to global money supply inherent in its ongoing balance sheet reduction.

A 2/5/19 Bloomberg editorial penned by ex-Fed Vice Chairman William Dudley, *Let's Stop Worrying About the Fed's Balance Sheet*, only increased our queasiness that the Fed really has no idea or plan when it comes to balance sheet normalization. We found Mr. Dudley's narrative to be equally as incoherent as it was condescending. Mr. Dudley opened his essay with a fairly bench-clearing assessment,

> "Financial types have long had a preoccupation: What will the Federal Reserve do with all the fixed income securities it purchased to help the U.S. economy recover from the last recession? The Fed's efforts to shrink its holdings have been blamed for various ills, including December's stock-market swoon. And any nuance of policy—such as last week's statement on 'balance sheet normalization'—is seen as a really big deal. I'm amazed and baffled by this. It gets more attention than it deserves."

Without debating the ex-New York Fed President line-for-line for his surprisingly vapid narrative, we would urge Mr. Dudley to grab a copy of the Kansas City Fed's white paper released on the very same day as his op-ed, entitled, *Do Changes in Reserve Balances Still Influence the Federal Funds Rate?* Reuters best summarized the white paper's conclusions (2/6/19):

> "The shrinkage of the U.S. Federal Reserve's balance sheet has played a ***significant*** role in exerting upward pressure on borrowing costs as parts of the U.S. economy have shown signs of decelerating, a study from the Kansas City Federal Reserve released on Wednesday showed. The study reflects a growing concern among economists and investors that the Fed's declining holdings of Treasuries and mortgage bonds have caused bank reserves to drain too quickly, exacerbating the effect of the central bank's series of rate increases in 2018." [Our emphasis]

As much as the Fed has bent-over-backwards to downplay the liquidity-impairing effects of QT, the facts simply do not support this contention.

For much of the middle of 2018, the Fed's balance sheet runoff proceeded at the pace of $30-$35 billion per month. Then, as Mr. Ferguson highlights, in the 31 days from the last day of October to the last day of November, the schedule of maturing assets stacked up to drive the QT total to a massive $79 billion ($32B on 10/31, $25B mid-month and $22B during the last week of November). During the next three weeks, the S&P 500 declined over 15% and 10-year Treasury yields declined 46.2 basis points. Coincidence?

Since Chair Yellen's QT Launch in September 2017, FOMC participants have stated unequivocally that the Fed's balance sheet is not a tool contemplated for future execution of monetary policy. On 2/8/18, San Francisco Fed President Mary Daly seemed to throw these proclamations on the growing waste heap of Fed guidance in stating (following a Bay Area Council Economic Institute speech),

> "In the financial crisis, in the aftermath of that when we were trying to help the economy, we engaged in these quantitative easing policies, and an important question is, should these always be in the tool kit—should you always have those at your ready—or should you think about those only as tools you use when you really hit the zero lower bound and you have no other things you can do. You could imagine executing policy with your interest rate as your primary tool and the [Fed's] balance sheet as a secondary tool, but one that you would use more readily. That's not decided yet, but it's part of what we are discussing now."

Whether as a result of deception or incompetence, Fed stewards appear to be moving the goal-posts on telegraphed policy in dramatic fashion. Complicating the Powell Fed's increasingly shaky reputation for candor, news emerged in early February that Chairman Powell and Vice Chairman Richard Clarida had traveled to the White House for a private dinner with President Trump and Treasury Secretary Mnuchin on the evening of 2/3/19. A few days later on 2/6/19, Chairman Powell addressed a town hall gathering of teachers at the Fed with an unusual observation,

> "Surveys show that all over the world people are losing faith in large institutions, so we are paddling against the current in trying to sustain public faith in the Fed."

We would agree with Chairman Powell's refreshingly forthright assessment.

6. Deteriorating U.S. Fiscal Position

One of the least kept secrets in global financial markets is the deteriorating fiscal position of the United States. Everyone knows the Trump Administration's Office of Management and Budget (OMB) now forecasts $1 trillion-plus budget deficits in fiscal 2019, 2020 and 2021. Everyone knows OMB assumptions for GDP growth in those years are likely a bit optimistic (3.2%, 3.1% and 3.0%). And everyone knows post-tax-cut federal receipts are already lagging advertised projections. By way of example, the Committee for a Responsible Federal Budget estimates that, despite 2018 nominal GDP of 5% and real GDP near 3%, federal tax revenues during calendar 2018 ***declined*** 3.6% in nominal terms, 5.4% in real terms, and 8.1%

as a percentage of GDP. Given the high-octane gamble of Trump tax cuts, it is pretty clear that from a "flows" perspective, even a mild recession threatens to shake U.S. finances completely off the rails.

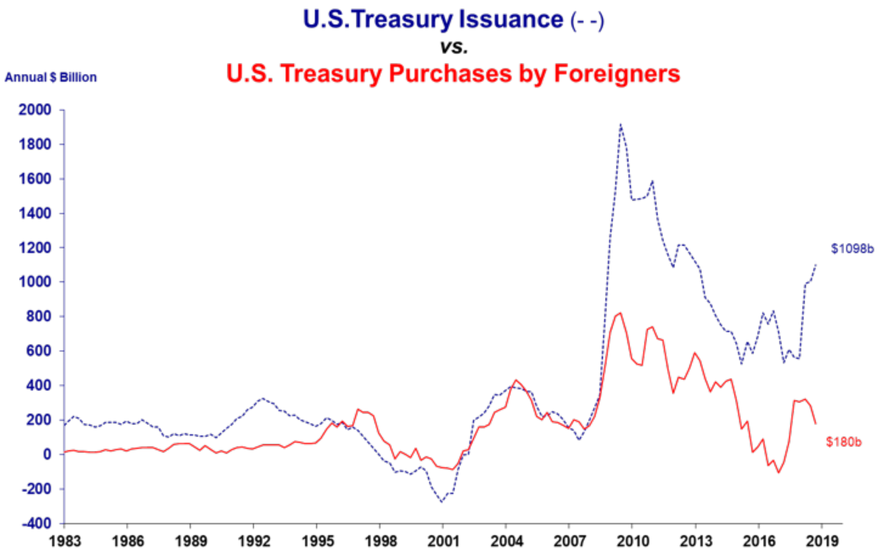
From a "levels" perspective, the U.S. Treasury reported 2/11/19 that total U.S. debt surpassed $22 trillion for the first time, just 11 months after first cracking $21 trillion. By way of context, total U.S. debt has now risen by more than $2 trillion during the Trump presidency, after surging $9.3 trillion during the Obama administration (a near double). And just for the nostalgic, 2018 federal tax receipts ($3.4 trillion) logged in at ***5.7 times*** their 1981 level ($600 billion), while total federal debt ($22 trillion) towered ***24.4 times*** its 1981 level ($900 billion). Amazing!

