STRATEGIC OUTLOOK

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Strategic Frontier Management
Fourth Quarter 2018

US RESILIENCE & MONETARY DEPENDENCY

- Investors continue to face a tug-of-war between stronger US economic and earnings growth versus higher inflation, rising interest rates, and policy uncertainty. Fiscal and regulatory reforms enhanced potential growth and competitive advantage, but growth in other countries is disappointing. A *Global New Order in US Trade Policy* will boost export growth further with new trade agreements. However, *Monetary Dependency* has unnerved investors, concerned about even higher interest rates. Other countries continue to manipulate their interest rates and currencies for little benefit, yet there are indications some may follow suit on fiscal reforms. In spite of many uncertainties, we closed within 1% of our S&P 500 year-end target of 2950 on Sept. 26th.
- US economic growth has accelerated, as others languished this year. Boosting America's potential growth from 2 to 3% reflects increased economic efficiency and global competitiveness. Recurring secular benefits from tax and regulatory reform are rooted in changing incentivized behaviors persisting for decades. Productivity increases with business investment, yielding lasting competitive advantages, which should encourage other governments or even states to mimic reforms.
- Extended explicit manipulation of interest rates and currencies can have adverse consequences. Recent spikes in volatility seem to reflect increasing M*onetary Dependency*. Central banks' extended use of unconventional monetary policies with *symmetric* inflation targeting risk explicit moral hazard. Shifting abnormal beliefs has affected cognitive behavior of global investors, lenders and borrowers. Be wary of risks, but don't exaggerate their importance.
- We don't expect the Federal Reserve to waver from hiking interest rates by ¼% every quarter and reducing bond holdings. Tightening monetary policy should continue until interest rates reach 3.5%, or evidence of a likely recession emerges. Other countries are following suit, although not as consistently or aggressively. Rising global rates might surprise investors in 2019.
- Rising Treasury yields caused equities to stumble repeatedly, but likelihood of a global bond correction is an increasing portfolio risk given a flat yield curve, overvalued bond market, tight credit spreads, and declining liquidity. If Treasury yields rise another 1% or more next year, interest rate sensitive exposures and safe havens, including high dividend yield, low volatility and gold, should continue underperforming. Gold, commodities, and cryptocurrencies should be avoided, as well as underweighting US bonds.
- New US trade policy imposed targeted tariffs for negotiating leverage that seeks to reduce trade barriers, although it also increased fears of a global trade war. Concern about adverse impact on global growth and inflation impact manifest as market volatility, but we don't expect tactical trade tariffs to persist for an extended period. Our recent op-ed in *The Hill* explains how this *New World Order in Trade* can reduce the US trade deficit with higher export growth, thereby boosting potential growth. Limiting trade barriers should promote free and fairer trade globally. Real progress is evident already with NAFTA, Korea, Japan, and Europe (both EU & UK).
- Equity valuations often correct when interest rates rise too swiftly, but the S&P500 is not extended. Economically driven yield increases in overvalued Treasuries yields will require investors to adjust their expectations about normalization. We expect quarterly rate hikes or 1% per year and $600B reduction in bond holdings to continue through 2019. The Federal Reserve is under new management, so policy decisions should respond to the economy.
- Our Global Tactical Asset Allocation return forecasts still suggest favoring global equities versus US bonds over the next year. We suggest a moderate tilt toward small-cap and non-US equities. Hong Kong particularly stands out. Our US equity forecast remains positive, despite strong equity returns, rising bond yields, and strong US dollar. Price/Earnings improve if earnings growth exceeds equity returns—high profit margins with increasing revenue growth yield earnings growth that supports further upside.

Illusion of Simplicity, Enduring Complexity

This quarter we focus on the causes and consequences of *America's Kevlar Resilience* in a rapidly changing world. Higher potential growth is adapting to changes in fiscal, regulatory, and now trade[1] policy reforms. Already high US profit margins have continued to climb. Increasing earnings and economic growth forecasts reflect increased visibility into 2020 and low probability of US recession for the foreseeable future.

US economic data remains strong and the S&P 500 returned over 320% since 03/06/09 low of 666. It has been a decade since the beginning of the Financial Crisis, so one might assume that equity markets total return or bull market duration are extended, before considering earnings growth. However, we don't believe US equities are overvalued, nor should the duration of the expansion concern us. Our preferred equity valuation measure is still constructive in most countries.

As this unloved Global Equity Bull Market approaches its decade milestone, skeptics are again raising concerns: (1) unsustainable economic growth, (2) peak earnings, (3) stretched equity valuations, and (4) tight monetary policy. Recently they added: (5) trade wars. The critique is familiar, but we still don't expect the US economy to experience recession that causes a decline in earnings. Some countries face their own unique challenges. Europe and Japan have little room to maneuver if a recession emerges with such low interest rates and central bank holdings nearly maxed out.

"Peak earnings" confuses level with growth rates. Growth rates may peak, but the level of earnings has no upper bound and US profit margins remain remarkable. Tax and regulatory reform increased potential growth, so efficiency gains are recurring, except for foreign earnings repatriation. Strong earnings growth and low interest rates kept US equity valuations in check. Some prefer using alternative valuations we evaluated and dismissed long ago to support their bearish outlook. Normalizing monetary policy is still accommodative with still slightly negative real interest rates. As discussed below, imposed trade tariffs were necessary to increase negotiating leverage, but we don't expect tariffs to be permanent or sustained long enough to cause harm to growth or increase inflation.

However, investors remain fixated on two risks:

1. **Monetary Dependency**: Investor response to normalizing interest rates plus quantitative tightening (reducing bond holdings) driving higher bond yields
2. **New Global Order in US Trade Policy** of imposing tariffs to establish negotiating leverage for new trade agreements.

[1] See our recent op-ed: *Trump's New World Order on Trade Holds Promise for the US* in *The Hill*

We've been taught that without the element of surprise, central banks have little to sway consumer or business sentiment. Increased Federal Reserve transparency in dot-plots and economic forecasts reduced behavioral effectiveness of policy changes---thus, uncertainty and policy surprises become initially more troublesome. Declining equity markets since October 3rd appear to have responded unfavorably to this hawkish policy shift. Quotes attributed to Fed Chairman Powell on that day, and followed up by other FOMC Members, suggest the Federal Reserve believes interest rates at least need to normalize and may even exceed neutral.

> *"The really extremely accommodative low interest rates that we needed when the economy was quite weak, we don't need those anymore. They're not appropriate anymore."*

> *"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."*

We suggest the US equity market's response to the pivot in Federal Reserve monetary policy is evidence of explicit hazards we warned about, which we will refer to as behavioral *Monetary Dependency*. Assuming the Federal Reserve might back-off from its normalization objectives, because of increased market volatility or declining bond yields, is precarious logic. Instead, investors might price a 0.5% or more long bond risk premium, steepening the yield curve beyond normal.

