STRATEGIC OUTLOOK

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Strategic Frontier Management
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TAILWINDS AND CREATIVE DESTRUCTION

- Reports of the economy's demise with an expansion now exceeding 8 years are greatly exaggerated. Equities are no longer cheap, so will be more reliant on continued earnings growth, which is accelerating. Economic and market divergences are increasing between countries. Some countries will be at a greater disadvantage with U.S. policy *Tailwinds* bolstering global competitiveness or still significant headwinds of fiscal deficits compounding their debt.

- The industrial revolution we've described continues to accelerate with disruptive change and *Creative Destruction* from financial services to basic resources, and technology itself. The manufacturing renaissance is changing the nature of work. Jobs that are routine, repetitive, or can be automated are declining. Its effects limit inflation and wage growth.

- Adaptive robotics, machine learning, sensors, and additive manufacturing have flattened labor cost advantages of developing countries (China, India, Mexico, etc.) and should bolster the trend of U.S. production on-shoring. Trade balances for Germany, Japan, and Korea should benefit from narrowing production costs as consumer proximity, logistics, and quality are more important.

- Global divergence of profit margins is observed, with the U.S. still hovering well above other nations. Despite stronger growth in developing economies, their profit margins declined, particularly in countries most dependent on cheap labor, like China. Corporate tax reform, including addressing foreign earnings repatriation, will encourage investment. Corporate expatriation and inversions rightly slowed with rising business confidence since the election, but might resume if tax reform fails to materialize.

- A key question of the productivity puzzle is how slow economic growth and stalled productivity translated into such high U.S. profit margins. Rising labor efficiency should have driven higher productivity, yet we observed unexpected and frustrating growth. We suggest a combination of measurement issues and headwinds of adverse policies was the cause.

- Global interest rates are rising, led by U.S. rate hikes. Vigilance about interest rate sensitivity is needed, even within private markets and equities. Interest rates and central bank holdings must normalize, as long as real growth is sufficient—notice inflation need not be accelerating. Interest rates and central bank holdings must normalize, as long as real growth is sufficient, but have never observed increasing interest rates with such high bond convexity (greater losses at lower yields). We expect a pragmatic, but more Taylor Rule consistent regime as the FOMC shifts under principally new management within a year. We believe Glenn Hubbard or Kevin Warsh could be the next Chair.

- Non-U.S. bond yields shouldn't rise as fast, but normalizing monetary policies increase uncertainty, expose imbalances, and reveal moral hazards. Higher interest rates increase interest burdens, risking a fiscal crisis for countries most indebted, including Japan, Brazil, and several within the Eurozone. Many states and municipalities are also struggling with soaring pension and other liabilities that risk credit downgrades. The next crisis may be rooted in overvalued government issued debt. U.S. bond market illiquidity could compound losses.

- U.S. fiscal and regulatory policy changes expected will increase global divergences, affecting potential growth and long-term return forecasts, as well as return volatility and correlation. Equity volatility-of-volatility increased as we expected, while U.S. equity volatility fell to record lows. Expecting higher global bond or currency volatility should be intuitive as economic volatility rises. Countries still matter and we believe international diversification benefits are rising as country correlation declines.

- We expect global equities to outperform bonds as interest rates rise. U.S. policy reforms bolster our long-term potential growth outlook. Resilient high U.S. profit margins should support equities and drive earnings growth. A correction in overvalued global bonds may be the greatest market risk. U.K. equity and small-cap tilts are particularly interesting now.

Is It Different This Time?

Individual beliefs are shaped by experiences and interactions with others offering unique perspectives. Thus, investors behave differently despite similar access information. I met Prof. Rudi Dornbusch of MIT during the mid-1990s while working for Wellington Management. At the time, we seemed to grapple more often with the notion *Is It Different This Time*, culminating with the greatest equity valuation bubble since at least 1929. That is not to say economic relationships don't change, but intuitive fundamental relationships persist, such as valuation, growth and inflation rates, interest rates, currencies, and risk. Such factors defined our Global Tactical Asset Allocation discipline across equities, bonds currencies and risk factors in 15 countries for 27 years.

Rudi often reminded us that that secular change and fiscal policy effects take much longer to play out than anticipated---step changes such as the *New Economy* or *New Normal* hypotheses proved misleading in the long-run, although they aligned with sentiment in the near-term. The Financial Crisis was dramatic, causing preferences and risk aversion to adjust, at least temporarily. It is not surprising investors hungered for yield, alternatives, risk parity, and low volatility strategies that promised higher returns with less risk or low correlation. Low volatility and high dividend yield strategies benefited from strong fund flows, but *Is It Different This Time*, particularly as rates rise? Some of these anomalies should unwind or reset.

Prof. Dornbusch often reflected on a persistent theme he revisited over many years, in many contexts.

> *"In economics, things take longer to happen than you think they will, and then they happen faster than you thought they could."*
>
> --**Rudi Dornbusch**, MIT Economist known for *exchange rate overshooting hypothesis* explaining observed higher than theoretically expected levels of currency volatility.