Figure 11: Trailing 12-Month Sum of Foreign Official Treasury Purchases (1992-2018)

Source: U.S. Treasury TIC Report; Meridian Macro.

During the past 20 years, it has been famously counterproductive to worry about debt levels. It remains impossible to predict when investors will actually ***care*** about well-disseminated federal deficit metrics. History and academic study suggest debt-to-GDP approaching 100% is frequently a watershed level impeding productive growth. While U.S. economic stature certainly defies generalized academic ratios, there is no escaping the monthly verdict of foreign purchases of U.S. Treasuries. Figure 11, displays the most current information from the U.S. Treasury's shutdown-delayed December Treasury International Capital (TIC) Report. The ongoing liquidation of U.S. Treasuries by foreign central banks, in process for three years, has clearly reaccelerated in recent months, with the trailing 12-month reduction now totaling ***$179 billion***.

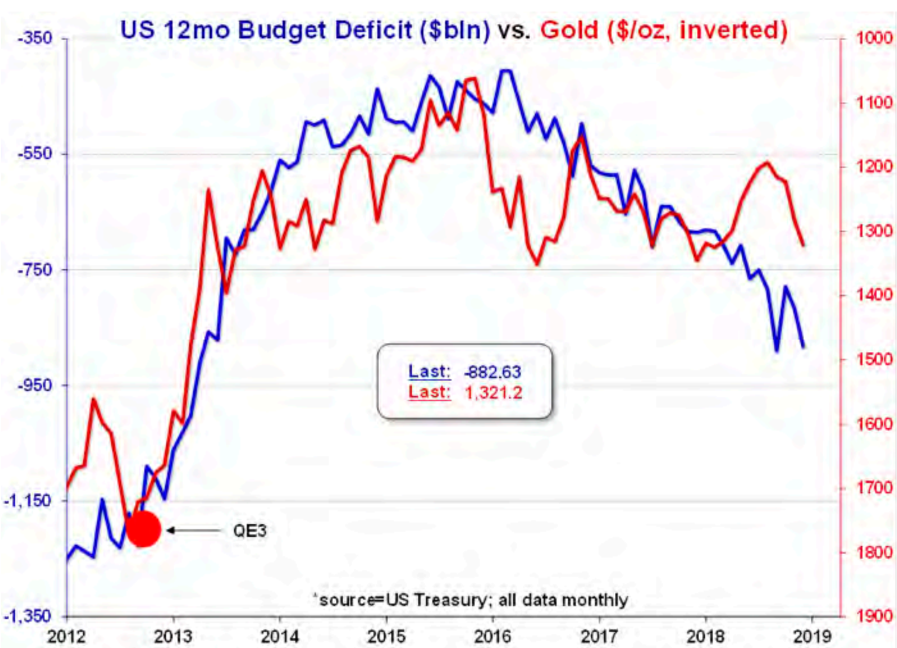
Figure 12: Trailing Four Quarter Sums for Total U.S. Treasury Issuance versus Total Foreign Treasury Purchases (1983-2018 Q3)



Source: Fed Z.1 Report; MacroMavens.

In the grand scheme of international finance, $179 billion may not seem especially material, until viewed in context of burgeoning Treasury ***issuance***. As MacroMavens reminds us, in Figure 12, the trailing 12-month gap between total Treasury issuance and total foreign purchases of Treasuries (adding private interests to central bank activity) now measures $918 billion, an amount exceeded only once in history—at the inky depths of the GFC. Throw in the Fed's aspirations for further balance sheet runoff, and, in the timeless words of Tea Leoni (*Fun with Dick and Jane*), "We're in a bit of a pickle, Dick."

Figure 13: Spot Gold (Inverted) versus Trailing 12-Month Federal Budget Deficit (2012-1/31/19)



Source: U.S. Treasury; Meridian Macro.

While it is difficult to predict who will step up to fund gnawing U.S. budget deficits over the next several years, it is hard to argue that the deteriorating U.S. fiscal position will not spark, at some undetermined but proximate juncture, a ***significant*** rally in the gold price. As shown in Figure 13, since the launch of QE3, the spot gold price (inverted) has remained tightly correlated to the trailing 12-month U.S. budget deficit. Should this correlation hold true as the OMB's $1 trillion deficits start to crystalize by September 2019, a $1,600-or-thereabouts gold price appears in the cards by Christmas.

7. Gold Versus U.S. Dollar as Strategic Reserve

During our years in the gold space, we have learned that nothing clears out a conference room quicker than disparaging comments about the U.S. dollar. Especially in the U.S., faith in the dollar-standard system remains unflinching. Trademark reasoning suggests foreign capital has little choice but to participate in America's "deep and liquid" capital markets. Cognizant of the potential for self-impeachment, we have dispassionately chronicled in recent years growing global resentment over the unilateral and destabilizing impacts of the dollar-standard system.

Among countless examples of global instability directly caused by Fed policy, we cite in preeminent example the global taper tantrum ignited by Fed Chair Bernanke's mere mention in May 2013 Humphrey Hawkins testimony that the Fed could potentially "step down" the pace of QE3 asset purchases if labor markets continued to improve. Focusing just on one country, the Indian Rupee lost 25% of its value against the U.S. dollar in the following 90 days. In a country of 1.3 billion people with annual per capita income around US$1,600, food accounts for roughly 40% of total consumer price index (CPI). Most foodstuffs are imported and are generally priced in dollars. It is hard for Westerners to grasp the enormity of the imposition, but offhanded comments by a Fed Chairman wiped out one-quarter of the U.S. dollar purchasing power of the world's second most populous nation in three months.

