STRATEGIC OUTLOOK

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Fourth Quarter 2017

RATES, RISKS, REALITIES & RETURNS

- This quarter we focus on the impact of interest rates and tax reform, which we believe have the greatest impact on economic conditions. U.S. tax and regulatory reforms seek to bolster potential growth, as monetary policy tightens. Tax reform can restore global competiveness, as simplification lowers costs and reduces tax avoidance. We expect this fiscal and regulatory policy pivot should add 0.5-0.7% to potential growth, and tax reform is expected to boost S&P 500 earnings by $10 (7.6%) during 2018. Tax revenue should increase with corporate earnings and household income growth to reduce the expected fiscal deficit drag of lower tax rates.

- Reducing highest corporate tax rates globally, incentives to repatriate earnings, and tax code simplification more than offsets monetary tightening. Simplification should be exercised more than once a generation to lower filing costs, eliminate inefficiency, promote competition, and reduce tax avoidance thereby eliminating need for the alternative minimum tax (AMT). Proposed tax reform seeks to simplify the tax code, while our latest *Strategic Insights*: *What to Expect from Tax Reform* outlined principles that maximize tax reform effects.

- Global divergence of profit margins is increasing, but record high S&P 500 margins exceed 11%, well above other OECD nations. Despite stronger growth in developing economies, their profit margins declined over the last decade, particularly in countries most dependent on cheaper labor for exported goods and services, like China and India.

- A three decade long bond bull market has come to an end, but also led investors to assume unrealistic average return, as well as risk inputs of volatility and correlation. Forward guidance and manipulating interest rates have also biased expectations. Global interest rates are now rising, led by quarterly hikes to normalize U.S. rates. The FOMC skipped hiking in September, but it used the opportunity to begin winding down their balance sheet. It will ramp to divesting $50 billion/month in 2018, which adds to supply of normal Treasury issuance. We expect quarterly interest rate hikes to resume in December.

- Growth benefits of tax and regulatory reform should accelerate monetary normalization and the yield curve will begin to behave more rationally by steepening based on evolving fundamentals. Normalization was needed just with unemployment plunging to 4% and CPI inflation over 2% (dual mandate). The Fed's Board of Governors will be under new management after replacing 5 of 7 with a new Chair. This suggests greater uncertainty interpreting Federal Reserve policy going forward.

- Global equities should continue to outperform bonds as interest rates rise and earnings strengthen. Resilient high U.S. profit margins combined with better growth bolstered by U.S. regulatory and fiscal policy reforms should support equities and drive earnings growth. We believe a correction in overvalued global bonds is the greatest market risk, although high yield remains attractive within bond allocations. Short duration bonds, floating rate or leveraged loans, and cash are often overlooked, but are compelling alternatives to bonds as yields rise.

- Investors should consider the effects of tax reform changes that promote potential economic and earnings growth, coinciding with an inflection point in global monetary policy and U.S. regulatory policy. Equity sectors and risk factors will be affected in new ways as economic trends and financial return correlations evolve. Cyclical commodities, including gold and bitcoin, expose investors to excess volatility and expanding supply exceeding declining demand intensity. If investors' appetite declines for "financialized" real assets, first popularized by the Commodity Supercycle theme, real assets may struggle to keep up with inflation. Of course, we couldn't pass up discussing *realities* of Bitcoin and proliferating cryptoclones.

It Matters What You Believe

We enjoy finding timely and relevant quotes to highlight our ideas, but sometimes they pop up in unexpected places. Entertainment seeks to be provocative in world of fewer heroes, great stories, or differentiated insights. The screenwriters of *Wonder Woman* refreshingly included a variety of enduring messages for a world conflicted by clashing organizational ideologies such as equal opportunity vs. outcome equality, natural law vs. social justice, and even capitalism vs. socialism. One of Diana's memorable moments was: *"It isn't about [what we] deserve, it's about what you believe".*

Ubiquitous data availability in the Information Age has transformed journalism and challenged fundamental beliefs. Increasing breadth and declining cost of "big data" should increase competition, promote productivity, and democratize education, but some believe it also seems to make us intellectually lazy as processing power substitutes for rational thinking, experience, judgment, and deep intuition. *It matters what you believe* more than ever to sort fact from fiction or opinion across once assumed reliable sources to social media or other questionable venues.

We *believe* in market valuation to forecast returns among other factors, but focus on *Price* changes seems to overlook rising earnings. There is fear given strength in equity returns that surely the stock market is overvalued. Headlines that include words like: "crash" "danger", "crisis", "overvalued", "bubble", or "collapse" suggest investors worry about repeating 2001 or 2008 declines. Companies derive value from *Earnings* and assets, so market corrections can be a consequence of earnings valuations and changes in earnings. Other ill-advised *and* less predictive measures than P/E may confirm our bias, but should be dismissed such as Shiller's CAPE, Stock Market Capitalization/GDP, or Price/GDP. These irrelevant valuation ratios are not forward looking or conceptually inconsistent[1].

Social media didn't just change how we read news, it changed the way we create news and personalize selective content we see. Journalism has become infatuated with opinion polls and alternative data sources that confirm our biases, rather than challenge our opinions. The most powerful influence in politics is controlling the narrative of news. The Internet lowered barriers to entry into news media, as attention spans seem to rarely exceed 140 characters. New ways to pay for content evolved into more click-bait and provocative headlines to draw in readers. Competition for readers' attention increases speed and volume of publication, but short-cuts become problematic to pursuit of objective reporting with higher frequency of anonymous sources and compromised reporting.

Writing a quarterly commentary can be overwhelming at times, despite effort to focus on what matters most for making investment decisions. The risk of being overwhelmed by too much information is either giving up on problems too early or analysis paralysis--both impede new or innovative solutions. Provocative new ideas get our attention, yet beliefs and experience help us identify good ideas and dismiss alluring irrelevance.

Global Economic Conditions

*On what principle is it, that when we see nothing but improvement behind us, we are to expect nothing but deterioration before us? – **Thomas Babington Macaulay***

Global economic conditions have improved, which led some to describe the recent period as an era of global synchronized growth. We recall *Global Synchronized Recovery* actually began in 2009, and was bolstered by coordinated global fiscal and monetary stimulus. By 2012, we observed transition to an *Asynchronous Global Expansion* that continues today. Global growth remains uneven with important differences between countries, currencies, and regions.