Geopolitical risks are emerging more frequently now, but also resolving quicker. We have grown numb to terrorist attacks, even within our borders. It seems that we treat them like natural disasters---maybe they will become discouraged if such immoral acts illicit diminishing response, but what is a society that can? Experience matters and those who dismiss history are condemned to repeat it. Moreover, unknowable risks are costly to hedge, but even when a hedge is in-the-money, heightened fears often prevent us from capitalizing. Soon gains evaporate unless hedging is tactical or opportunistic---passive hedging is like buying fire insurance for a house that hasn't been built.

Secular economic and earnings trends that drive market returns typically take years to realize. Assuming *it is different this time* rarely works out well from theories of a *New Economy* to *New Normal* or *Secular Stagnation*. Thus, the most effective way to exploit geopolitical volatility has been with the fundamental discipline of a contrarian. Investors loathe engaging when uncertainty is high, but capitalizing on convergence of dislocated markets, as well as systematic rebalancing remains the most intuitive way to benefit from mean reversion to equilibrium. Markets overshoot more than anticipated, so tactical asset allocation disciplines that build positions gradually tend to be most effective in this regard.

Global Economic Conditions

Outlook for the Global Economy is firming, led by improving business and consumer sentiment in the U.S. With a consequential election and surprising outcome, political change can have significant economic impact. We believe that *Tailwinds* of improving potential growth will be bolstered by U.S. fiscal, tax, health care insurance, and regulatory reforms. Since the election last November, business and consumer confidence rose and improving ISM Survey suggest the chance of recession is low for the foreseeable future.

A new economic regime has emerged with different government policy priorities. The policy pivot should promote better growth, earnings, trade balance, investment, competitiveness, and productivity, while reinforcing still high profit margins. Corporate and individual tax reform should reduce administrative and enforcement costs, while lowering rates. We expect potential real growth will increase from 2.0-2.5% to 2.5-3.0%. Our GDP forecast expects 2.6% in 2017, followed by 3.0% in 2018. Changing expectations drove rerating of equities, but further adjustment requires visibility on fiscal and regulatory reform.

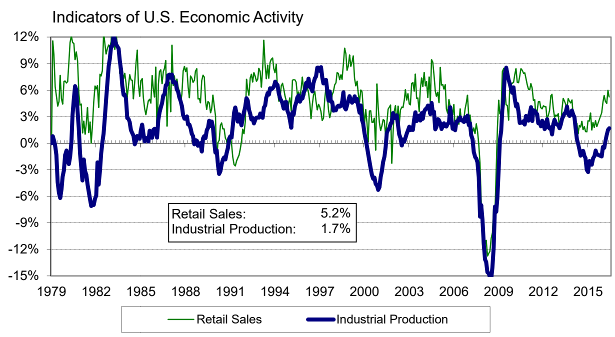
Constructive economic trends often begin with rising economic confidence (what the Fed has sought from forward guidance, ironically), as we have observed since November. The Administration's new economic policies seek to restore 2.8% potential growth, greater productivity, and improved global competitiveness.

Economic Forecasts	**2012**	**2013**	**2014**	**2015**	**2016**	**2017e**	**2018e**
GDP Growth (Y/Y Real)	2.3	2.7	2.5	1.9	**1.6**	**2.6**	**3.0**
S&P500 Earnings	6.0	5.7	8.1	-0.9	**1.1**	**9.5**	**11.5**
CPI Inflation (Y/Y)	1.8	1.8	0.7	0.7	**1.3**	**2.5**	**2.7**
Unemployment	7.8	6.7	5.6	5.0	**4.7**	**4.5**	**4.5**
Fiscal Deficit	-6.6	-3.2	-3.5	-3.0	**-3.8**	**-3.5**	**-3.0**
Fed Funds Target	0.25	0.25	0.25	0.50	**0.75**	**1.75**	**3.00**
10y Treasury Notes	1.85	3.00	2.17	2.27	**2.45**	**3.25**	**4.50**
S&P 500 Target	1426.	1848.	2059.	2044.	**2239.**	**2350.**	**2600.**

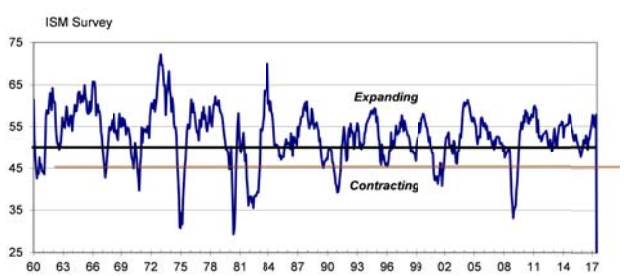
Earnings	**2019e**	**2018e**	**2017e**	**2016**	**2015**	**2014**
IBES Consensus	$ 160.51	$ 146.82	$ 131.54	$ 118.73	$ 117.46	$ 118.78
Strategic Frontier	$ 158.00	$ 145.00	$ 130.00			
SFM Growth	9.0%	11.5%	9.5%	1.1%	-1.1%	8.3%

Most importantly notice what is happening to earnings growth as oil declines and strong U.S. dollar sunset. Second quarter earnings are expected to show both strong revenue growth and earnings. Energy, Financials, and Technology provide the strongest growth expected this quarter and for 2017, with the recovery in Energy earnings of material significance.