Members of the Board of Governors serve for 10 year staggered terms to limit political influence and reinforce independence. So, we don't give much credence to politicians seeking to influence the Federal Reserve. It is not surprising the President became concerned about Chairman Powell's comments, but he is not the first to favor lower interest rates to support economic activity.

Investors seem to get more freaked out these days by uncertainty or lack of visibility---assuming transparency is a right, even during sensitive negotiations. Congress and other country's leaders also are still adapting to the Trump Administration's methods. There is no budget for political capital anymore with multiple simultaneous agendas in play. Our hope is to offer some navigational guidance for the things that matter most to investors, including assessing the sources of investor uncertainty and geoeconomic risks. Our faith now rests on rising US potential growth and *US Resilience* made of Kevlar. US equities have outperformed non-US markets.

The rest of the world was impacted more than the US by imposed tariffs, particularly Emerging Markets. Yet, remarkable progress is evident in negotiating various trade agreements simultaneously with many countries. Declining labor intensity and rising labor costs reduced Emerging Markets global competitive advantage. In other words, secular themes that long supported Emerging Markets stronger growth may be subsiding.

Secular Stagnation[2] and *New Normal* hypotheses turned out to be a myth as disappointing growth was better explained by poor fiscal and regulatory policies since 2009 that undermined potential growth. Normal real growth of 3.0% was thought to be impossible after a prolonged period of just 1.8% real growth. We believe the Eurozone may still be limited to 2.0% and Japan to 1.0% potential growth, but not the US after fiscal and regulatory reforms. Some believe growth over 3.0% is "unsustainable", but appears to be just above average.

US Kevlar Resilient Economic Outlook

Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest his own way, and to bring both his industry and capital into competition with those of any other man.

–Adam Smith, *Wealth of Nations*, 1776

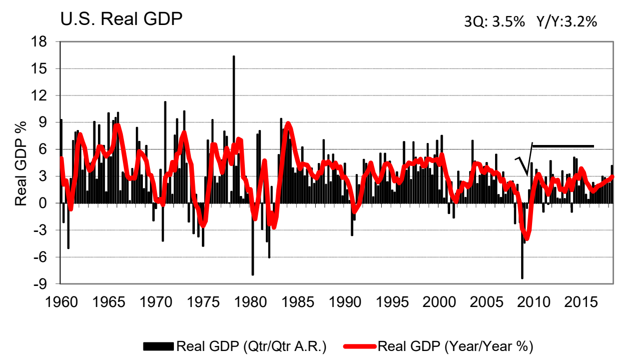
The essence of Capitalism is that freedom of choice enables individuals to get the most of what we desire. Greater individual freedom and less government control increases national economic efficiency, providing higher potential growth, prosperity, and standard of living. US profit margins and global competitive advantages have increased with stronger revenues driving earnings growth. Other country's profit margins declined and revenue growth slowed. Critical secular forces drive relative potential growth and thus return differences between countries, sectors, risk factors, and currencies. It is not surprising Emerging Markets have struggled, particularly China. Growth in Europe and Japan also disappointed.

Earlier this year, strategists embraced the thesis of a *Global Synchronized Economy*, yet differences in monetary, fiscal, regulatory and trade policy drove wider economic divergences between countries. Readers note we continue to embrace a more typical *Asynchronous Global Expansion*, as described five years ago for the reasons above. We expect economic variation, but investors do seem overly sensitive to M*onetary Dependency* and trade uncertainty. We also welcome the silencing of *Risk-On/Risk-Off* narratives, which we felt was overly simplistic and naïve.

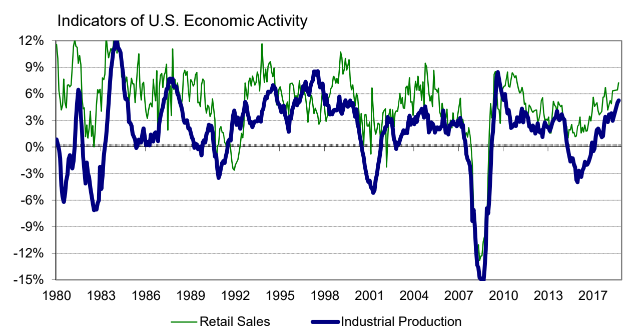
Economic Forecasts	**2014**	**2015**	**2016**	**2017**	**2018e**	**2019e**	**2020e**
GDP Growth (Y/Y Real)	2.7	2.0	**1.9**	**2.6**	**3.2**	**3.5**	**3.4**
S&P500 Earnings (Y/Y)	8.3	-1.1	**0.5**	**11.8**	**21.2**	**10.0**	**9.5**
CPI Inflation (Y/Y)	0.7	0.7	**2.3**	**2.5**	**2.7**	**3.0**	**3.0**
Unemployment	5.6	5.0	**4.7**	**4.1**	**3.8**	**3.9**	**4.2**
Fiscal Deficit (Def/GDP)	-2.7	-2.5	**-3.1**	**-3.5**	**-4.0**	**-4.2**	**-4.3**
Fed Funds Target[1]	0.25	0.50	**0.75**	**1.50**	**2.50**	**3.50**	**3.50**
10y Treasury Notes	2.17	2.27	**2.45**	**2.41**	**3.50**	**4.50**	**5.00**
S&P 500 Target	2059.	2044.	**2239.**	**2674.**	**2950.**	**3100.**	**3300.**

Source: Strategic Frontier Management

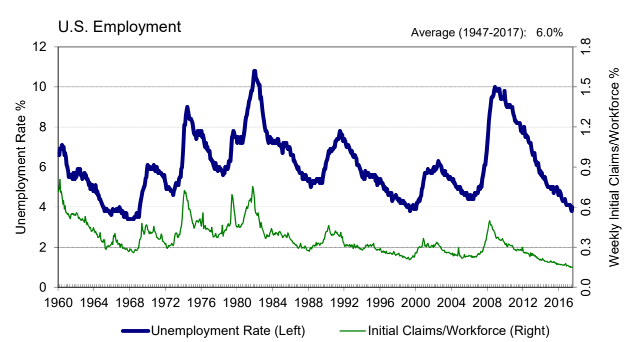
Recessions are a function of changes in economic fundamentals, rather than timing. They also can cause equity bear markets, but tend to emerge slowly over many quarters. Most economic cycles end when inflation accelerates, requiring central banks to hike interest rates faster and further than observed recently. Poor fiscal and regulatory policy decisions can limit potential growth or trigger insidious inflation. However, anticipation of policy changes jump-started positive economic feedback as previous policies unraveled.