Policy changes typically take years to have an impact, but U.S. growth has exceeded 3% annualized rate for the last two quarters. Our GDP forecast expects 2.6% in 2017 to increase to 3.2% in 2018, even with interest rates increasing 1%. Improving business sentiment seems to be already anticipating benefits of regulatory and tax reform. It is important that improving growth rise above the *square-root* expansion observed since 2009, but equity returns must be a function of earnings.

The regulatory and fiscal policy pivot should promote improving potential growth, earnings, trade balance, investment, global and relative competitiveness, as well as productivity, while reinforcing still high profit margins. We expect potential real growth will increase from 2.0-2.5% to 2.5-3.0%. There is upside potential to our 2018 growth estimates given likely tax reform. A high ISM Survey with improving economic conditions suggests the chance of recession is low for the foreseeable future. Stronger earnings growth and economic conditions drove up tactical equity forecasts.

Economic Forecasts	2013	2014	2015	2016	2017e	2018e	2019e
GDP Growth (Y/Y Real)	2.7	2.7	2.0	**1.9**	**2.6**	**3.2**	**3.3**
S&P500 Earnings	5.7	8.3	-1.1	**0.5**	**11.3**	**14.2**	**7.5**
CPI Inflation (Y/Y)	1.8	0.7	0.7	**2.3**	**2.5**	**2.7**	**3.0**
Unemployment	6.7	5.6	5.0	**4.7**	**4.0**	**4.2**	**4.5**
Fiscal Deficit	-3.3	-2.7	-2.5	**-3.1**	**-3.5**	**-3.0**	**-2.5**
Fed Funds Target	0.25	0.25	0.50	**0.75**	**1.50**	**2.50**	**3.50**
10y Treasury Notes	3.00	2.17	2.27	**2.45**	**2.50**	**3.25**	**4.50**
S&P 500 Target	1848.	2059.	2044.	**2239.**	**2600.**	**2800.**	**2950.**

Earnings	2019e	2018e	2017e	2016	2015	2014
IBES Consensus	$ 163.00	$ 146.18	$ 131.40	$ 118.10	$ 117.46	$ 118.78
Strategic Frontier	$ 161.25	$ 150.00	$ 131.40			
SFM Growth	7.5%	14.2%	11.3%	0.5%	-1.1%	8.3%

Source: Strategic Frontier Management

[1] Corporate earnings are only a portion of national income or GDP. Many other components (inc., households or government) have nothing to do with market valuations. Both forward (12m) and reported earnings valuations are intuitively useful forecasting returns.

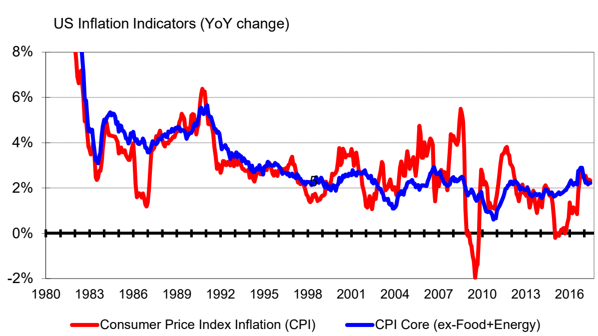
Notice volatility in earnings growth as oil declined and the U.S. dollar firmed from 2015-2016, then stabilized. While Energy is not a large sector, earnings decline was sufficient to wipe out S&P 500 earnings growth for two years. Energy, Materials, and Technology provided the strongest positive surprise to 3Q earnings growth. Thus, rebounding S&P 500 earnings rose about 8.2%, with a 5.4% increase in revenue, for the trailing year through Q3, according to Thomson Reuters.

What we believe can help us differentiate provocative attention grabbing warnings from predictive indicators. Flattening yield curves have coincided with recessions, but decade-long central bank manipulation can interfere with economic relationships with the yield curve. Thus, we believe yield curve flattening is unlikely a reliable indicator anticipating recession. An equity correction is possible at any time, but downside risk is often related to speculative valuations or recession. No recession is likely in the foreseeable future given strengthening economic growth and over 11% earnings growth expected in 2018. Instead, any market crisis could be rooted in overvalued and manipulated debt.

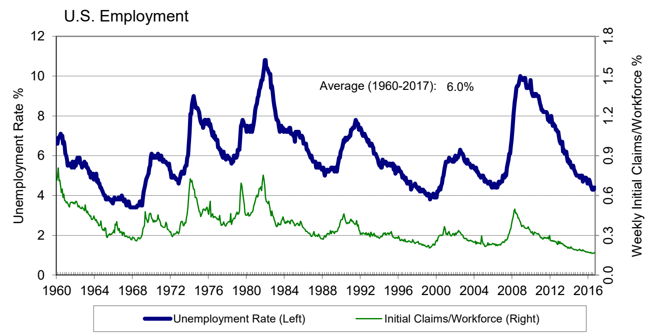
Theorized causes of *Secular Stagnation* (i.e., inequality, demographics, residual risk aversion, or fewer technological advances) overlooked adverse effects of abysmal regulatory and fiscal policy decisions since 2009. Recent real growth suggests improved economic sentiment and invigorated animal spirits of competition may be already anticipating tax and regulatory reforms.

Productivity Paradox or Inflation Mystery

During September's press conference, Fed Chair Janet Yellen suggested that continued low inflation was a "mystery", implying that they continue to struggle with understanding disinflation as the unemployment rate plunged to 4% and real GDP rose above 3% for the last two quarters. While many seem obsessed about this globally observed *mystery*, current inflation isn't far off the 2.5-3.0% expected normal. While unsettling that our Fed Chief may be confused about inflation, the latest Fed Beige Book suggests that inflation is accelerating with wages finally rising due to reduced slack in the labor market.