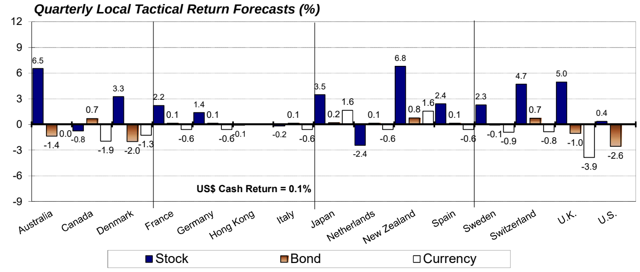
The disappointing roughly ½% decline in U.S. potential growth over the last decade appears to be a result in part of government policy headwinds. This may sound relatively trivial, but compounded over a few cycles becomes significant. Economic stagnation or deflation can be symptoms of misguided policies and regulation. Thus, we believe anticipated government policy changes should produce material *Tailwinds* to restore U.S. potential growth.



The chart above highlights recent acceleration in U.S. growth observed. Construction also increased 6.2% (y/y), while business sales are up 6.7%, which is the highest growth since early 2012. The ISM Survey below is one of the best indicators of future business activity, correlated with growth over the next 6-12 months. The recent 57.8 suggests the economy is accelerating and correlated with 4.8% real growth, which is higher than forecast.



Improving global growth can exceed 3.5% this year versus 3.1% in 2016. Stronger cyclical growth has been observed in Emerging Markets, U.S., Canada, and Australia. China is still growing 6.5-7.0% and India should exceed 7%, but Brazil and Russia continue to struggle as Emerging Market divergences increase. Yet, G-7 growth will be closer to 2% in 2017 limited by Japan, France, and Italy. Europe and Japan still languish below their reduced potential because government policies failed. Europe has stabilized, but Japan is faltering again after just 1% growth in 2016.



			Local Markets		In (US$)		US$
MSCI	Citi WrldGvt	Aug 2017	Stock	Bond	**Stock**	**Bond**	Currency
100%	100%	World	1.3	-0.9	**1.0**	**-0.9**	-0.4
25%	37%	Europe	2.9	0.0	**1.3**	**-1.5**	-1.9
11%	27%	Pacific Basin	3.9	0.1	**5.0**	**1.6**	1.2
40%	65%	Non-US World	2.8	0.0	**1.9**	**0.0**	-0.9
60%	35%	US	0.4	-2.6	**0.4**	**-2.6**	
		Cash		0.3		**0.3**	

	Lg-Sm	Va-Gr	
US Style	-1.32	0.52	
	Small -	*Value*	favored

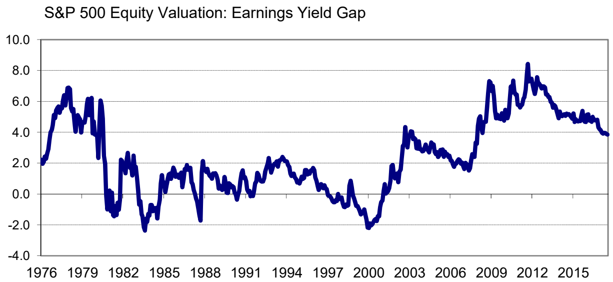
Source: Strategic Frontier Management

Our quarterly equity forecasts (12-18 month horizon) have moderated and suggest there isn't much upside for global equity markets after strong returns. The most attractive equity markets are Australia, New Zealand, Switzerland, and the U.K. We still favor a tilt toward small-cap and value equities. Global bonds remain a concern, particularly in the U.S., U.K., and Australia. Canada might be a safe haven for bonds as debt/GDP is reasonable, but British pound remains a concern.

Is an equity correction overdue? The calendar does not dictate valuation, profit margins, or business cycles, but imbalances do tend to increase over time. Nor does "peak" earnings or Shiller's CAPE[1] valuation, which suggested the S&P 500 was more or less overvalued since 1992. Is it any wonder Robert Shiller believes valuation has little predictive ability focused on CAPE? Another misleading equity ratio that appears stretched is market capitalization/GDP. This may look like a Price/Revenue ratio, but the basis of listed companies and economic activity are different, including effects of foreign earnings, share buybacks, company size, and declining number of listed companies. Although the S&P 500 returned 335% since the March 2009 low, earnings grew enough to maintain valuations.