Historical burdens endured around the globe from unilateral impacts of Fed policy pale in comparison to President Trump's outright ***weaponization*** of the U.S. dollar. In one particularly notable example in April of 2018, Russian resentment of President Trump's capricious sanctions on selected Russian companies spurred the Russian central bank to liquidate $81 billion of Treasuries in the span of six weeks. As one would expect, Russia stepped up its gold purchases during the year, buying 274.3 tonnes, its 13th straight year of net purchases and the largest annual increment on record.

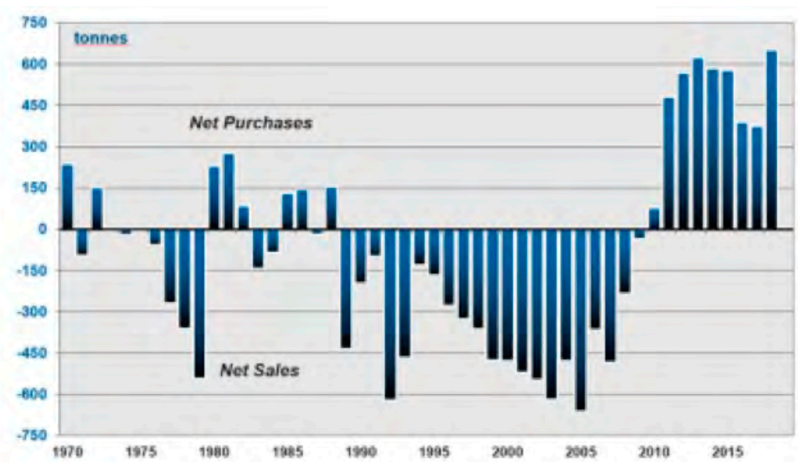
The United States has long stood as the world's beacon of freedom, equal rights and individual opportunity. It is therefore increasingly awkward that one of the busiest federal websites has become the U.S. Treasury's Office of Foreign Assets Control (OFAC) https://www.treasury.gov/resource-center/sanctions/sdn-list/pages/default.aspx. At this web address, Treasury updates its burgeoning list of countries and individuals sanctioned by the Trump administration. Along with levying metal tariffs on Canada, Mexico and the EU, the Trump administration has now imposed sanctions, all or in part, on no fewer than 24 countries: Belarus, Burundi, Central African Republic, China, Colombia, Congo, Cuba, Iran, Iraq, Lebanon, Libya, Nicaragua, North Korea, Pakistan, Russia, Somalia, Sudan, South Sudan, Syria, Turkey, Ukraine, Venezuela, Yemen and Zimbabwe.

Additionally, the list of U.S.-sanctioned ***individuals*** around the globe includes citizens of virtually every country (including Germany and Switzerland) and now numbers some 6,300 people. As if Triffin dilemma strains were not burdensome enough for the archaic dollar standard system, President Trump is now expanding the dollar's role well past being a stable unit of account or serving as a global reserve currency, to becoming a ***blunt instrument for punishment of nations not on board the Trump agenda***. Are dollar bulls so patriotic they believe the world has no choice but to accept a global monetary framework subject to borderline blackmail?

Whatever one's view of the Trump administration may be, there is no question that President Trump's penchant for sanctions has energized longstanding rancor towards the dollar-standard system. As recently as 2000, 72.7% of global foreign-exchange (FX) reserves were denominated in U.S. dollars. By the tail-end of the GFC, this percentage had declined to 65.2%. By year-end 2018, U.S. dollar-denominated assets had shrunk to 61.9% of the roughly $11.4 trillion stock of global FX reserves. We would posit that the importance of declining utilization of dollar-denominated assets by global central banks has less to do with direct supply/demand impacts in currency markets than with the symbolic impact on the dollar's hegemonic status.

Throughout the history of central banking, gold has always served as enduring foil to the U.S. dollar. Especially during the decade of the 1990's, global infatuation with U.S. financial assets was manifested in central banks' growing disenchantment with "nonproductive" bullion reserves. As shown in Figure 14, global central banks liquidated 8,000 tonnes of gold reserves (one-fifth their total holdings) between 1989 and 2009. In fact, by 1999 the central bank gold-liquidation impulse had become so disorderly, central banks voluntarily entered into the Washington Agreement on Gold, which limited gold sales by signatories to 400 tonnes per year.

Figure 14: Annual Net Gold Purchases/Sales by Global Central Banks (1970-2018)



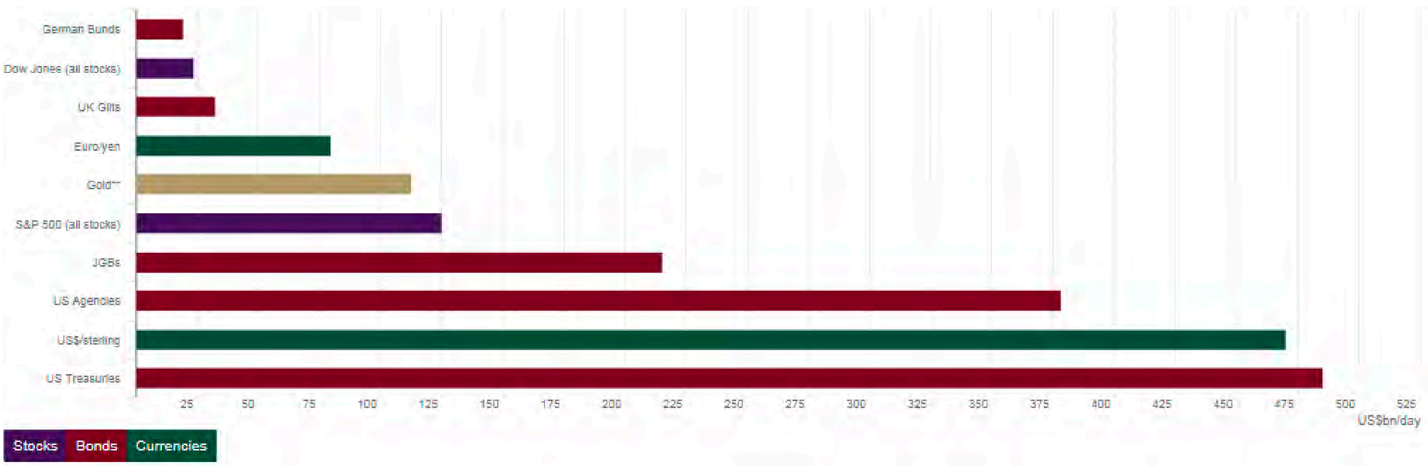
Source: Murenbeeld & Co.