The much studied Phillips Curve suggests that inflation should be increasing with such low unemployment falling toward 4%. Another measure of labor slack compares initial claims to workforce size, but it is even more problematic in this regard. It seems persistent and predictable monetary easing, contrary to fundamentals, reduced the inflation risk premium, and thus inflation expectations. Seeking to increase growth by lowering interest rates, central bankers also drove inflation expectations lower, thus it may be more difficult to restore expectations to an appropriate level.



Source: U.S. Bureau of Labor Statistics

The mystery of disinflation is globally pervasive and not just an American mystery. Following unprecedented money supply growth and plunging unemployment, why isn't inflation well above average? We think the answer lies in the riddle of the productivity puzzle combined with related growth measurement issues. Extended cyclical commodity and currency effects in 2014-2016 may explain part of the mystery, but the other secular elements include some combination of:

(1) Forces of Global Secular Disinflation (moderating)

(2) Persistent unconventional monetary policies that undermined long-term inflation expectations

(3) Productivity Puzzle and Creative Destruction

(4) Mismeasurement of growth and inflation in National Accounts (rapid technological innovation)

Emerging G*lobal Secular Disinflation* was identified before 2005, which was reinforced by globalization, outsourcing, technological creative destruction, hyper-competition, innovation, and Internet price transparency of e-commerce. As forces of constructive secular disinflation limited inflation and bolstered profit margins, demand for commodities and labor stalled. Rising labor efficiency with technological innovation and expanding analytical capabilities should have driven up productivity, as income gains tracked low inflation. This should have boosted productivity, but instead this *industrial revolution* drove quality, capacity, speed, and lifespan, instead of number of widgets per worker. National account measures that were a function of Quantity x Price couldn't adapt well to changes in new production and distribution models, cost of goods sold (license accrual), or prices paid per unit. Cost of consumer services (Price=Free?) belies the increasing cost of a grocery basket.

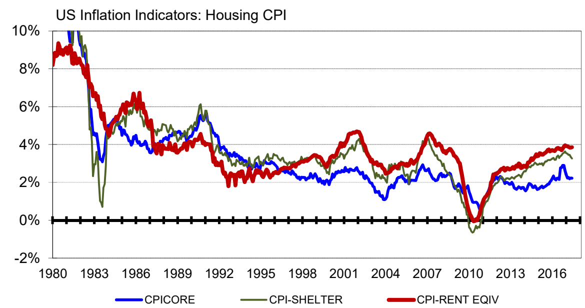
Long-term productivity over the last 57 years (since 1960) was 2.1%, while growth in the workforce has been 1.5%. Given potential real growth = productivity + workforce expansion, long-term potential real growth has been 3.6% by this sum (actual Real GDP: 3.1%). It is not surprising economists expect lower growth given recent performance. Since 2009, productivity was a disappointing 1.2% while workforce growth was just 0.8%, yielding 2.0% growth (Real GDP: 2.1%). We believe measurement issues in national accounts (GDP, income, inflation) combined with headwinds of misguided fiscal and regulatory policies were primary causes of disappointing growth, not *secular stagnation* as hypothesized by the former Treasury Secretary and Economic Policy Architect Larry Summers. Secular disinflationary forces should give way to more cyclical economic trends, so we see no limit to higher inflation, except eventual recession.

We discussed the *productivity paradox* and emerging *Industrial Revolution* in *Tailwinds and Creative Destruction*. The Productivity Puzzle asks why high profit margins are inconsistent with productivity declines and below potential growth. Productivity gains are more difficult to measure as innovation and creativity sneaks into products that radically improve quality, capacity, cost, speed, life span, or features. So, effects of a *Fourth Industrial Revolution* on product development, manufacturing, construction, labor, energy, and services are consistent with low inflation and difficulty measuring growth.

Shortages for some needed job skills contrast with our outlook for systematic, routine or process-oriented jobs that are being automated. This leaves many workers fearful of machine learning, robotics, and software application development. Rotation toward services further accelerated declining labor intensity. Wage growth is accelerating now after being stable around 2% for several years.

Import costs are also increasing inflationary pressure after declining for several years. Countries that enjoyed labor cost advantages (i.e., China, India, Taiwan, Korea, Mexico, etc.) have seen rising wage and input costs undermine profit margins for years, but now should expect globalization to reverse and on-shoring to increase. Local price increases translate in higher import prices, and trade balances of developed economies should moderate with narrowing production costs as consumer proximity, logistics, and quality become more significant with greater automation. This is a good time for the U.S. (NAFTA) and U.K. (BREXIT) to reconsider existing and future trade agreements.

The Financial Crisis was triggered by a credit crunch that originated with rapidly rising defaults of extended mortgage debt. Home prices plunged over 30% in many regions. Many underwater homeowners walked away and saddled mortgage bond holders and banks with large losses. Household formation, a driver of new home construction, fell by 70%. Housing inventories declined as new construction slumped, but now as demand increases with limited housing supply, housing costs are increasing. The housing contribution to CPI inflation is 33% (43% of core inflation, ex-food & energy), so is it not surprising that rising housing costs will likely continue to drive inflation higher.



Tax Reform Expectations

The goal of tax reform is to increase potential growth, bolster productivity, improve competition, enhance global competitiveness, restrain inflation, and simplify the tax code. Simplification can reduce compliance, enforcement, and administrative costs, while limiting tax avoidance from special interest deductions and credits. Greater potential income and earnings growth can turn fiscal deficits into surpluses with spending reform. We wrote about 10 principles to reforming taxes in *What to Expect from Tax Reform.* While not without flaws, tax reform legislation should benefit economic growth, productivity, and job opportunity.

We have concerns about housing and state-specific effects in reducing state and local tax (SALT) deductions, including property taxes. Income taxes should be assessed only on retained income, and avoid double taxation in levying tax by two or more jurisdictions on the same declared income. Elimination of state income and property tax deductions will have different effects depending on state and local tax rates. Homeowners pay property taxes, so limiting deductions to $10,000 affect high cost of living states more, mostly along the coasts. Eliminating state income tax deductions reduce net household incomes in high tax rate states, including: California, Oregon, Minnesota, Iowa, New Jersey, Vermont, New York, and Hawaii. Migration from high tax rate states was accelerating, but taxpayer displeasure in high tax jurisdictions may destabilize certain local economies. New Jersey is already rethinking a millionaire's surtax.