Our S&P 500 valuation still appears compelling, particularly relative to interest rates. Relative valuations favor small-cap equities over large-cap. Global equity valuations are not stretched in most G-7 countries, but lack of growth in Europe and Japan increase risk of a value trap. This is why we rely on multi-factor return forecasting. Unlike many other corrections, 2008's recession was triggered by a credit crunch that caused earnings to decline precipitously for a short period of time then recovered. Our concern is bond valuations.

[1] Cyclically Adjusted Price/Earnings ratio based on earnings averaged over 10 years, adjusted for inflation. If earnings growth or inflation diverges, the measure may be biased.



Policy changes often take longer to have an effect, but changes in sentiment may have shorter-term halo effects. The Trump-bump in the economy and equities is an example of changing confidence, but now we wait for legislation. Thus, we held our 2350 S&P 500 target and 3.2% growth for 2017 until fiscal reform passes.

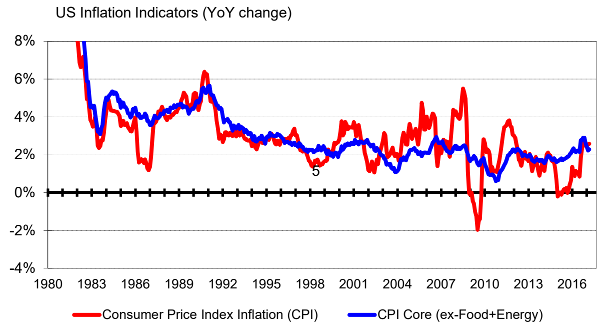
Effects of shifts in political balance-of-power usually lag for years, but the consequences of the U.S. election are likely more immediate with political alignment. New administrations typically prioritize work in series, but this Administration may pursue simultaneous initiatives. Congressional leadership needs to change its way of doing business to accomplish its objectives. Meanwhile, the change in the balance of power has enabled regulatory reform, which will bolster growth.

Japan's Abenomics and quantitative easing failed to bolster growth, reduce fiscal deficits, or forestall another recession. An extreme debt burden and fiscal deficit have limited Japan's options. Although credit agencies downgraded Japan's debt, investors seem oblivious to bond or currency risks. The BoJ is purchasing US$864 billion/year in bonds and owns 43% of government debt. The temptation for a central bank to extinguish debt grows with a debt spiral they are unable to escape. A 10% loss due to rising bond yields would trigger a US$400 billion loss---problematic for the U.S., but Japan's GDP is only 26% of the U.S.

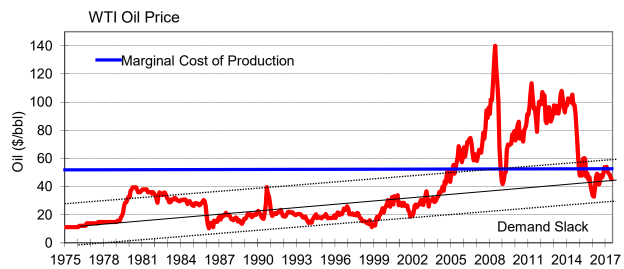
A decade ago, developing countries benefited from urbanization, industrialization, globalization, emerging credit culture, and insatiable consumption. These were powerful drivers of strong growth, but as developing economies mature, differences become important. We have cautioned since 2014 that declining profit margins with rising labor and material costs suggest that even if revenue picks up, earnings growth would be limited. Profit margins are rising again, so now emerging equity markets are more compelling. This is the insight so many advisors missed in 20016, being long Emerging Markets and short U.S. equities.

Clear and Present Inflation

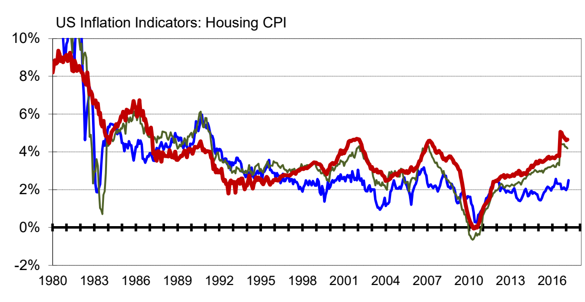
Over the last year, we expected core CPI inflation (ex-food, energy) would remain steady, but headline CPI inflation would converge toward it as effects of oil prices and a stronger U.S. dollar sunset. While unusual to raise interest rates with such low inflation, inflation risks are increasing. We think Federal Reserve should have begun normalization sooner with so far to go.



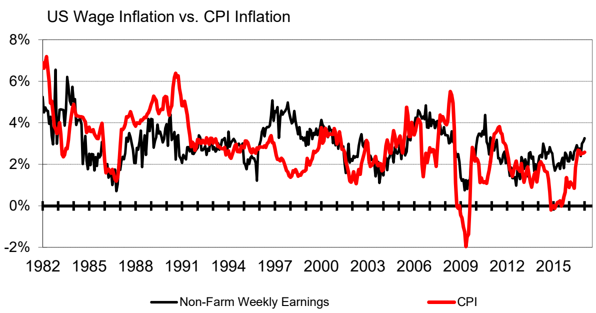
Oil prices declined on recent supply-driven forces as the U.S. government ushered in a new regime of expedited pipeline, refinery, and drilling lease approvals. Oil production has risen above 9 million barrels a day. Energy prices seem to be having the most impact on changes in inflation, and thus should not affect monetary policy decisions. Thus, interest rates need to continue normalizing toward equilibrium.