Fixation on "peak" growth or "second derivative" (changes in growth rates) is likely to give many false signals and is misleading. There is no evidence of increased likelihood of US recession in the foreseeable future given retail sales, housing, industrial production, business sales, unemployment, or our favorite, the ISM Purchasing Managers survey.



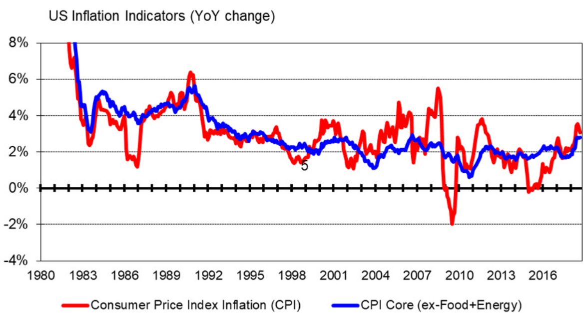
Unemployment, new jobs and vacancies also are key economic indicators, all of which are constructive. Low US unemployment of 3.7% is inconsistent with fears about peak economic growth. Initial claims normalized for the workforce below is also remarkable.



Source: US Government

[2] Interesting exchange in *Project Syndicate*: Stiglitz vs. Summers recently debated *The Myth of Secular Stagnation*.

We discussed reasons for increasing inflation including rising home prices or rent, wages (inc. minimum wage increases), import prices, energy prices, and material costs. Housing costs have a significant impact given their 32% weighting of the CPI index. CPI inflation has converged toward core inflation, excluding volatile food and energy. The widest spread occurred during 2015-2016 due to plunging oil prices. We suggested that deferring interest rate normalization was mistaken if energy effects and growth proved cyclical.



Source: US Government

Technology's disruptive forces are well accepted. Labor, energy, and basic material intensity or demand/output declined for two decades, as some economies rotated toward greater share of output in services vs. manufacturing. Innovation transformed jobs, operating efficiency, and households, even as they reinforce secular disinflation[3] limiting the rise of inflation globally. Since 2010, headwinds limiting growth encouraged companies to re-engineer operations and financing[4] to maximize profit margin. Resource demand was constrained by conservation and substitution, as more supply was available at lower cost.

The Financial Crisis still haunts investors' behavior a decade later. The persistent Output Gap in US Real GDP versus trend growth through 2007 hasn't diminished. A shortfall in national income of about 7% remains, according to the Federal Reserve. The steep recession was caused by a self-inflicted credit crunch, exacerbated by regulatory agency[5] failures and neglect for rapid financial innovation. Like a *Perfect Storm*—so much went wrong all at once. The Financial Crisis was a failure of government policy, regulatory oversight, credit rating agencies, mortgage underwriting practice, naive risk management, and individual irresponsibility, assuming home prices would never decline. Pace of financial engineering and exotic derivative innovation overwhelmed regulators, as credit rating agencies failed to adequately assess credit risk. Poor implementation of a new accounting rule had adverse consequences. There was plenty of blame to go around, although larger surviving banks continue to bear the brunt of it.

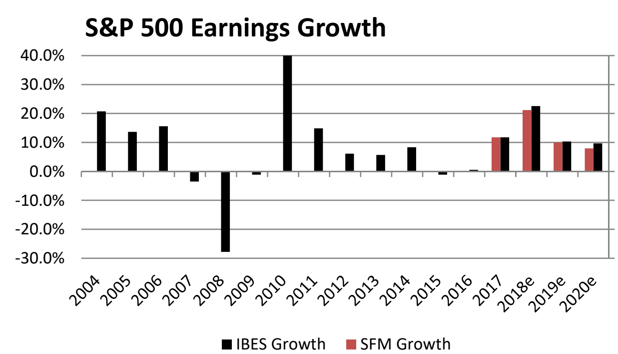
Economic risk in the Eurozone and Japan is high without enacting needed fiscal or regulatory reforms. High debt and fiscal deficits with below potential growth and extreme government debt has boxed in policymakers that also neglected to begin normalizing monetary policy. This left them exposed to headwinds without tools to manage economic slack or a downturn.

Below we compare our earnings forecast to IBES consensus. With an expected earnings growth rate of 23%, valuations improve and leave room for further equity appreciation next year in addition to at least 9% growth in 2019. Remember that 2015-2016 earnings growth hovered near 0% with negative energy sector earnings from plunging oil and gas prices.

Earnings	2020e	2019e	2018e	2017	2016
IBES Consensus	194.55	177.69	162.67	132.00	118.10
Growth	9.5%	9.2%	23.2%	11.8%	0.5%
Strategic Frontier	192.00	176.00	160.00	132.00	118.10
Growth	9.1%	10.0%	21.2%	11.8%	0.5%
S&P 500 @17x	3264.00	2992.00	2720.00	2244.00	2007.70

Source: I/B/E/S and Strategic Frontier Management

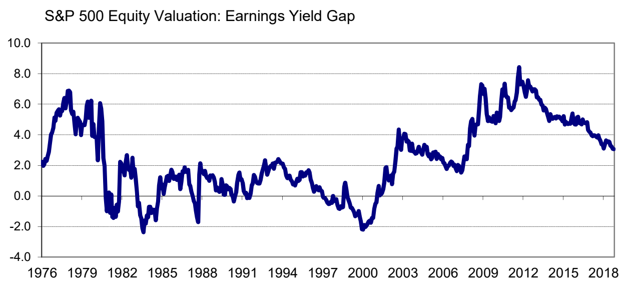
High US profit margins plus accelerating revenue from higher potential growth increased expected average earnings growth. Foreign earnings repatriation has boosted buybacks and investment in jobs and development, which extend potential earnings growth and margins. Starting off from $155 or 17.4% S&P 500 earnings growth, 2018 was a remarkable year in which earnings forecasts continued to climb every quarter,



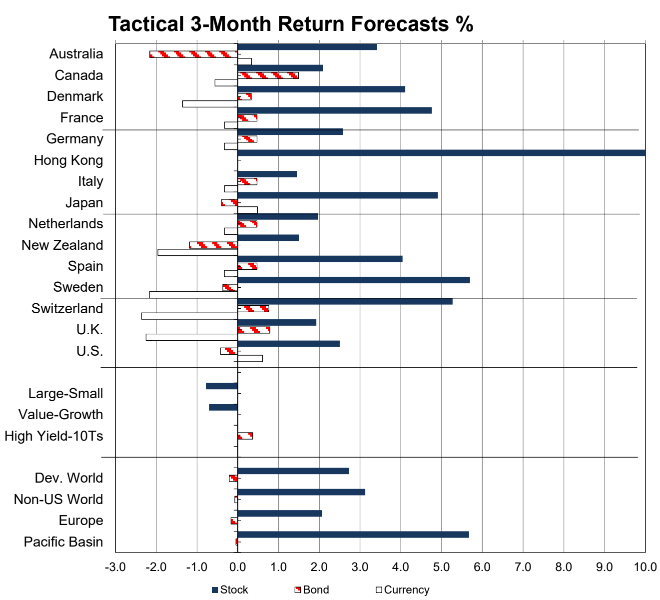
Valuation of the S&P 500 is not extended. Current US equity valuations are inconsistent with 1929, 1987, or 2000 extremes. S&P 500 valuation is better than for previous periods when interest rates began rising in 1994 and 2004. Valuations benefited from share