Global corporate tax rates declined since the 1980s, following America's lead in tax reform. The U.S. corporate rate of 35% (39.1% combined federal and state tax rate) is the highest globally, and undercuts global competitiveness as other nations lowered their rates. The OECD average is 22% (23.5% combined tax rate). Administrative and compliance complexity increases collection costs, and causes wide dispersion in effective tax rates that undermine competition across industries and between small vs. large companies.

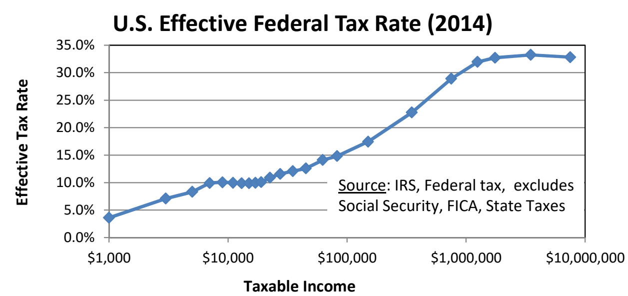
We remain concerned the widening large vs. small company tax rate gap could reduce competition, raise barriers to entry, and increase consolidation. A 20% corporate rate (24% combined tax rate) will improve global competitiveness, but small business pass-through companies subject to individual tax rates (80% of American businesses) need to maintain tax rate parity with larger C-corporations. A slightly higher 21-22% tax rate funds narrowing the tax rate parity gap.

Finally, a permanent foreign earnings tax rate of 10% would accelerate repatriation, reduce corporate inversions, and increase tax revenue, which could fund other desired tax deductions. It should have been preferred to a higher one-time tax of 14% with 0% tax on future foreign earnings, but it conflicted with a territorial tax system desired by the House. Our op-ed in TheHill.com: Tax Plans a Step Forward but 3 Key Flaws Remain discussed these various issues.

U.S. companies tend to avoid paying an additional 35% tax on unrepatriated foreign earnings, now exceeding $2.6 trillion based on public company analysis. The global tax rate differential encouraged companies to invest offshore, buy foreign companies, or pursue inversions (offshore domicile avoid U.S. tax). Differences in global tax rates suggest why foreign earnings expanded, corporate inversions rose, and unrepatriated foreign earnings remained offshore. Tax reform should moderate these issues, while encouraging greater domestic investment.

Tax reform under Kennedy, Reagan, and Bush highlighted many economic lessons about changes in tax rates. Increasing potential growth and global competitiveness drove higher tax revenue and limited inflation. Simplifying tax reform to clear out special interest inefficiencies and inequalities should be pursued more than once a generation. While some focus on static scoring of a $1.5 trillion reduction in revenue over 10 years, the budget must be deficit neutral, so spending will be reduced. As much as the private sector reduced costs over the last decade, government also should seek efficiency gains. FY 2017 outlays were $4 trillion and grown to 21% of GDP, knowing interest costs will rise. We've noted *Hauser's Law* suggests tax revenue can't exceed 20% of GDP, so non-discretionary spending reform is also needed.

Our individual income tax code is already highly progressive, as the chart below suggests. High income households pay most of the taxes at higher rates, and will pay more with the elimination of SALT deductions. High earners in high income tax rate states should expect effective tax rates to rise 3-4% (state x federal rates) over average effective tax rates. Reports that high income earners benefit more from tax reform are misleading, focusing on reduced rates for smaller pass-through businesses that file individual tax returns. The notion that high income taxpayers don't pay their fair share is not reflected in the chart blow, and the curve should steepen for household incomes over $500,000.



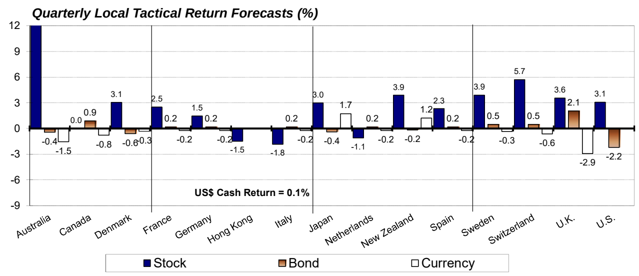
Source: IRS

We believe that tax reform can increase real potential growth by 0.5-0.7% and add about 1-2% to long-term earnings growth. Some suggest this bill can add as much as $10 (7.5%) to 2018 earnings, which will compound over the next decade. It seems higher growth expectations, reflected in investor and business sentiment, are driving equity markets. Congressional leadership must adapt to an Executive Branch that likes to work many issues in parallel. Thus, the notion of conserving political capital may be irrelevant with this Administration---we've noticed that "political capital" has been stripped from media discussion.

Policy tailwinds of the change in balance-of-power seem to be displacing previous regulatory headwinds. Although such rotations usually lag for years, there may be an exception for agencies within the Executive Branch, including rulemaking and regulatory policy. An extraordinary number of appointments for the Federal Reserve, SEC, CFPB, NRLB, and Justice are available to be filled—these terms are longer than four years, so they can be legacy appointments. Changes in financial regulation and oversight of markets will be significant.

Global Market Outlook

Asset allocation remains the critical determinate of long-term wealth. Our outlook reflects normalization of interest rates, and upside exists for our return forecasts as economic and earnings growth should improve. As interest rates normalize, long-term return, volatility, and correlation expectations evolve, they will have implications for our strategic asset allocation. Global growth is accelerating as inflation increases.