Inflation seems to strengthening, so there is nothing comforting for naysayers in these charts. As housing demand strengthens and rental vacancies decline, home prices and rent increase. Rent equivalent (housing) inflation is 33% of CPI and 42% of core CPI, so the housing inflation is meaningful.

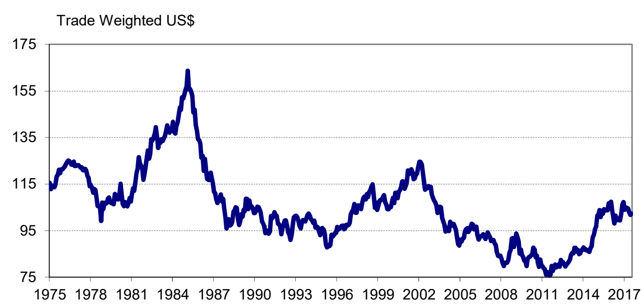


Wage growth is highly correlated with inflation, so 4.0% wage growth has tracked 4.2% CPI inflation over the last 50 years. Wages increased 2.3% over the last five years, exceeding CPI inflation of 1.8%. Full employment is driving wage increases, so as minimum wage hikes and overtime regulations take effect, rising labor costs should exceed inflation. Slower wage growth was a function of moderating inflation, but labor costs are rising now with cost of living, minimum wage hikes, tax increases, and benefit costs. So, it is clear below that wages never declined.



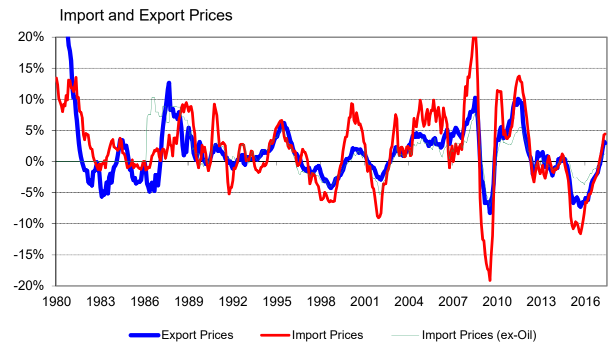
Suggesting workers earnings declined is misleading as wage growth actually exceeded inflation, increasing about 2% in the chart above. Real household income did decline, but the complex calculation nets income and transfer payments minus higher taxes and fees. Shrinking household size, more single income households, reduced benefits, and rising health care costs all tended to lower household income.

We should ask a marvellously simple question: What is long-term U.S. inflation? The FOMC says long-run PCE inflation has declined from 3% to 2%, but it should to rise toward at least 2.5% (CPI of 3.0%). Fiscal and regulatory reform could restore 2.7% potential growth versus 1.8% growth observed since 2008. Realizing higher than anticipated growth and inflation could drive a parallel shift or steepening yield curve, suggest that bond yields rise as much as short rates.



Further Euro and Yen weakness is expected as the BoJ and ECB continue to worry about growth. Political failure to bolster competiveness, improve potential growth, or correct structural fiscal deficits forced central banks to shoulder the burden of bolstering growth. Central banks now dominate ownership of government debt, but capacity for quantitative easing is not unlimited. Easy monetary policy has had diminishing effect, particularly as yields were driven below 0% in Europe and Japan. Global competitiveness and low inflation are critical if we seek a strong US dollar.

Devaluing currencies or imposing tariffs are untenable responses to trade imbalances. Status of the US dollar as the world's reserve currency is unlikely to be threatened in the foreseeable future. We have enjoyed stable consumer prices, particularly for imported goods with a strong U.S. dollar. Declining import prices affected inflation.



Secular Disinflationary and Creative Destruction

Globalization, outsourcing, internet price transparency, hyper-competition, innovation, and creativity reinforced secular disinflation. Joseph Schumpeter's *Creative Destruction* of this Industrial Revolution has yielded greater profit margins, but also masked underlying cyclical inflation. Basic resource prices were capped by extraction and utilization efficiencies, plus substitution. New revenue models cause measurement issues that seem to understate economic growth and productivity. Faltering competitiveness and deflation are often a symptom of policy dysfunction. Presence of secular disinflation is a critical reason that targeting inflation[2] by central banks is a fool's errand and risks stagflation.