One interesting outgrowth of the GFC, made in America but exported around the world, was a distinct downtick in the U.S. dollar's global standing. As the dollar's share of global FX reserves has declined as described above, gold has been a reciprocal beneficiary. Beginning 2010, global central banks reversed a 21-year consecutive streak of liquidation and became net purchasers of gold, accumulating some 4,330 tonnes through 2018. Likely influenced by Trump sanctions, net central bank gold purchases in 2018 soared to 651.5 tonnes, a 74% increase over the 2017 total, and the largest annual total in over half a century, second in history only to 1967's 1,404 tonnes.

Do we perceive investment significance in the fact that 2018 central bank gold purchases were the highest since suspension of dollar/gold convertibility in 1971? We absolutely do. However, we want to be clear that the importance of central bank gold accumulation, as with U.S. dollar reduction, is always more ***symbolic*** than fundamental. First and foremost, in allocating FX reserves, central banks send important signals to markets about relative safety of currency alternatives. Whenever gold allocations are on the rise, central bank authority is augmenting the money-ness of gold in financial markets.

Second, the total value of 2018 central bank gold accumulation ($26.6 billion at 2018 average spot) represents a tiny fraction of both global FX reserves and daily trading volumes in gold markets. While hardly chump change, $26.6 billion constitutes a rounding error of 0.2% of the $11.397 trillion total value of global FX reserves (9/30/18), and less than ***one-fourth the value of a single day's trading in global gold markets***. As shown in Figure 15, the World Gold Council estimates that 2018 average daily trading volumes in gold markets approximated $110 billion (including over-the-counter (OTC) transactions, futures exchanges and gold ETF's).

Figure 15: Estimates for 2018 Average Daily Trading Volumes for Various Global Financial Assets
(Average daily trading volumes in US$* – 12/31/17)



Source: World Gold Council.
* Based on estimated annual average trading volumes as of 31 December 2017, except for currencies that correspond to 2016 volumes due to data availability.
**Gold liquidity includes estimates on over-the-counter (OTC) transactions, and published statistics on futures exchanges, and gold-backed exchange-traded products.

Third, increases in central bank bullion holdings have almost no direct connection to day-to-day market dynamics for spot gold. To the degree central banks interact with public markets at all, they are notoriously passive in ***acquiring*** gold, generally serving as a bid of last resort. More important, the handful of countries representing the majority of official gold accumulation in recent years (Russia, China, and Kazakhstan) ***rarely*** acquire gold through public channels. Rather, these countries augment official reserves through closed domestic loops with local gold producers and financing banks. In essence, the gold being mined is directly financed by the central banks and might otherwise not have been developed.

For all of these reasons, the importance of central bank gold accumulation has less to do with supply/demand fundamentals than it does with market signals being sent by acquiring nations. It is not a stretch to categorize central bank gold purchases as the reciprocal of reigning faith in the dollar-standard system. In this regard, the history of public disclosure of China's official gold holdings serves as illustration without peer. For the first 11 months of 2002, China's reported official gold holdings rested at the round figure of 500 tonnes. Then, on 11/21/02, Fed Governor Ben Bernanke delivered perhaps the most seminal monetary speech in history, entitled, "*Deflation: Making Sure it Doesn't Happen Here*." The now infamous punch line of Governor Bernanke's remarks went as follows:

> "Like gold, U.S. dollars have value only to the extent that they are strictly limited in supply. But the U.S. government has a technology, called a printing press (or, today, its electronic equivalent), that allows it to produce as many U.S. dollars as it wishes at essentially no cost. By increasing the number of U.S. dollars in circulation, or even by credibly threatening to do so, the U.S. government can also reduce the value of a dollar in terms of goods and services, which is equivalent to raising the prices in dollars of those goods and services."

As a large holder of U.S. Treasuries, China was stunned by such open endorsement of dollar debasement by a Fed official and, clearly in protest, announced a 20% increase in official gold holdings ***the following month*** (to 600 tonnes). China then remained silent about its gold reserves for over ***six years***. At the 3/18/09 FOMC meeting, the Fed shocked the world in announcing that QE1 asset purchases would be broadened from mortgage backed securities to Treasuries. On this occasion, stunned the Fed was adopting the nuclear option of debt monetization, Chinese officials announced at 10:00 am EST on the Friday preceding the subsequent April FOMC meeting a 75% increase in official gold holdings (to 1,054 tonnes). China then remained silent about its gold reserves for another ***six years***.

During the summer of 2015, as China was lobbying for yuan inclusion in the IMF's special drawing right (SDR) reserve, it became apparent China would be required to disclose full configuration of its FX reserves, including gold, in advance of an October IMF Board Meeting on SDR composition. Beginning June 2015, China's State Administration on Foreign Exchange published monthly updates increasing China's gold reserves by amounts ranging from five to twenty tonnes per month. In November 2015, the IMF approved a 10.92% yuan weighting in its SDR beginning 10/1/16. Captive to no illusions, China re-suspended monthly updates on its gold reserves the very month yuan inclusion became effective, in October 2016 (at 1,842.56 tonnes). China then resumed silence about its gold reserves for over ***two years***.