[3] *Forces of Secular Disinflation*: Globalization, outsourcing, hyper-competition, and increased internet price transparency that leverages disruptive innovation and creativity.
[4] *Navigating a Mad, Mad World* (Q1/2018) for discussion of Straehl & Ibbotson, "The Long-Run Drivers of Stock Returns".
[5] Many overlapping financial regulatory agencies (i.e., SEC, CFTC, OTS, Federal Reserve, OCC, US Treasury, FINRA, and CFPB) can result in failure to provide reliable oversight. Many countries have just securities, insurance, and banking regulators. The U.S. might benefit from agency consolidation.

buybacks, buyouts, and acquisitions that reduced shares outstanding. Considering the chart below, US equities are still attractive, even as interest rates rise further. This is a very different story than the tale told by Shiller's CAPE or Market capitalization/GDP. While S&P 500 valuation may be richer than in Europe or Japan, US earnings growth is stronger and profit margins remain much higher. This suggests that some European countries and Japan risk becoming a value trap without fiscal and regulatory reform to improve potential growth, productivity and competitiveness.



With equity indices setting record highs in 2018, strong profit margins can leverage increasing revenue growth. The S&P 500 got within 1% of our year-end 2950 target, but rising bond yields may have initiated increased volatility in October (S&P 500: -6.8%). The equity risk premium vs. overvalued bonds remains significant, while expected asset returns in excess of the risk-free rate provides compensation for higher tolerance of risk or volatility.



Source: Strategic Frontier Management

Our global tactical equity models balance constructive valuations vs. higher interest rates and a rising US dollar. Our quarterly non-US return forecast has a slight edge. US equity forecasts declined with rising interest rates and higher equity price, albeit October equity markets stumbled. Underweighting US equities is risky if expected 20% earnings growth comes through, which then bolsters US valuations, even at our 2950 S&P 500 index target. Over 9% growth in 2019 can keep valuations in check, and still yield a pretty good equity return next year, including dividends. We favor small-cap again and modest tilt toward growth.

Pacific regional equity forecasts are led by Hong Kong, and Australia. Hong Kong's expected return rose with declining in Chinese equities. If the US is able to reach trade agreement with China in the coming months, as we expect, equities in Hong Kong and China may be among the best performing markets over the next year. European markets are led by Sweden, Spain, Italy and France. Australia, New Zealand, and the US have negative bond return forecasts. Although Canada and European bond markets look more attractive on a local basis, their currency forecasts are negative, particularly for the British pound, Swiss franc, and Swedish krone. The US dollar should strengthen further.

We think that increased use of stop-loss trade limit orders can trigger precipitous market declines after stretches of low equity volatility, not unlike portfolio insurance strategies caused in 1987. Standing stop-loss limit orders as a risk management solution doesn't require investors to decide when to trade, but we shouldn't be surprised when "program trading" exacerbates market volatility. Precipitous market declines without fundamental cause become more likely when volatility has been very low for an extended period. Unfortunately, this doesn't explain why equity volatility keeps reverting to low levels below 10%. Investors maintaining longer horizons and rebalancing generally enjoy more consistent and better performance on a risk-adjusted basis—buy low, sell high still works.

The *Fourth Industrial Revolution* may be overshadowed by the *Productivity Paradox*[6] and challenges in measuring national accounts or GDP. Given GDP is a function of Volume x Price, we can appreciate the consequence of valuable services that are free or low cost on determining economic growth and inflation, yet profit margins are high and earnings growth is strong. Investors should care more about profit margins than productivity. We are getting more benefit in margin than we could hope, as if measured productivity was higher. These are the forces we've identified as future themes:

- *Manufacturing Renaissance: Adaptive Robotics, Rapid Prototyping, and 3-D/Additive Manufacturing*
- *Communications Revolution* transformed by virtually unlimited big data storage and access, ubiquitous computing, and networking at the speed of light
- *Systems & Process Re-engineering benefiting d*evelopment and manufacturing efficiency

[6] Low productivity has coincided with high US profit margins.

- *Creative disruptive innovation*, conservation, and substitution reduced material, energy, labor intensity
- Adaptive Analysis (AI/machine learning)
- Cheap cost of capital promotes investment

Predicting winners and losers is still as difficult as ever, but productivity has benefited from the Fourth Industrial Revolution, even if measuring GDP is understated. Labor, energy, and basic material intensity declined for two decades, as developed economies rotated toward greater share of output in services.

Global Interest Rates Are Rising

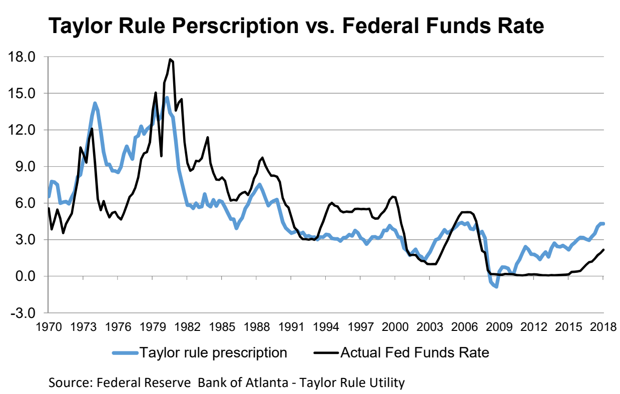
Monetary policy normalization is required after years of lower than normal interest rates and explicit forward guidance that shaped misguided expectations of "lower for longer". Since December 2016, interest rate hikes and eventually reduction in central bank holdings has proceeded with reliable consistency in the US. We expect steady quarterly hikes of ¼% through 2019 to normalize interest rates.