The manufacturing renaissance has a disinflationary impact on costs, benefitting from a manufacturing renaissance. Advances in additive manufacturing, software engineering, machine learning, data analysis, logistics, sensors, virtualization, and communications have enhanced efficiency and profit margins. We have highlighted notable accounting issues that understate growth, and thus productivity, due to alternative revenue sources and free internet applications or services. The Open Source movement provides remarkable programming, software application, and data analysis tools for free, yet competitive versus expensive commercial systems. Barriers to entry are

[2] Monetary policy must be disciplined, asymmetric, and provide monetary stimulus only if the economy is in crisis or suffering severe distress. Symmetric inflation targeting is a fool's errand and risks greater future market volatility. History suggests central banks can slow inflation or bolster demand with rate cuts, but seem unable to increase prices. Wealth effects and sentiment are bolstered by policy surprises, so forward guidance apparently dulled central bank efforts.

falling at a time of disruptive and adaptive transformation. Michael Porter's idea of *sustainable competitive advantage* has never been more relevant. Those enterprises with sustainably unique value added will be more secure.

Entire industries were marginalized in less than a decade. More jobs are being replaced with fewer workers. So, Technology adoption had a greater effect on the workforce than outsourcing, while labor intensity declined in manufacturing and construction. The more systematic or quantitative the job, the greater is the likelihood of disintermediation. Nearly every aspect of financial services, from asset management to banking, was disrupted. Consumer prices for financial services are finally declining with improved cost efficiency, consistency and quality. IBM's Watson competed on Jeopardy five years ago and is now diagnosing cancer. Working with the Alberta Machine Intelligence Institute in 2014, I observed remarkable adaptive prosthetics to ways forecasting returns can be improved with machine intelligence. *Creative Destruction* leveraging adaptive systems and innovation are piling up.

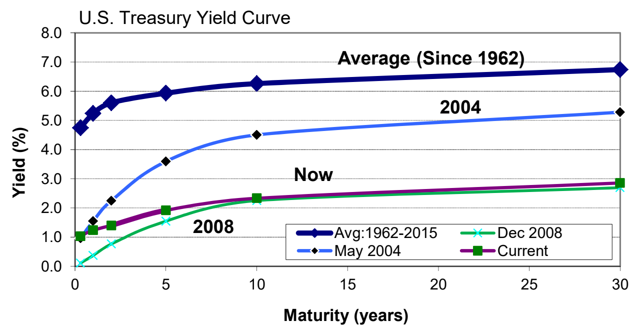
Human nature often views change and transformation with skepticism, fear, and animosity, but the behavioral advantage of structured investment advice (i.e., Robo-advice) promotes consistency of investment disciplines at lower operating cost. It is difficult to anticipate the madness of markets or identify exuberance in the short-run, but long-term reversion to fundamentals is a powerful force to be exploited. It is not surprising transformative forces of technology that impacted other industries are now visibly impacting Financial Services.

New Interest Rate Paradigm

U.S. monetary policy normalization has begun with interest rate hikes and anticipated unwinding of Federal Reserve's holdings. Global interest rates are expected to rise, led by rate hikes in the United States. Investors need to be vigilant about the impact of rate sensitive holdings, including equities and private markets. We believe the Federal Reserve has settled into steady interest rate hikes of ¼% every other FOMC meeting or +1% per year to at least 3.5%. The approach to winding down the balance sheet has been announced. We estimate it needs to decline from $4.4 trillion to about $1.6 trillion or $2.5 trillion reduction, beginning with agency mortgages within five years.

The *New Interest Rate Paradigm* was discussed in our Strategic Insights (March 15, 2017). Transitory effects of plunging oil prices and strong U.S. dollar, as well as secular disinflationary forces of the next Industrial Revolution have limited cyclical inflation. However, inflationary risks are obvious in key areas that concern us. Inflationary forces are increasing risks to maximum sustainable growth with full employment, firm capacity utilization, limited new housing, moderating regulatory headwinds and rising potential growth. We also expect the FOMC will be under new management within a year, filling several vacancies, including a new Chair.

Interest rates have remained too low for too long and now must normalize given the wide gap we expect to traverse from 1% to 3.25% for short-term bills. We expect Treasury 10-year yields to rise from 2.3% to 5.0% within the next 30 months by mid-2019, unless a recession emerges. Policies reserved for crisis or recessions are no longer appropriate, and it is clear from the chart below how far we must go.



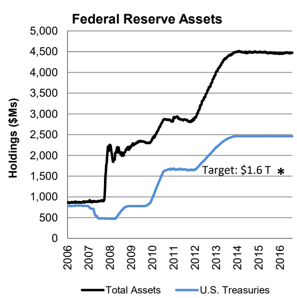
A three decade long bond bull market has led investors to assume unrealistic normal return, volatility, and correlation estimates. Increasing economic divergence should lead to market divergences, not only between countries, but also across sectors and risk factors. An inflection point in interest rates with record debt outstanding, tight credit spreads, greater illiquidity, and high convexity (losses increase at lower yields) suggest downside risks to bonds are increasing. Dividend yield and low volatility factor tilts are at risk with unraveling imbalances of extended fixed income duration and bond leverage.