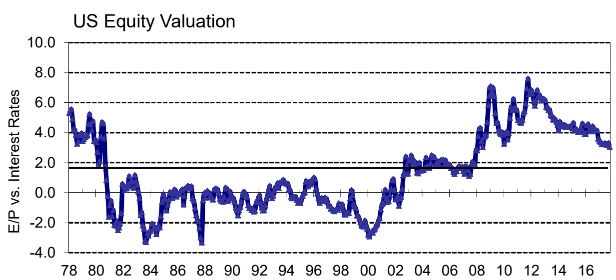


MSCI	Citi WrldGvt	Dec 2017	Local Markets Stock	Local Markets Bond	In (US$) Stock	In (US$) Bond	US$ Currency
100%	100%	World	3.2	-0.7	**3.0**	**-0.5**	-0.2
25%	37%	Europe	2.8	0.5	**1.7**	**-0.2**	-1.3
11%	27%	Pacific Basin	4.8	-0.4	**5.5**	**1.1**	0.8
40%	65%	Non-US World	3.0	0.1	**2.5**	**0.4**	-0.6
60%	35%	US	3.3	-2.2	**3.3**	**-2.2**	
		Cash		0.3		**0.3**	

	Lg-Sm	Va-Gr	High Yield - 10yT
US Style	0.1%	0.0%	3.4%
	Large -	*Value*	*HighYld*

Source: Strategic Frontier Management

Our equity forecasts, with a 12-18 month horizon, have moderated, but suggest about average global equity returns. Australian and Swiss equities are the most compelling, but neither U.S. style nor size tilts are distinguishable. Global bonds remain a concern, particularly in the U.S., Japan, and Australia. Credit and high yield tilts should be maintained with an emphasis on shorter maturities or floating rate debt.



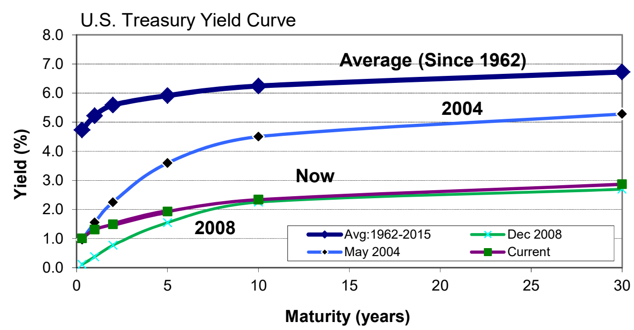
Source: Strategic Frontier Management

Our S&P 500 valuation above still appears compelling, particularly versus bonds, and relative to other senseless and less predictive measures such as Shiller's CAPE or Price/GDP. We see no recession in the foreseeable future and over 11% earnings growth is expected in 2018, now that tax reform is likely to become law. S&P 500 equity valuation is still not stretched, so the risk of a U.S. equity correction through 2018 is low.

Interest Rates and Bonds

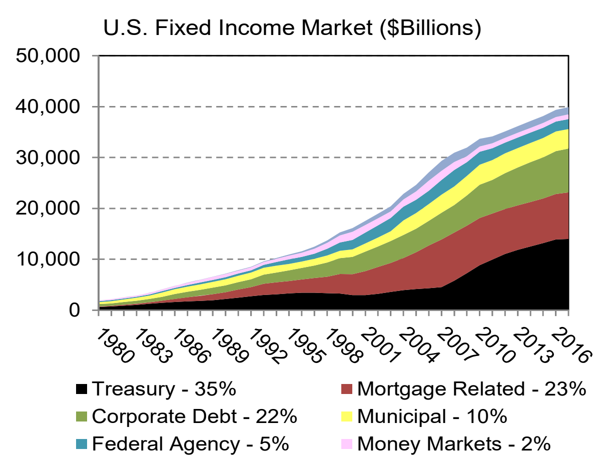
Interest rates remained too low for too long, and central banks now must normalize more quickly given the wide gap to traverse to at least 3.0% in the U.S. Monetary stimulus was like pushing on a string and hasn't bolstered growth, so why are we worried about slow steady hiking of interest rates with still negative real yields?. Fed excuses of weak growth, low inflation, and geopolitical uncertainty deferred normalization, but also undermined its credibility. Persistent low rates and forward guidance to "keep interest rates low for an extended period", which induced explicit moral hazard, economic imbalances, and probably reduced or extinguished the long-term inflation risk premium.

We expect ¼% rate hikes every other meeting until interest rates approach 3%, as long as the risk of recession is low. Central bank mandates focusing on inflation targeting should be asymmetric. In other words, central banks reduced inflation expectations to drive interest rates lower, but there is no evidence they can stimulate demand, other than bolster sentiment with an unexpected surprise during crises. Transparent consistency will have little effect in changing investors' expectations. They also have no ability to determine the best price for exchange of goods and services—only a free market does that.



Source: Strategic Frontier Management

Bond investors should be forewarned about effects of eventual yield curve normalization given the yield curve dislocation in the chart above. Getting back to April 2004 levels, 10-year Treasuries need to rise 2%. Investors remain irrationally sanguine, but could be awakened by a deflating global debt bubble from the U.S. to Japan and Europe. Moderating secular disinflationary forces should give way to more cyclical economic trends, so we see no limit to higher inflation.

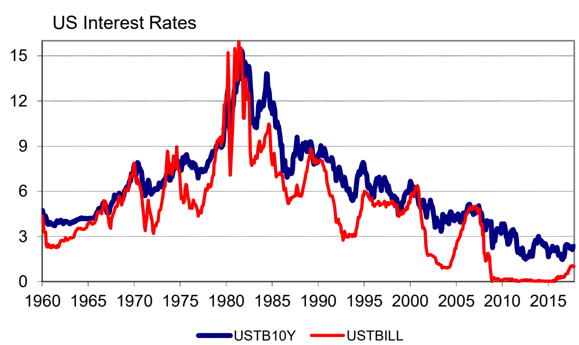


Source: SIFMA

Strong demand for yield and central bank purchases has enabled exceptional bond issuance at low rates that encouraged financing equity buybacks and greater leverage. Rapid expansion in U.S. total debt to $40 trillion parallels soaring global debt to over $230 trillion. U.S. government debt exceeds $20 trillion (Treasuries, plus Social Security and other nonmarketable debt of $5.5 trillion in *Government Account Series*) after nearly doubling in just eight years. We also are concerned that U.S. Treasury shortened issuance maturity, rather than extending maturities given low but rising interest rates. The story is similar for other developed countries. Imbalances must reverse, but still could result in negative real bond returns for several years.