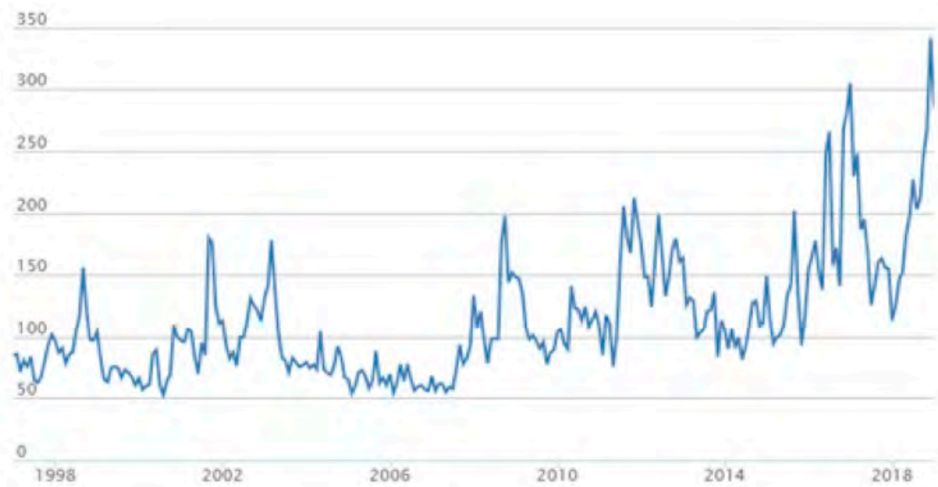
Now, lo and behold, in the midst of a trade spat with President Trump, China has seen fit to resume updating of its gold reserves in December (+10 tonnes) and January (+11.8 tonnes). With respect to Chinese official gold holdings, we hold two strong opinions. First, we reckon China's actual holding is ***significantly*** higher than its publicly disclosed figure, and State Administration of Foreign Exchange (SAFE) will share the true amount when it best suits the PBOC's perceived interests for the yuan. Second, for SAFE to resume gold updates in recent months signals to us an important PBOC policy directive is imminent, and probabilities suggest it will not be dollar supportive! Given the PBOC's recent explosion of domestic credit creation, perhaps recent gold updates are simply designed to lessen imputed impact on yuan valuation. Only time will tell.

8. Global Policy Uncertainty

Since 2016, the twin shocks of Brexit and the Trump Presidency have bookended near continuous political turmoil in global markets. Investors have become inured to the daily twists and turns of President Trump's seemingly erratic decision-making and Prime Minister May's Sisyphean negotiations with both the EU and her own Parliament. Indeed, investors' increasingly thick skin to political headline risk may be leading to underestimation of potential black swans forming on the horizon.

On a global perspective, Brexit anxiety, festering trade disputes and on-again-off-again U.S. government shutdown drama had driven a popular gauge of global policy uncertainty into uncharted waters by year-end 2018. As shown in Figure 16, the Global Economic Policy Uncertainty Index (GEPU), a joint project between Northwestern University, Stanford University and University of Chicago, registered a new all-time high of 341.46 this past December. On 1/15/19, Deutsche Bank Chief Economist Torsten Slok offered his interpretation of the new GEPU high, "Expect more dovishness from global central banks as long as uncertainty persists."

Figure 16: Global Economic Policy Uncertainty Index (1/1/97-1/1/19)



Source: Economic Policy Uncertainty Project.

Here at home, President Trump received high marks for his unusually cordial tone during his recent State of the Union address. Nonetheless, the nine national polls tracked by Real Clear Politics averaged only a 42.4% job approval rating for President Trump during the period ended 2/10/19, dangerously low for a third-year incumbent. On the sign-curve of potential political outcomes, two previously outlying probabilities, for either pre-2020 impeachment or a 2020 Democratic sweep, are on the rise. With respect to impeachment, should President Trump's approval rating continue to languish, his penchant for upping the ante on unprecedented behavior might conceivably dislodge enough moderate and beleaguered Republican Senators to oust Trump with a "patriotic" impeachment conviction.

On the other side of the coin, Democratic policy prescriptions are currently evolving well past nameplate socialism to something more akin to pitchfork retribution. Presidential hopeful Elizabeth Warren's economic platform includes a top tax rate of 70% on incomes above $10 million and an ***annual*** wealth tax of 2% on net-worth over $50 million, and 3% on net-worth over $1 billion. Lest such confiscatory tax policies appear out-of-sync with bedrock U.S. values, a 2/11 POLITICO/Morning Consult poll found that 76% of registered voters believe that the wealthiest Americans should be paying more in taxes, and a 2/2/19 poll by the same firm found that 61% of registered voters would support the draconian parameters of Senator Warren's wealth tax (only 20% opposed).

In a recent *New York Times* op-ed, Senators Chuck Schumer and Bernie Sanders proposed barring U.S. corporations from repurchasing their own shares until adopting dictated minimums for hourly wages and sick leave, while offering "decent pensions and more reliable health benefits." Reflecting the popularity of anti-big-money sentiment in Washington, Senator Marco Rubio surprised Republican colleagues with his own policy prescription to address the perceived labor disenfranchisement implicit in soaring share repurchase (in the wake of tax-cut repatriation). Apparently contemplating a populist self-makeover, Mr. Rubio proposed on 2/12/19 that all corporate funds directed towards share repurchase be taxed as ordinary dividends to remaining shareholders. Given the outsized contribution of buybacks in the aggregate performance of the S&P 500 in recent years, Mr. Rubio's tack should be sounding alarms with equity bulls:

> "Right now we don't have a free market. We have a tax code which engineers our economy in favor of inflating prices of shares at the expense of future productivity and job creation."

Never to be outdone, freshman Congresswoman Alexandria Ocasio-Cortez's Green New Deal promises every American free education, healthy food, a house and a government-guaranteed job, as well as "economic security" for anyone "unable or unwilling" to work. Increasingly radical redistribution concepts no longer need pose under the guise of fiscal coherence due to the liberating powers of Modern Monetary Theory (MMT). This (enabling) heterodox macroeconomic theory suggests U.S. currency is a public monopoly and, therefore, governmental spending need never be limited by such trivial considerations as government revenues—the money can just as easily be printed in the name of the public good.