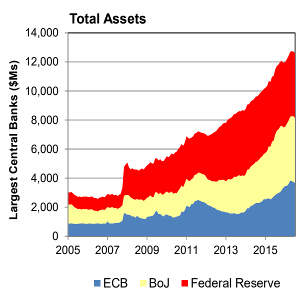
U.S. recession risk remains low for the foreseeable future, but normalization from such low levels will take years. Monetary policy remains stimulative even if short-term rates rose 1-2% based on the Taylor Rule (neutral estimate: 2.7%). Equity bull markets and economic expansions don't die of old age, but most often are "snuffed out" by the Federal Reserve. Significant Taylor Rule target deviation should only occur during periods of extreme risk, such as the Financial Crisis.

Soaring federal debt coincides with persistent fiscal deficits that should increase interest burdens as rates rise. Refunding risk (replacing maturing bonds) rises as lower rates of shorter maturities discourage issuance of longer bonds.Many states and municipalities struggle with soaring pension and other liabilities, including Puerto Rico. Risk of credit downgrades must increase. Holding shorter-term municipal bonds might reduce risk, but imbalances are increasing. Low interest rates, tightening credit spreads, and quantitative easing masked the increase in debt and liabilities. Yet, liabilities are likely reaching a tipping point. Some states have managed to negotiate pension reforms, but others will likely require taxpayer bailouts.

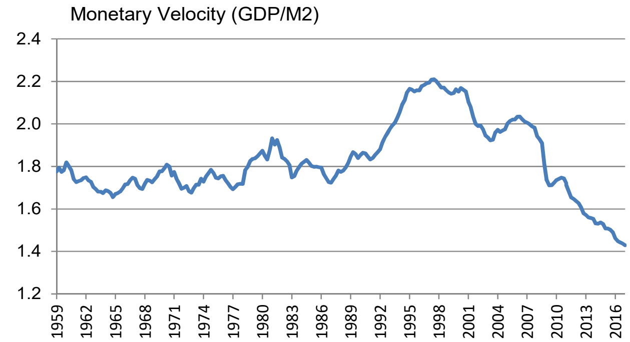
As global bond yields were driven lower by explicit manipulation of rates by central banks, these assets appreciated, but as interest rates rise, loses likely will compound, further increasing net liabilities as interest burdens increase. Fiscal deficits will be adversely impacted with rising rates. Strategists expected equity volatility to rise after the election, but we expected greater variance-of-volatility instead as global equity volatility plunged to record lows. Bond and currency volatility should increase with global divergences and reduced bond liquidity due in part to financial reform.

Three of the largest central banks (BoJ, ECB, and Fed) have acquired assets totaling about $13 trillion, and are similar in size. However, China's central bank is the largest of all, holding another $5.1 trillion. The rate of assent in Total Assets is particularly concerning, although the ECB expects to taper its purchases soon.





Excessive regulatory burdens have limited loan growth, as banks were required to increase capital reserves. While liquidity tightens, expanding loan capacity should increase velocity of money[3]. Suspending paying interest on excess reserves might help too. Excessive money growth hasn't been consequential to inflation because monetary velocity declined. Increasing capital reserves and other financial reform requirements coincided with collapse in commercial paper issuance ($4 trillion to $1 trillion), which also has had an impact. Raising capital requirements had to be done gradually, but converging on their regulatory objective as potential growth accelerates should increase velocity of money.

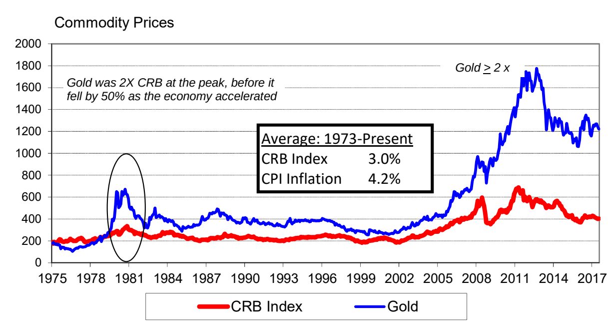


Has Gold's Lustre Dimmed?

Fundamental drivers of commodity prices include:

1) Marginal cost of production 2) cost of comparable substitutes, 3) unexpected variation in supply vs demand, and 4) sentiment.

Gold is negatively correlated with real interest rates, but also tends to rise as the U.S. dollar weakens. Input costs can't exceed output costs, thus commodity returns can't exceed inflation, including gold. Thus, commodity returns are limited by inflation – holding costs. Gold is unchanged over seven years at $1243/oz., thus it has underperformed stocks, bonds, and cash, while enduring 21% volatility that is greater than small-cap stocks. With interest rates rising and quantitative tightening (reducing bond holdings), as ECB plans to taper quantitative easing, gold becomes less unattractive. Higher interest rates on cash increase the return hurdle needed of gold. We expect the U.S. dollar can continue appreciating modestly, but gold is unattractive and should fall toward $1000.