Interest Rates	2016	2017	2018e	2019e	2020e	2021e	Longer Run
FOMC Avg.	0.5-0.75%	1.38%	2.31%	3.02%	3.28%	3.23%	2.88%
SFM[1]	0.75%	1.50%	2.50%	3.50%	3.50%	3.50%	3.50%
SFM Hikes	0.25%	0.75%	1.00%	1.00%	-	-	-

1. Top-end of indicated Fed Funds range

Source: Federal Reserve and Strategic Frontier Management

The Federal Reserve's r* or long-run average interest rate forecast declined from 4% to 2.8% in the last four years, despite rising potential growth from 2% toward 3% and CPI core inflation of just over 2.0% rising over 3%. We expect the Fed's long-run forecast to gradually revert toward our estimate of r*=3.5%, which we think is consistent with the neutral policy interest rate. The Taylor Rule calculation now exceeds 4% according to an Atlanta Federal Reserve website utility using a 2% natural inflation rate versus 2.5% we believe is normal[7]. This conclusion has critical implications for policy.

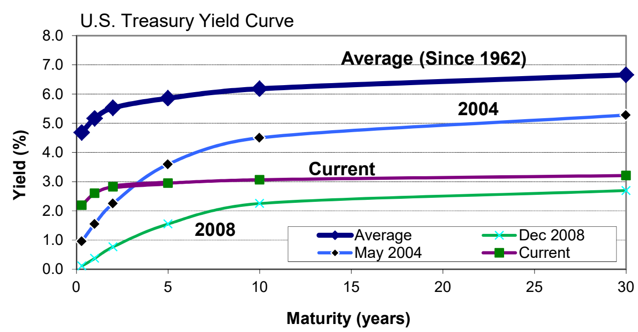


Source: Federal Reserve Bank of Atlanta

[7] Many central banks define 2% inflation targets (i.e., Canada, UK, and European ECB). The Fed has no explicit target, butr suggests 2% PCE inflation is consistent with full employment.

Treasury yields should rise at least as much as interest rates with a flatter yield curve (long-short maturity yields) and no indication of recession in the foreseeable future. Our inner *bond vigilante* is not predicated on high inflation, rather mean reversion toward 3% CPI inflation. Real interest rates above 1% are a typical cause of recessions. Fears that current policy might drive the economy into recession are mistaken. We expect the economy to maintain 3% real growth or more, sufficient for full employment.

Therefore, we expect Treasury yields to rise at least 1% next year, similar to our expectation for rate hikes, and the yield curve is more likely to steepen, rather than invert. This is the way we think about *normal*: Treasury Bills should exceed 2.5% average inflation by 1%, as 10-year Treasury yields average 1.5% above T-Bill rates. Thus, overvalued Treasuries should rise above 5% yield by the end of 2020. Our tactical forecasts continue to suggest negative bond return, as well. Low interest rates limited debt service, but interest spending must increase with rising Treasury yields.



Source: Federal Reserve and Strategic Frontier Management

Investors enjoyed strong returns with high convexity until 2015, but this effect reverses with the inflection point in interest rates. Leverage to extend duration (interest rate sensitivity) or average bond maturity in defined benefit plans may prove to be their demise, as it was for Orange County in 1994. Convexity was much lower then. We believe safe havens and rate sensitive exposures, such as high dividend yield, low volatility equities, and gold will underperform the S&P 500 index.

Despite tailwinds for higher bond yields, the yield curve has flattened to the narrowest 2-10y spread since 2007. An inverted yield curve can be symptomatic of slowing or below potential growth with declining inflation, which often results from hiking rates too fast or too far. Yet, US economic and earnings growth has accelerated, as inflation rose and unemployment declined below its 6% historical average. An inverted yield curve doesn't cause recession, and is simply unjustified with 3.7% unemployment, 2.5% inflation, and 3-4% GDP growth.

Until 2017, interest rates were low and unchanged (see Global Interest Rates) for an extended period with public disclosure of their economic expectations and future forecasts for interest rates. Monetary policy has been more dynamic with the Fed's Board of Governors under new management, including Chairman Powell at the helm. We expect the new Board to favor a more rules-based approach tethered to economic conditions.

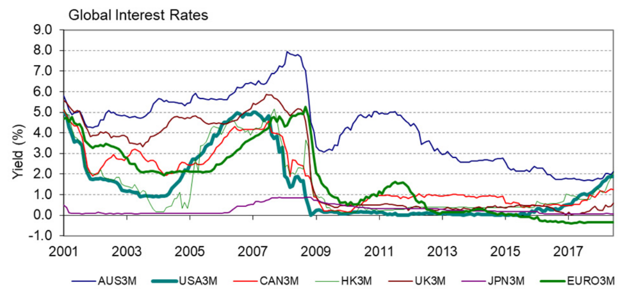
So-called financially repression in the US, Europe, and Japan sought to maintain low real interest rates for an extended period. Easy monetary policy hoped to drive up consumption and reduce cost of government debt, but now causes insidious *Monetary Dependency*. Years of forward guidance lowered investor expectations for neutral interest rates, now evident in Federal Reserve forecasts. The explicit moral hazard of *low interest rates and forward guidance for an extended period* is that expectations for rising interest rates remain too low. Consensus expects just +½% in 2019 versus our +1% increase. If Treasury yields finish higher than expected, bond investors and borrowers were misled and suffer. Cheap funding enabled highly indebted governments to defer fiscal spending reform, but should a government agency be able to lower its financing cost?

Monetary Dependency is a consequence of residual cognitive bias after almost a decade of explicit market manipulation, including forward guidance for an extended period that can be treacherous for investors and borrowers. Slow responsiveness of the "lower for longer" camp may eventually clash in a rude awakening with declining bond market liquidity---that is a function of reduced inventory among investment banks. Consistency hiking rates every quarter is the best way to minimize hazard of unwinding market manipulation.

Liquidity can be quantified by widening bid/ask spreads and dealer inventories, particularly for lower (below Baa or BBB) or unrated credit issues. Fixed income liquidity has been declining since 2016, as highlighted by Blackrock, T.Rowe Price, TIAA/Nuveen, and others. As losses compound, bond demand should moderate. Fixed income trading and fair value pricing is different from equity trading. With reduced inventories, dealers seek to match buyers and sellers increasingly on an agency basis, so liquidity[8] can more readily evaporate.

We expect ECB + BoJ tightening to pull forward in response to rising US rates and global inflation. Other countries already followed suit, including Canada, Australia, New Zealand, Hong Kong, and United Kingdom. We observe that changes in foreign bond yields seem to have greater impact on Treasury yields.

Global substitution of yield hinges on low bond yields in Europe and Japan driving foreign demand for higher yielding Treasuries with a stronger US dollar. Australian and British bonds also experienced flatter yield curves for an extended period. A strong US dollar and low currency volatility reduces value-at-risk (VaR), thus foreign investors were compensated not to hedge and observed little risk doing so. Treasury demand can decline if non-US bond yields rise, currency volatility increases or the US dollar weakens given VaR (risk management) linkages. Investors will tend to sell bond holdings if recurring bond losses were to continue, resulting in an asset allocation rotation toward equities.