We cite two final vignettes emblematic of the gathering political momentum behind America's "war on wealth." First, on 2/6/19, the *New York Times* published an op-ed entitled, *Abolish Billionaires*, which made the concerted case that the United States should not permit any U.S. citizen to become worth more than $1 billion. Author Farhad Manjoo argued:

> "Billionaires are bad. We should presumptively get rid of billionaires. All of them…At some level of extreme wealth, money inevitably corrupts. On the left and the right, it buys political power, it silences dissent, it serves primarily to perpetuate ever-greater wealth, often unrelated to any reciprocal social good…Billionaire abolishment could take many forms. It could mean preventing people from keeping more than a billion in booty, but more likely it would mean higher marginal taxes on income, wealth and estates for billionaires and people on the way to becoming billionaires."

Second, upon learning that Amazon had canceled plans to develop a massive Long Island City headquarters (in the wake of public protest over $3 billion worth of incentives and tax breaks), Representative Ocasio-Cortez gushed in gleeful tweet,

> "Anything is possible: today was the day a group of dedicated everyday New Yorkers & their neighbors defeated Amazon's corporate greed, its worker exploitation, and the power of the richest man in the world."

Seemingly lost on Ms. Ocasio-Cortez is the depressing reality that, in blindly fighting over tax-break issues "extremely concerning" to her constituents, she has just deprived her fellow New Yorkers of 25,000 to 40,000 high-paying jobs and $30 billion in new revenue to fund transit improvements, new housing, schools and countless other quality of life improvements. ***Way to go, O.C.!***

In the current political environment, attacking the rich has become every bit as politically expedient as championing the poor. In constructing a portfolio capable of withstanding the veritable minefield of contemporary politics, gold seems like a pretty wise hedge.

9. Dormant Volatility

Important components of the 2019 gold investment thesis are the lingering imbalances from eight years of QE and ZIRP. Artificially depressed interest rates ***always*** distort time preferences and foster malinvestment. In the instance of the post-GFC Fed, these imbalances have become epic in size and scope. After all, the Bernanke Fed ***intentionally*** ignited the most concerted and far-reaching search for yield in modern financial history. Lasting monuments to this era of unbridled credit creation are now the $11.4 trillion obelisk of ***offshore*** U.S. dollar-denominated debt (Bank for International Settlements – BIS) and ***onshore*** evisceration of corporate balance sheets now saddled with $9.6 trillion in total debt (up 70% since 2006) mainly directed towards share repurchase. The impact of ZIRP has reshaped every facet of the global economy, from negative amortization of U.S. auto loans to soaring student loan debt to lengthening of global supply chains.

Given the extended length of the ZIRP era, it will take years, if not decades, for the global economy to readjust to normal pricing for money and credit. Further, the Herculean process of rebalancing paper claims to underlying productive output will inflict enormous pain in the form of rationalization of non-productive credits (defaults). A leading byproduct of eight years of unconventional monetary policy has been profound suppression of volatility in financial asset markets. In retrospect, 2017 appears to have represented the peak interval of volatility suppression. Through early February 2018, the S&P 500 Index had posted a record-setting streak of 404 consecutive trading days without a 5% correction. During the fall of 2017, as shown in Figure 17, the VIX Volatility Index set record after record for depth and duration of volatility lows (**red circle**).

Deutsche Bank's Craig Nicol documented that an all-time, 116-year high of ***98%*** of tracked global assets increased in value during 2017 (lone decliner Philippine bonds). Quite literally, with respect to financial market volatility, it can't get any better than 2017!

Figure 17: Chicago Board Options Exchange SPX Volatility "VIX" Index (1/3/00-2/15/19)

Source: Bloomberg.

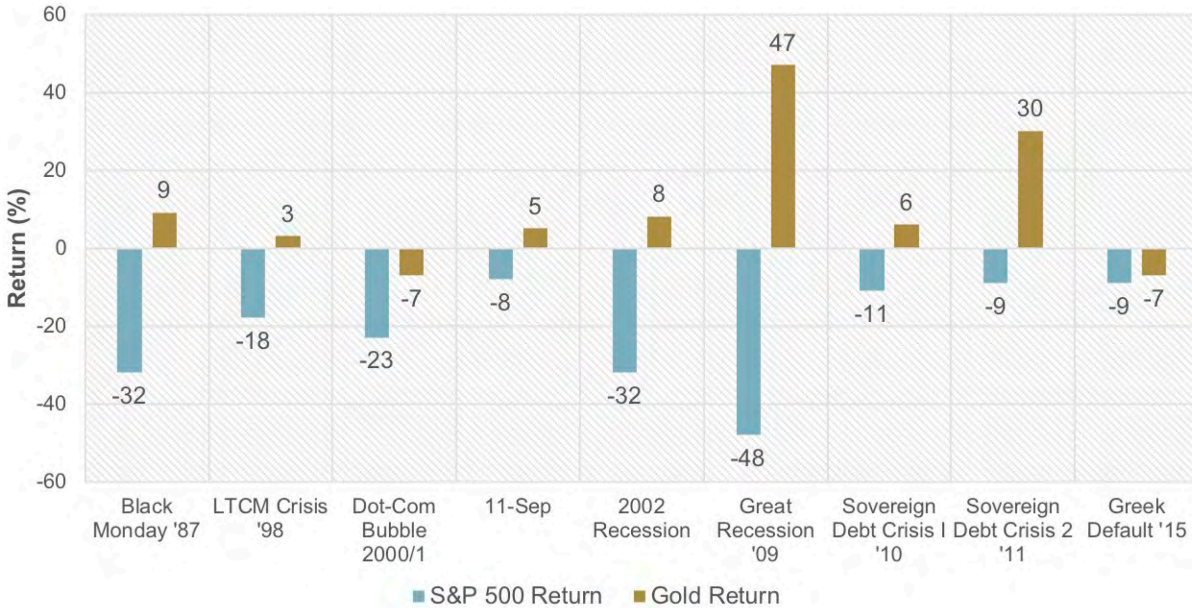
During 2018, U.S. equity markets finally experienced a few distinct outbreaks of volatility. In early February, the S&P 500 posted a two-week 10.16% decline and the VIX Index touched 50.30. On October 10 & 11, the S&P 500 fell 5.27% and the VIX touched 28.84. Aside from the glaring coincidence that both selloffs occurred during market blackout periods for share repurchase, consensus quickly branded both episodes as isolated results of "exploding reverse-VIX ETF's" and "computer-driven option gamma hedging," respectively.