Japan's government debt now exceeds 230% of GDP, and is the highest among OECD countries. However, extended debt burdens can become unaffordable with rising interest rates, high fiscal deficits, and central banks unwinding excess bond holdings, which strain new issuance and compound bond market losses. Rising cost of capital due to credit rating concerns is a moral hazard for businesses and households.

A three decade bull market for global bonds has led investors to adopt unrealistic bond return, risk, and correlation assumptions that can be deceiving for developing strategic asset allocations. Rising interest rates will affect equity valuations, but global equity indices are not as extended as bond valuations.



Source: Strategic Frontier Management

Tightening monetary policy lagged our expectations, although 10-year Treasury yields have increased from a low of 1.38% on July 8, 2016 (*Great Inflection Point)*. We forecast a Treasury 10-year yield of 2.5% by year-end, rising to 3.25% in 2018 with a 2.5% Fed Funds rate. Forecasting eight hikes over two years (+2%) is a slower rate of increase than the last cycle, when interest rates rose 17 times to 5.25% through June 29, 2006. We were thrown a curve in September, when the Fed deferred hiking rates, so as not overlap with beginning to unwind their balance sheet. The market forecasts just two increases in 2018, while the Fed's Economic Projections suggests three increases. We think investors will be surprised by four hikes in 2018.

Fed Forecasts	2016	2017	2018	2019	2020	Longer Run
FOMC Avg.	0.5-0.75%	1.33%	2.04%	2.63%	2.93%	2.93%
SFM Forecast		1.50%	2.50%	3.50%	3.50%	3.50%
SFM Hikes		0.75%	1.00%	1.00%	-	-
U.S. GDP	1.9%	2.4%	2.2%	1.9%	1.8%	1.9%
Core PCE	1.7%	1.6%	1.9%	2.0%	2.1%	2.0%
Implied CPI	1.7%	2.1%	2.4%	2.5%	2.6%	2.5%

Source: FOMC Economic Projections for September 2017.

We believe long-run CPI inflation should average 3.0% versus 4.0% observed historically, thus the 2.0% PCE inflation[2] forecast (2.5% implied CPI) reflects recency bias that is skewed by transitory forces, including moderating secular disinflation. The Fed's assumption is critical since it affects their policy equilibrium, currently 2.93% versus our estimate of 3.5%. However, the Fed still suggests a 1% real rate of interest vs. PCE inflation on average over the long-run. Investors should consider changes in inflation within a range of 1-3% as irrelevant to needed normalizing rates. Only increasing risk of recession or higher unemployment should suspend normalizing real interest rates toward 1.0%.

Investors seem too sanguine about global bond risks, and should be more vigilant about the impact of losses as yields rise. Cyclical economic volatility declined with increased communication and transparency from the Fed. Concern about rising interest rates was quashed by forward guidance, quantitative easing, and years of negative real interest rates, which reset inflation expectations at least 1.0% lower, comparing average inflation to long-run forecasts. A wide gap versus the Taylor Rule's indicated Fed Funds rate of 2.8% is another reason for a steady routine of hiking interest rates. We estimated that reducing the bond-bloated balance sheet requires refunding all $1.4 trillion of maturing Treasuries within the next five years, or about half of the total $3 trillion reduction needed.

States and municipalities are struggling with soaring pension and other liabilities that risk credit downgrades. Puerto Rico's struggle should bring this risk into focus for municipal bond holders. Overvalued debt and unsustainable deficits at both federal and state levels are a concern with bond market illiquidity, impeded by misguided financial reforms, just as mark-to-market rules undermined credit markets in 2007. Extended interest burden has yet to be tested by rising interest rates, greater leverage, extended duration, high outstanding debt, or increasing bond market illiquidity. Interest burden rises with yield, so heavily indebted Japan, Greece, Portugal, Italy, and Brazil risk systemic crisis. Remember during the 2012 Eurozone Sovereign Debt Crisis how liquidity evaporated driving

[2] Personal Consumption Expenditure (PCE) inflation is an alternative measure of inflation versus the Consumer Price Index (CPI), which became the Fed's preferred inflation reference point in 2000. It tends to suggest inflation is 0.5% lower based on differences in method.

higher risk premiums. Non-U.S. government yields shouldn't rise as fast as Treasuries, but normalizing U.S. monetary policy exposes global imbalances.

Long duration and leveraged bond exposure among global pension plans and hedge funds well exceed the conditions that tipped Orange County into bankruptcy in 1994. Coupon yields were at higher levels, but that didn't insolate Orange Country, although their leverage was limited to just 150%. We suggest that asset owners exposed to high duration and leverage as interest rates rise are a toxic brew conducive for a systemic crisis. Asset owners that embraced Liability Driven Investing (LDI) or Risk Parity will compound losses, which could trigger a broader asset class rotation to reduce bond exposures. LDI prescriptions increase bond exposure, but shorter term de-risking also lowers return. Funding future liabilities require higher returns of equities to minimize future shortfall.

Investors have "surfed" the credit wave, benefiting from credit risk and declining rates for decades. However, investors may be rooted in behavioral bias of anchoring in assumed historic return and risk averages. Focus on the flattening yield curve may be worrying to some, but it takes time to adapt normalizing inflation expectations. High convexity increases interest rate sensitivity, but decade-long low yield volatility hasn't exposed this yet. Rate sensitivity also can extend to private markets and equity holdings. Thus, asset owners probably are more exposed to interest rate risk than assumed.

The Federal Reserve not only sets monetary policy, it is also the most important federal banking regulator. Its influence is significant, so noteworthy that it will be under new management soon. President Trump has appointed current Board of Governors member Jerome (Jay) Powell to be the next Federal Reserve Chairman, succeeding Janet Yellen. With her departure on the heels of Stanley Fisher, the President will appoint five of seven new Board members, including Randal Quarles, who was just confirmed. Marvin Goodfriend, a former Federal Reserve economist and Carnegie Mellon economics professor, also was nominated. Bill Dudley, President of the Federal Reserve Bank of New York, announced his retirement by mid-2018. FRB-NY President is a permanent FOMC voting member, so his replacement will impact monetary policy for years. This is the most meaningful turnover in leadership ever.