Another driver of higher bond yields is expanding issuance overwhelming falling demand for Treasuries. Unwinding QE holdings with a fiscal deficit requires refunding maturing bonds, plus issuing new debt. Government should extend its average debt maturity if yields are expected to rise, instead of shortening average maturity as US Treasury did since 2009, subjecting taxpayers to greater refinancing risk. Interest burden on Treasury debt is likely to be the fastest growing federal liability with rising interest rates, compounded by increasing state and local government debt. An increasing imbalance with growing supply and diminishing investor demand as fixed income liquidity declines is a real concern.

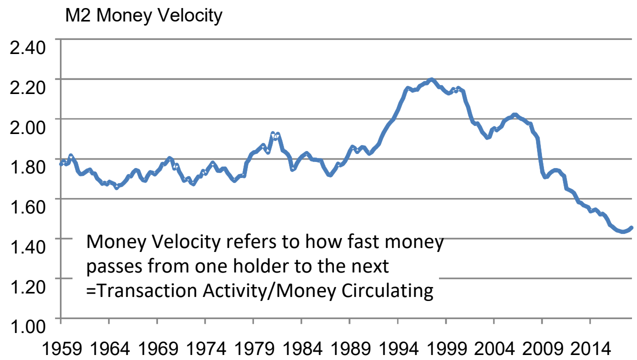
Investor expectations of equilibrium for key variables such as potential growth, productivity, profit margins, risk premiums, inflation, and normalized interest rates imply deep scarring due to lingering effects of the Financial Crisis. In other words, normal expectations for key economic variables are skewed or biased. Normal inflation declined from 3% to 2% as a result of secular disinflationary forces outlined more than a decade ago. Adoption of policies supporting stronger economic growth and employment growth will push up average inflation and interest rate expectations.

There is strong empirical evidence of a correlation between money-supply growth and inflation, consistent with *Quantity Theory of Money*.

Price * Quantity = Nominal GDP = Money * Velocity

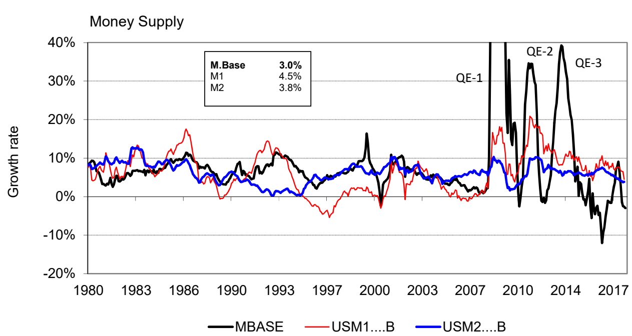
This is the theoretical basis for managing inflation by changing the cost of money (interest rates) or money supply. This theory assumes that velocity of money is constant, although it has declined since the mid-1990s. The 35% decline in money velocity may be a good reason for monetary policy ineffectiveness since 2010.

[8] Unlike listed stocks, individual bonds may not trade daily, so pricing requires fair value estimation.



Money supply growth can be impacted by varying velocity of money, but limiting growth in money supply is usually a drag on nominal GDP growth. Reducing the Federal Reserve's holdings of government bonds will likely reduce the monetary base, thereby undermining growth in other monetary aggregates (M1, M2).

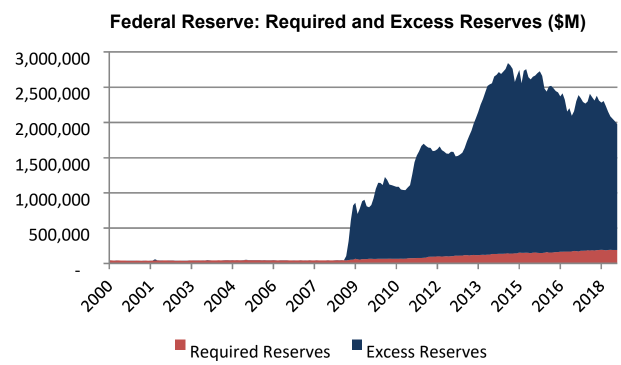
Over the longer run, money supply must expand at the rate of desired nominal growth in GDP, say 6%. A persistent lower growth rate of money will tend to limit economic growth. This is why we have expressed such concern about the eventual explicit moral hazard of forward guidance for an extended period---the hard part is the eventual normalization, which must be done with care and consistency. Below we observe the volatility and relative decline in M1 and M2 growth in context.



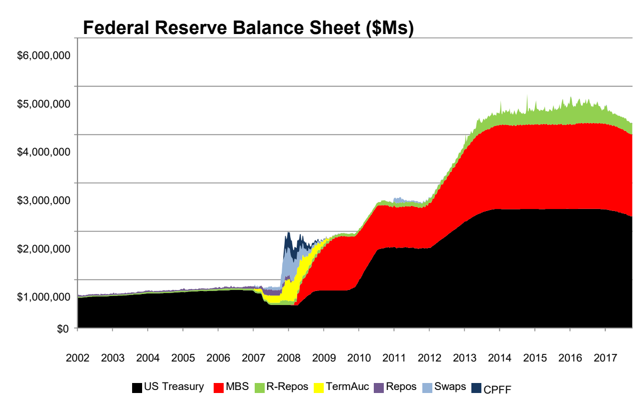
Interest rate normalization will increase cost of our debt with Treasuries outstanding exceeding 100% of GDP. Although a portion is held by the Federal Reserve, refunding activity for these holdings at a rate of at least $600 billion/year increases Treasury supply beyond financing the fiscal deficit. Interest on a 10-year Treasury bond rising from 2.4% in 2017 to 4.5% increases the interest cost by 88%. Social Security, Medicare, Defense, and Health Care spending are a large percentage of the Federal budget, but Office of Management and Budget expects interest costs will increase over 70% by 2020 versus a FY'17 interest baseline of $200 Billion/year.

Interest on excess reserves (IOER), paid by the Federal Reserve, is not included in the Federal budget, but reduces Federal Reserve earnings paid to the US Treasury, thus is a cost to taxpayers. We have been critical of IOER policy since 2015. Taxpayers are footing the bill for interest paid to banks on total reserves exceeding $2 trillion versus required reserves of $300 billion. Consider: 2.5% x 1.7 T = $43 billion in interest expense, rising with the Federal Funds rate.

Limiting IOER would force banks to seek investment elsewhere, including offering in the Federal Funds market to other banks, thereby boosting credit growth and money velocity. Even if money increases less than economic growth, higher money velocity should partially offset lower money supply. When interest rates were low, this tool was needed to manage the Federal Funds rate, but interest rates are higher. We advocate paying interest only on required reserves, if not reverting to pre-2008 policy of not paying any interest on reserves.