At Sprott, we are adherents to the theory that volatility generally signals change. We believe isolated outbreaks of volatility during 2018 served as early signposts of profound change in financial markets (the unwinding of eight years of volatility-suppressing QE and ZIRP). What is being vastly underestimated by investor consensus is the stored force of volatility suppression during these past eight years. By way of example, on the evening of 1/2/19, lowered guidance from Apple ignited a 4.43% spike in the yen/dollar exchange rate in the span of five minutes. On 2/10/19, after weeks of barely budging, three-month USD Libor plunged by over four basis points, its biggest one-day move since the GFC. We expect these types of dislocations to prove increasingly common in future periods as the volatility-suppressing effects of eight years of QE and ZIRP wear off. Along the way, we view gold as a stabilizing portfolio component.

10. Gold as Non-Correlating Portfolio Asset

In documenting an objective record of gold's portfolio utility, one logically begins with gold's traditional profile as safe-harbor asset. It goes without saying that gold's safe-haven reputation accrues from bullion's established history of relative outperformance during periods of financial stress. As shown in Figure 18, gold has done a masterful job of insulating portfolio capital from sharp declines in U.S. equities during the past three decades of financial crises.

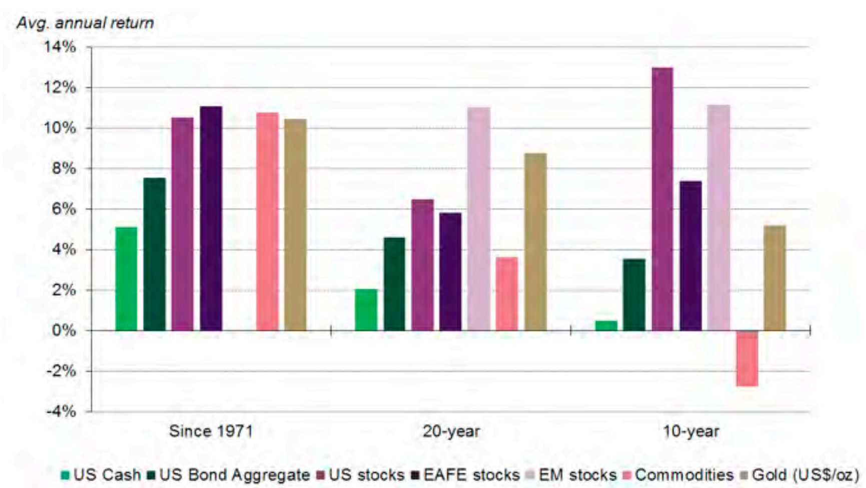
Figure 18: S&P 500 Index versus Spot Gold During "Crisis" Periods (1987-Present)



Source: World Gold Council. Dates used: Black Monday: 9/1987-11/1987; LTCM: 8/1998; Dot-Com: 3/2000-3/2001; September 11: 9/2001; 2002 Recession: 3/2002-7/2002; Great Recession: 10/2007-2/2009; Sovereign Debt Crisis I: 1/2010-6/2010; Sovereign Debt Crisis II: 2/2011-10/2011; Greek Default: 6/2015-9/2015.

Somewhat less heralded is the fact that ***gold's portfolio-insurance benefits accrue with no long-term performance penalty*** versus traditional asset classes. As shown in Figure 19, gold's performance over standard look-back periods since 1971 approximates that of U.S. equities, and exceeds other broad asset categories.

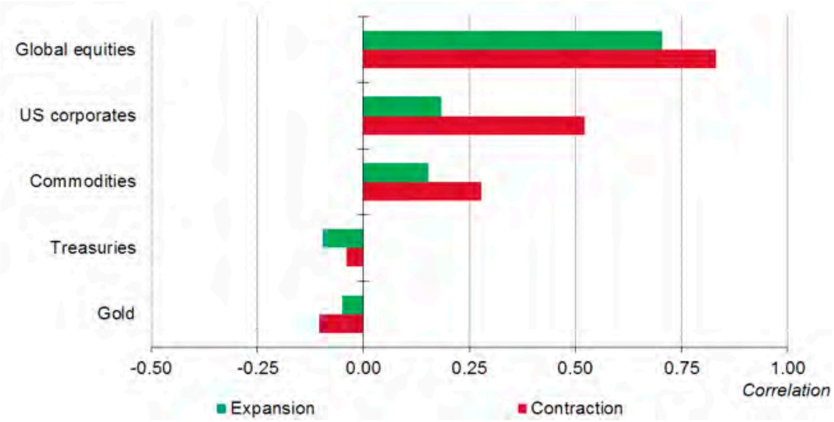
Figure 19: Long-term Average Annual Returns of Gold Bullion versus Traditional Asset Classes
(Trailing 10-years, Trailing 20-years and Since-1971, all through 2018)



Source: Bloomberg, ICE Benchmark Administration, World Gold Council. As of 31 December 2018. Based on total returns indices including MSCI US, MSCI EAFE, MSCI EM, JPMorgan 3-Month US Cash, BarCap US Bond Aggregate, Bloomberg Commodity for the 10- and 20-Year Average, and S&P Goldman Sachs Commodity since 1971 due to data availability. Gold performance based on the LBMA Gold Price. Data between January 1971 and December 2018.

As the investment-advisory business has become more scientific, amid increasingly frequent financial shocks, the holy grail of portfolio allocation has become the overarching search for ***non-correlating assets***. Methodologies for identifying and measuring non-correlating assets are in no short supply. However, a routine calculation employed by contemporary risk managers is stress-testing portfolio components under simulated conditions of both positive and negative economic trends. As shown in Figure 20, correlations between the S&P 500 Index and other global asset classes tend to increase during economic contractions.