Federal Reserve Governor Jerome Powell (2028 term) is expected to be confirmed as Chairman. Mr. Powell is a securities lawyer with investment banking and private equity experience, who also served in Treasury (3 years) and joined the Federal Reserve Board in mid-2012. The often discussed candidates for Chairman suggest other likely nominees, including Kevin Warsh for Vice Chair. These nominees will have a long-term impact on FRB management and policies.

While many are focused on whether Jay Powell is a hawk or dove, some refer to him as a wise owl. He seemed collaborative and pragmatic since he joined the Federal Reserve. He also will be the first Chairman in four decades without an economics or finance degree, but some are concerned about his monetary, banking, and economic experience. Mr. Powell has indicated that he believes no institution is too big to fail, and Dodd-Frank rulemaking should be rationalized somewhat---not surprising, yet credible thoughts from a securities lawyer. He advocated for relaxing financial regulation, including the Volker Rule limiting proprietary trading, to improve market liquidity and efficiency.

We expect that Federal Reserve (FOMC) decisions may be less transparent, but more consistent with a rule-based regime and provide less forward guidance. Monetary policy changes will be more difficult to anticipate, increasing volatility and uncertainty. We expect new rulemaking at the Federal Reserve and SEC, which just seated a new Chair, but also has two vacancies and a third available soon. Financial regulatory reform is expected within a year, driving increased competition and lowering consumer costs. The greatest unknown may be what happens to the CFPB, which inefficiently overlaps with most other financial regulators.

Gold and Crypto Fools' Gold

Last quarter we asked: *Has Gold's Lustre Dimmed?* Remember that the fundamental drivers of commodity prices include: 1) Marginal cost of production, 2) cost of comparable substitutes, 3) unexpected supply vs demand variation, and 4) sentiment. Also, input costs can't exceed output costs, therefore commodity returns can't outperform inflation---that includes gold, although prettier than other commodities. So, commodity returns are limited by inflation – holding costs.

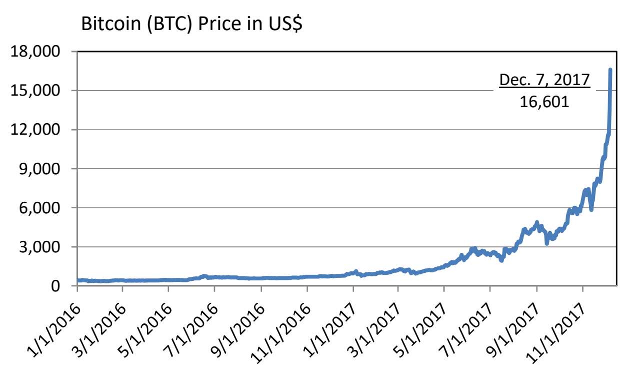
Portfolio diversification isn't sufficient with negative real return to overcome high commodity volatility to justify a strategic allocation. Gold was unchanged over seven years at $1243/oz., underperforming stocks, bonds, and cash, while enduring 21% standard deviation (risk) that exceeded small-cap stocks. Commodity indices suffered similarly. Thus, cash is more effective than commodities for lowering portfolio risk. Commodities and gold tend to be slightly positively correlated with stocks, but have only slight negative correlation with bonds. Increasing cash reduces risk faster than adding gold or commodity exposure. Only during periods of accelerating inflation, crisis, or geopolitical turmoil do commodities and gold make tactical sense.

Gold is hovering near $1280/oz., but remains 30% below its August 2011 high of $1826/oz. Over the last five years, gold lost 6.3% annualized, while the S&P 500 returned 135%, Treasuries returned 16%, and cash maintained your principal. Gold tumbled 13%

between New Years' Eve and Halloween of 2008, so it didn't provide needed protection during the worst of the Financial Crisis. Gold is not a prudent store-of-value, while cash is superior for wealth preservation, in our opinion. Barrick's recent cost of sales was $770-$800/oz., so we think gold could fall below $1000 long before rising above $1600. Higher interest rates on cash increase the return hurdle for gold.

Cryptocurrencies have soared in value during 2017, but also in terms of new issuance---what are called initial coin offerings (ICOs). There are more than 1320 cryptocurrencies with highly variable transaction costs. The CFTC classified virtual currencies as commodities, while the SEC scrambles to catch up. We expect ICOs to be regulated as securities and Bitcoin futures trade as commodities. No Bitcoin ETF has been approved, so futures will provide the first opportunity to short Bitcoin. Even the name Bitcoin or cryptocurrency might imply they are alternative currencies, rather than just speculative commodities.

The Top-5 cryptocoins account for 84% of the $432 billion market[3], including Bitcoin ($279B), Ethereum ($42B) and Ripple ($9B). The total value of gold mined exceeds $8 trillion, so while gold and cyrptocurrencies share some similarities, the gold market is larger with both industrial and consumer uses. Gold also has reference points for its tangible value, such as marginal cost of production, and substitutes for its various uses. Bitcoin provides anonymity of currency notes, but neither Bitcoin nor currency notes provide income.



Source: Bitcoin - Investing.com

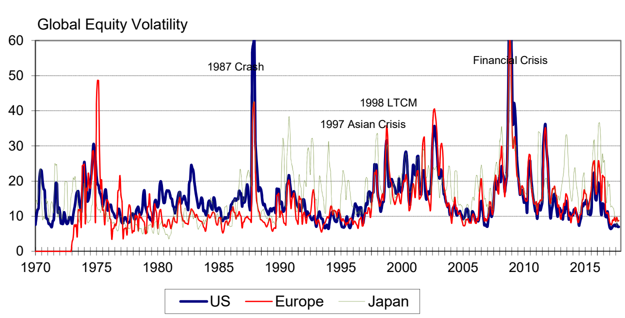
The cryptocoin market is being disrupted itself by low barriers to entry for other clones with no distinctive differentiation. Assumed secure Bitcoin holdings suffer when wallets were hacked. Those that believed Bitcoin supply was limited must now grapple with exponential supply increases into a speculative bubble with unregulated ability to issue an endless number of cryptoclones. Bitcoin is uncorrelated with inflation, but also strangely uncorrelated with others. This is concerning if no fundamental or consistent force drives prices, and should lag gold without any useful industrial or consumer purpose. Some suggest Bitcoin is just another currency, but cryptocoins aren't legal tender, nor backed by the faith and credit of any government or hard asset. Cryptocoins created practically out of thin air (Bitcoin also can "fork", apparently) seem to be undermining themselves as they proliferate faster than the Weimar Republic printed Deutschmarks.