Reducing the Fed's bond holdings by $600 billion per year may limit economic growth unless money velocity also rises. Lower average growth in monetary base must be reflected in M2, which limits credit growth. Extrapolating 10 years of 5% growth from $872B in 2007 suggests bond holdings should not exceed $1.42T vs. $4.225T currently. Balance sheet assets are 3X too high for current GDP. Reducing holdings by $600B/year would take about four years to normalize.



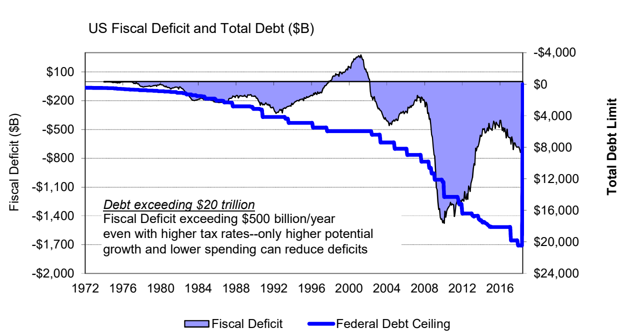
Lending rates are still low enough to support strong growth. Beginning in 1994, interest rates beginning from 1% rose much faster at a rate of 8 x ¼ % or 2% per year until they finally reached 5.25% in June 2006 or more than double the current rate of 2.0-2.25%. Central bankers often overshoot equilibrium, so it is possible rates may increase beyond 3.5%. As we approach our target, changing investor expectations may price in a yield risk premium (steeper yield curve) of up to 0.5% over a historical average spread of about +1.5% versus Treasury Bills.

Rating agency downgrades often lag and sovereign bond ratings don't seem to correctly reflect deteriorating credit risk with increasing interest burdens. Negative or near 0% bond yields in Japan and Europe are only possible if investors accept the credit risk. The United States is rated AA+ with government bond yield of 3.06%, Australia is AAA with a bond yield of 2.67%, but Japan is rated A+ with JGB yield of 0.13% with a fiscal deficit of 4.4% and Debt/GDP approaching 250%.

2018 Midterm Election

With the Republicans increasing control of the Senate, but losing control of the House with a narrow 10-12 seat margin, the Administration probably will pivot toward a narrower legislative agenda and focus on things that can be done with the Senate, including appointments and treaties. Filling remaining agency, judicial, and Federal Reserve vacancies should accelerate too. Filibuster resistance will be more difficult with increased Senate majority, but greater legislative gridlock in should be anticipated.

Budget reconciliation remains an available tool for fiscal reform, but efforts to reform spending are now much more difficult. Regardless, appropriation funding for larger critical agencies in the FY2019 budget have already been funded in appropriation bills. Congress has a window of opportunity to complete remaining appropriations before year-end, but the progress was a remarkable achievement. Given most required appropriations signed into law, FY2019 spending is expected to increase 3% to $1.24T, not including a $68B request for overseas contingency operations boosting Defense and Homeland Security spending.



Last quarter we offered a framework for infrastructure legislation, most importantly how it can be financed. In addition to public-private partnerships, we suggested that the vast US Government assets, particularly land and real estate, can be privatized to finance projects. Given limited opportunities and rich deal valuations in infrastructure, it may be timely to divest holdings, including land, buildings, ports, airports, roads, and non-strategic essential services. Power utilities, pipelines, transmission lines, and telecommunication networks are typically privately owned, but government can enhance returns in ways that these services can be upgraded efficiently. Beyond infrastructure, wwe expect Congress might seek compromise on immigration, health care, financial services, welfare, and criminal justice reforms. Making individual tax rate cuts permanent is unlikely, but Democrats hope to restore the *State and Local Tax Deduction*.

Private sector growth is sufficient to accommodate government spending reform, limiting growth to less than inflation. However, changing control in the House likely limits the ability to pass spending reform. So, it will be up to the various agencies to rein in their respective budget requests or even leave allocated funds unspent. Given the depth of the fiscal deficit and increasing interest expense, reduced spending growth of less than inflation over many years is required to reduce the fiscal deficit. Reducing debt requires a decline in total spending over many years.

Foreign Policy and Trade

A potential tipping point in global trade has emerged offering the opportunity for freer and fairer trade. We have made visible progress on negotiating new or revised trade agreements. Game theory suggests non-cooperative players seeking to establish negotiating leverage might strategically embrace economic threats. Under *Mutually Assured Economic Destruction*, the desire to negotiate increases if both players are incentivized to avoid detrimental conflict or a trade war. While equity investors have expressed concern about US tariffs and negotiating tactics, progress in the *New Global Order in US Trade* policy has been constructive. Related equity volatility is an opportunity for investors.

Another important point raised in our op-ed is that America should only seek bilateral trade agreements, rather than complex and compromised multilateral deals. There is urgency to complete trade agreements with Japan, China, Korea, and European Union in 2019. Agreement with the United Kingdom awaits a final deal on BREXIT. It is now apparent why signing the Trans-Pacific Partnership (TPP) could have been problematic. A bilateral US-China trade deal not compromised by TPP surely is a better outcome. America has greater leverage in bilateral negotiations given our trade deficit, strong economy, and greater dependency on services.

We expect the US to negotiate from a position of strength given a wide trade deficit, reliance on services, competitive advantages and stronger economy. Thus, the US economic fallout from escalating "trade warfare" was limited. Trade anxieties are most evident in equity markets and currencies, particularly among Emerging Markets, so their patience might be wearing thin. Yet, this doesn't resemble the protectionism of the Smoot-Hawley Tariff that clipped 1930 growth by 8%.

Currency devaluation translates faster into competitive advantage than tariffs on imported goods, but is not sustainable. The trade-weighted US dollar appreciated 15% over five years, increasing other countries' competitive advantage more than a 10% US tariff. Current tariffs imposed on US goods and services are much higher than those considered by the US. Thus, it is not surprising the US finally took initiative on trade.

The Constitution provides the President broad powers to commit to treaties with the advice and consent of the Senate (Article II), but foreign commerce agreements require approval of Congress (Article I, Section 8). We expect the revised NAFTA agreement, known as the US-Mexico-Canada Agreement (USMCA), should be ratified by Congress in Q1. USMCA can be submitted for "fast track" approval, but both House and Senate approval are required for this "free trade" agreement. USMCA improves upon the 25 year old NAFTA agreement, reflecting changes in global commerce. It will likely bolster potential growth for decades to come, as will other trade agreements, as well. What a shame if House Democratic leadership impearls this deal, suggesting it might seek additional "concessions". Investors are clearly concerned given Canadian equity and currency market responses to this news.