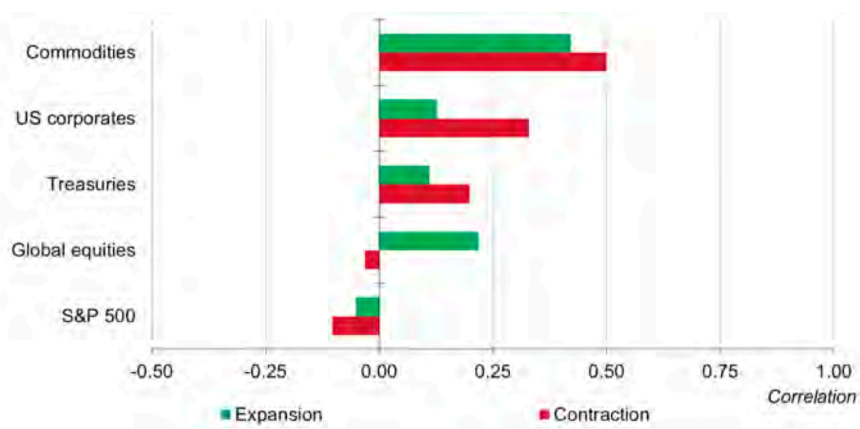
Figure 20: Correlation of U.S. Equities to Traditional Financial Assets & Gold during U.S. Economic Expansions & Contractions (1987-2018)



Source: Bloomberg, National Bureau of Economic Research, ICE Benchmark Administration, World Gold Council. As of 31 December 2018. Based on monthly returns from January 1987 to December 2018 of the S&P 500, MSCI ACWI ex US, BarCap Treasuries and Corporates, Bloomberg Commodity Index and LBMA Gold Price. Business cycles as defined by the National Bureau of Economic Research (NBER).

Conversely, ***gold's correlation to traditional asset classes remains uniquely low during periods of both economic expansion and contraction***. In other words, gold's portfolio-diversification benefits are not solely dependent on bad news.

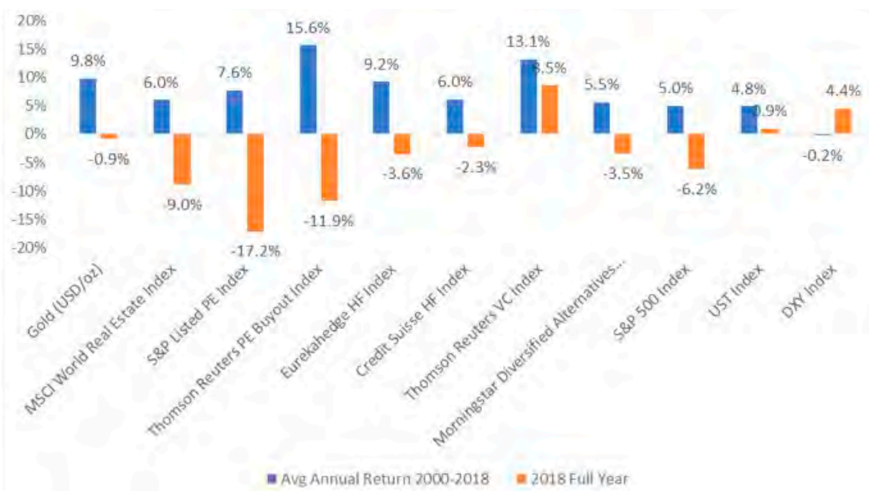
Figure 21: Correlation of Spot Gold to Traditional Financial Assets during U.S. Economic Expansions & Contractions (1987-2018)



Source: Bloomberg, National Bureau of Economic Research, ICE Benchmark Administration, World Gold Council. As of 31 December 2018. Based on monthly returns from January 1987 to December 2018 of the S&P 500, MSCI ACWI ex US, JPMorgan US Treasury Index, BarCap Corporate Bond Index, S&P GS Commodity Index and LBMA Gold Price. Business cycles as defined by the National Bureau of Economic Research (NBER).

Institutional focus on non-correlating assets has directed trillions-of-dollars of investment capital towards hedge funds and specialized investment partnerships in disciplines such as real estate, private equity and venture capital. A more recent trend, however, has been mounting investor backlash against elevated fees charged by alternative managers in the context of mediocre investment returns (not to mention onerous liquidity and lockup provisions). In short, a marquee consideration for today's pension and endowment stewards has become whether the fees, lockups and obfuscation of alternative investments are truly worth their while.

Figure 22: Average Annual Percentage Returns for Spot Gold versus Selected Alternative Asset Indices
(2018 Full Year and 2000-2018)



Source: World Gold Council.

It is illuminating to compare the performance of gold bullion directly against the performance of prominent indices of alternative-investment vehicles. Portfolio allocations to gold incur no incentive fees, no liquidity or lockup provisions and no onerous due diligence or cumbersome redemption obligations. As documented in Figure 22, ***gold bullion has more than held its own against returns of high-profile alternative-investment indices, both during the recent past (2018), as well as over the long run (2000-2018)***.

Figure 23: Correlations between Alternative Asset Indices and S&P 500 Index, U.S. Treasuries and Spot Gold
(Monthly Data Trailing 10-years through 2018)

Source: World Gold Council.

Even more challenging to industry status quo, ***gold bullion has rivaled the performance of alternative asset indices while simultaneously displaying far lower correlation to these vehicles than either stocks or bonds***. As shown in Figure 23, the correlation between prominent alternative asset indices and the S&P 500 Index has averaged ***80%*** over the decade through 2018. By way of comparison, the 10-year correlation between these same indices and spot gold has averaged just ***9%***. At an 80% correlation-rate with U.S. equities, high-priced and unwieldy alternative vehicles seem hardly worth their freight.

We thank you for your diligence in reviewing our Top Ten List of fundamentals supporting a portfolio allocation to gold in 2019. While this has been an exhausting exercise, we expect gold's 2019 performance to more than justify the effort!

We look forward to visiting with Sprott clients and prospects at their convenience to review their 2019 commitments to the precious-metal space.

Sincerely,

Trey Reik
Senior Portfolio Manager
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Sprott is a global alternative asset manager with a defining focus on precious metals and real assets investments. Through our subsidiaries in Canada, the U.S. and Asia, Sprott is dedicated to providing investors with world-class investment strategies that include exchange-listed products, active equity strategies and highly-specialized real asset investments. Our deep sector expertise creates investment and financing solutions unparalleled in the industry.

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