Jim Grant referred to "craft-currencies" as "casino chips doing business as money"---that characterization of these tokens may be generous. In September, Jamie Dimon called bitcoin a fraud and a bubble, but JP Morgan is trading cryptocurrencies for clients. Given the rapid appreciation of Bitcoin, wealth investors are asking advisors to add cryptocoin exposure. There are downside risks, but Bitcoin is unlikely to destabilize markets, as one Nobel laureate suggested. Bitcoin's price could be much lower in a year, and other cryptocoins might collapse independently. Secure blockchain technology is revolutionary and we are enamored by potentially many vital transactional uses, but that doesn't justify Bitcoin speculative valuation.

What is Behind Low Equity Volatility?

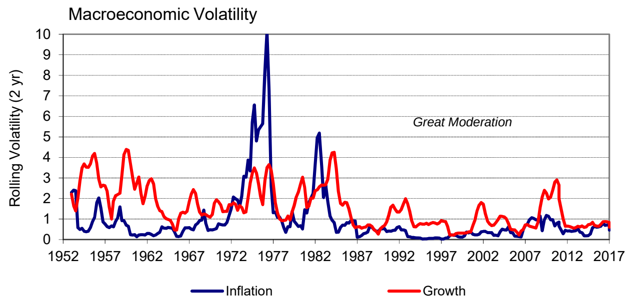
Strategists have expected volatility to increase from very low levels. Several factors limited equity volatility, and led us to expect higher variance-of-volatility, rather than simply higher equity volatility.

- Predictable monetary and interest rate policy with forward guidance and central bank transparency
- Excess monetary liquidity and stable currencies with pinned down and manipulated interest rates
- Low macroeconomic volatility due to regulatory policy restrained growth and secular disinflation
- Increased use of over-diversified products, including ETFs and indexed strategies that reduced active rotation and turnover, yet continuous rebalancing



We believe investors should expect higher bond, currency, and commodity volatility. As interest rates rise in asynchronized fashion between countries, global asset allocation opportunities should expand. We think that relative fundamentals will become more important and remember that *Countries Still Matter*, as do sector and risk factor exposures when cyclical economic forces begin dominating policymakers' decisions again.

[3] Data values from CoinMarketCap.com



The global monetary inflection point should expose economic imbalances and result in evolving asset class return, volatility, and correlation, which are critical inputs to long-term strategic asset allocation studies.

Concluding Thoughts

We expect global equities to outperform global bonds as interest rates normalize. U.S. policy reforms bolster our potential growth outlook. Living standards improve when earnings are strong, incomes are rising, inflation is low, interest burdens are modest, and productivity is high. Improving economic conditions tilt our tactical models further toward overweighting global equities versus bonds. Resilient high U.S. profit margins with resilient growth should support equities. Low volatility and high dividend yield equity tilts could be vulnerable.

Higher convexity with low bond yields accelerate bond losses as rates rise, so meaningful fiscal exposure to interest burdens has consequences. Lower macroeconomic volatility since the *Great Moderation* may rise with greater influence of cyclical forces. Retreating central bank influence will accelerate monetary policy normalization. Global asynchronous expansion enhances international portfolio diversification, while increasing dispersion lowers correlations and expands active opportunities.

Where do investors go when Price/Earnings valuation has risen, Treasuries are overvalued, and real estate capitalization rates plunged as retail malls suffering from rising share of e-commerce. Some suggest preference for alternatives, from Private Equity and Hedge Funds to liquid alts, but high management fees and reduced liquidity premiums undermine returns that are more ever correlated with stocks and bonds than assumed. Private market valuation challenges of lagged mark-to-market increase administrative costs, as risk is chronically understated. Odds for an equity correction increase with higher Price/Earnings ratios and rising interest rates, but stronger earnings growth reduces downside risks. We believe global bonds are at greater far risk then global equities given years of exceptional issuance and manipulation of rates.

Cash can be a prudent risk-reducing portfolio diversifier and better store-of-value than gold when tactical equity forecasts suggest reduced upside, alternatives are costly with marginalized expected return, increasing commodity supply exceeds demand, and global bonds are awfully overvalued. We believe active management can be a new *alternative investment* providing greater diversification seeking to enhance return, but at lower cost and increased transparency—is that not what chasing hedge funds desires? Global tactical asset allocation overlays are particularly compelling since they need not displace underlying security selection or compromise strategic policy allocation, yet access global liquid opportunities that are too rarely exploited.

Geopolitical concerns remain numerous, but few historically knocked economic trends off track. However it is worth enumerating some of them: Rogue States (North Korea, Russia, Iran, Venezuela, etc.), ending *Strategic Patience*, renegotiating trade agreements, refocusing NATO, terrorism, immigration policy, extended sovereign debt, global espionage, BREXIT/EU sovereignty, election meddling, and those pesky unknowable unknowns.

Finally, consider Warren Buffett's $1 million bet at the end of 2007 with hedge fund manager Ted Seides that matched an S&P 500 index fund versus Protégé's hedge funds. The contest wasn't even close---the S&P 500 index fund returned more than 4X the net return of the hedge funds, despite heading into the worst equity decline in 80 years. Mark Yusko of Morgan Creek recently tried to entice Warren into another wager. What was remarkable about Mr. Yusko's wager was not betting that his hedge funds would succeed, but that the stock market would decline---his confidence was in hedging the stock market return. Instead, Mr. Buffet seeks to match active management vs. index funds, rather than wager the stock market return is positive. These wagers highlight the importance of risk-adjusted active returns and management costs in investors' objectives. Mr. Seides and Mr. Yusko can afford to lose $1million, but are their clients' portfolios yielding net excess returns that justify their fees and risk? This is the point Mr. Buffet seems to be making.