Unfair trade practices and currency manipulation has driven the US trade deficit over $800 billion per year, but reducing our trade deficit can boost potential growth. Unfortunately, the World Trade Organization[9] has been ineffective for decades as tariffs, trade barriers, quotas, and regulations rose on US imports. Generally, trade agreements would be unnecessary if the WTO was effective. President Trump suggested at the recent G-7 meeting that all countries should simply eliminate their tariffs and trade barriers. Tariffs seek to protect national interests and encourage negotiation. Beyond measures to level trade inequalities, we expect the US will focus on bilateral agreements, which are less compromised, more practical, and realistically achievable, as well as more sustainable.

Export controls on defense-oriented technologies protected US interests for decades, but sensitive innovation has been increasingly developed in the private sector. The Committee on Foreign Investment (CFIUS) provides an effective mechanism to protect US interests, yet maintain fair market access. The Department of Commerce (BIS) believes updating these policies, controls, and regulations address needs that no trade agreement can manage, including the Export Administration Regulations (1979). Chinese acquisitions and partnerships secured transfer of intellectual property, but are likely to be more regulated.

We've highlighted China's low and declining profit margins over the last decade as their labor costs rose, but recent effects of tariffs are only a fraction of the secular shift in trade flows we expect over the next decade. Global utilization of adaptive robotics with advanced sensors changes the nature of work and is a theme of the *Manufacturing Renaissance*. Shipping distance (cost) becomes more relevant as competitive advantage of labor and energy intensity diminishes. This will weaken China's labor cost advantage and can reverse decades of offshoring for developed countries with trade deficits at the expense of those with export surpluses. China accepted lower margins or subsidized losses in state-owned enterprises to increase market share of traded goods. Finally, China's trade practices and respect for intellectual property continue to run afoul of WTO rules, even after joining in 2001.

The US and UK are considering new national security policies to restrict transfer of sensitive innovation and intellectual property to China or other countries through partnerships and acquisitions—appreciate significance of taking this ruinous strategy off the table in trade negotiations. Intellectual property advantages are national assets and critical to protect.

The *liberal international order* seek credit for decades of prosperity and peace derived from globalization, but we shouldn't forget The *New Order for US Trade Policy* seeks to promote free and fairer trade for all nations, but also should reduce the US trade deficit, thereby bolstering potential growth. Imposing tariffs are a means to an end, not the start of global trade warfare. Concern about *protectionism* can be better described as an awakening of national *Pragmatic Realism.* America's advantage lies in its founding principles, including democratic freedom, free-market capitalism, individual liberty, private property rights, rule of law, and equal opportunity—not equal outcomes. Socialism is forever an ideological threat, and those who forget its historic economic failings are doomed to repeat its tried-and-failed misfortunes.

Revealing Perspectives

We expect equities will continue to outperform bonds by a wide margin. Rising inflation and stronger growth are inconsistent with flattening global yield curves---how might this be caused by technical issue rather than fundamental? Global bonds remain overvalued as more

[9] The WTO is a multilateral organization that regulates global trade spanning 164 counties and 23 observers to promote fair and free trade, seeking international economic cooperation.

central banks begin tightening policy and inflation gathers momentum. Stubborn fiscal deficits persist, so interest burdens are rising with higher interest rates. Credit ratings don't seem to matter much. We find this troubling, but explain why credit spreads are tight and indebted nations are not concerned about fiscal deficits.

An extended period of low interest rates and forward guidance has limited the rise in Treasury yields due to conditioned changes in investor behavior. Investors seem to be lulled into belief that bond yields won't rise much. Manipulating market interest rates for an extended period caused explicit moral hazard for borrowers (governments, businesses and households) and lenders (banks and investors). This caused global bond markets to become overvalued versus inflation, and is a risk that could foster the next potential regional financial crisis, in our opinion. Further monetary normalization requires interest rates rising 1% and $600 billion in reduced bond holdings through 2019. We expect Treasury yields to exceed 5% by the end of 2020 from about 3% today.

Investors seem on edge that a storm must be gathering strength, but appear fixated on equities rather than overvalued bonds. Interest rates are rising and bond liquidity is fading as disappointing returns persist. Credit spreads remain narrow, but rising bond yields could widen credit spreads without increasing default rates. Such turmoil might be aided by declining preference for yield and abetted by bond vigilantes, tugging along credit agencies concerned about higher fiscal deficits.

US equity valuations are not yet stretched with strong earnings growth, although equity indices appreciated significantly over nearly a decade. Instead, we are more concerned about overvalued government bonds globally after years of manipulation. The key issue for equity investors is when a US recession might emerge.

Another interesting observation about uncertainty and risk is increased use of stop-loss limit orders as a risk management tool. This dirty little secret is not unlike portfolio insurance in 1987, and can trigger cascading sell orders, particularly with exceptional low index volatility encouraging tighter order limits. Efforts to minimize exchange risk from "flash crashes" seem effective, but similar dynamics are in play. Options can be costly to roll continuously, but such hedges are rarely capitalized upon. Investors hedging with options tend to hold on more when volatility increases, but such volatility tends to be short-lived. A similar issue arises in holding gold if periodic gains are never realized and volatile returns are unlikely to exceed inflation.

The Global Industry Classification Standard defines equity sector and industry designations. In September, the Telecommunication sector was restructured as Communication Services, having become insignificant versus 20 years ago (TMT in 2000). Many technology companies were reassigned into Communication Services or Consumer Discretionary. Given FANG's (Facebook, Amazon, Netflix, Google) market weighting, political scrutiny, and regulatory risk, volatility might increase as high valuations normalize. Amazon enjoys a P/E=86X, but has a profit margin of just 4%, similar to Walmart. Amazon benefits from growth in online sales, but how long can they grow faster than economic growth? Technology companies typically enjoy profit margins of at least 20-30%. Why wouldn't AMZN converge toward WMT at 20X? Similarly, why doesn't Netflix (94X) converge toward Comcast (7X), its new sector peer? EBay lost money in 2017. Such realignments can affect how companies are valued. Maybe FANGs becoming untethered from Technology simply requires valuation realignment to their respective new sectors. We've expressed concern about expensive technology stocks dependent on advertising revenue or with user privacy issues. Can it be so simple that sector reclassification changes investor return expectations and growth assumptions?

The greatest risk to global financial markets could be an imbalance in excess supply of global debt, including overvalued government bonds. A correction in global bonds after years of market manipulation is a more likely trigger of a financial crisis, rather than housing, equity valuations or government policy mistakes. Japan, and a few Eurozone countries, particularly Italy, are of most concern. Japan has resorted to buying equity ETFs, which is treacherous and an unnecessary risk to taxpayers. Spiraling fiscal deficits, plus unsustainable debt, low interest rates, marginal potential growth, and weak currency begs for multiple credit downgrades. Financing costs would soar if investors lost confidence in government's ability to repay its debt.