If commodities return no more than the rate of inflation, portfolio diversification isn't sufficient to justify a strategic allocation to commodities with such high risk and low real return. While gold has the virtue of being used as a standard for money through history, it is not consumed to the extent of other commodities. Bitcoin should be uncorrelated with inflation, but lag gold, and behave like other currencies. No asset is denominated in Bitcoin, but Eurobonds earn interest plus changes in currency value. No bitcoin deposit earns interest.

[3] Velocity of money (V) is the frequency or number of times a dollar is spent to buy goods and services in a year. Most often used in the context of: Money x Velocity = Spending: Price x Transactions (aka: MV = PT)

Cash is more effective than commodities for lowering and diversifying portfolio risk. Commodities and gold tend to be slightly positively correlated with stocks, but only slight negatively correlated with bonds. So, investors are better off in cash for diversification, and cash equivalents return more than inflation. Only during periods of accelerating inflation, crisis, or geopolitical turmoil do commodities and gold make sense tactically.

Note--Too many retirement plans include specialized funds, but fail to include a short-term bond option. A retirement plan of a large investment bank I recently reviewed includes commodity, emerging market debt, and a hedge fund, but no short-term bond fund. Stable value funds struggled to find wrap providers since 2009, causing many funds to close. Our strategic allocation process identifies short-term bonds as a critical asset class, particularly for conservative allocations. It is appalling retirement plans don't include a basic option at a time of rising interest rate risk.

Rationalizing Uncomfortable Choices

These are interesting times to exploit increasing dispersion and an unusual number of tactical investment opportunities. Coinciding with the inflection point in normalizing interest rates are other important economic and capital market divergences. Low rates can drive investors to chase yield, resulting in tight credit spreads and greater interest rate risk. As rates rise, yield-oriented strategies may expose portfolios to more interest rate risk than visible.

Effects of shifts in political balance-of-power usually lag for years, but the consequences of the U.S. election are likely to be more immediate with political alignment. Legislative changes have been near impossible with divided and highly partisan government, but the current balance of power provides an opportunity that should not be squandered. Congress will need to change its way of doing business to achieve its objectives. We believe Senate Cloture Rule could be suspended or modified in 2017, which changes what is possible.

With a narrowly split Senate for the last decade and divergence of fundamental ideological beliefs on government control (regulation and liberty) and fiscal policy (taxes and spending), we understand why the filibuster or Cloture Rule has been weaponized. Most are surprised the Senate's Cloture Rule was adopted 100 years ago in 1917 to overcome legislative gridlock. Unlimited debate provided that one Senator could prolong debate indefinitely, so the rule was adopted to allow a vote of 60 Senators to end debate. Thus, there is no basis in our Constitution for Cloture, other than the majority's ability to write and change Senate rules.

The Federalist Papers indicate a belief in majority rule, as Alexander Hamilton said: "the fundamental maxim of republican government…requires that the sense of the majority should prevail." We seem to have lost sight of the principal that the majority should prevail. Thus, the purpose of cloture has been turned upside-down, and should now be modified or suspended given it is being misused at every possible opportunity.

In *British Independence Day* (June 2016), we believed the decision to leave the EU could bolster potential growth as the U.K is unshackled from uncompetitive regulation and misguided policies. Discarding a 40-year multilateral treaty is not without consequences, but it isn't difficult to see many long-term benefits of BREXIT in regaining sovereign control of regulation, immigration, defense, and fiscal policy (partially). The unemployment rate declined, growth increased, and the currency has stabilized at a more competitive level.

Eliminating EU membership expense and indirect household costs provides a fiscal boost. Although the EU continues to seek a U.S. trade deal, it appears a UK-US trade deal may be signed soon. We expect the U.S. will focus more on bilateral agreements versus complex compromised multi-lateral trade agreements, which many, including the EU, struggle to complete. The U.K. has begun to pivot toward increased NATO support, as the U.S. seeks to modernize NATO's mission. "Passporting" concerns of non-British labor is likely overblown—Frankfurt and London will still compete, but importance of geography in financial services has declined for 20 years as electronic trading increases, so this may be as over-hyped as the effects of U.K.'s failure to join the European Monetary Union

Every quarter we seek to provide a few insights and our latest market expectations. Below we highlight insights that should have greatest impact on returns:

- Policy Tailwinds displacing effects of headwinds
- Slowing population growth, declining labor intensity, and resource efficiency belie the *productivity puzzle,* and reinforce secular supply side disinflation
- *Normalization* of monetary policy accelerates, including rising rates and reducing bond holdings
- Monetary inflection point exposes imbalances and results in evolving return, volatility, and correlation
- Equities should be resilient to normalizing rates, but equity sectors, risk factors will be affected differently
- Global asynchronous economic diversion enhance international diversification: *Countries Still Matter*
- Overweight cash—tactical equity forecasts suggest little upside, while global bonds very overvalued
- Fourth Industrial Revolution effects on product development, manufacturing, labor, energy, and services are defined by C*reative Destruction*
- Our *Future Themes* are evolving more quickly now

Just "Portfolio Theory"

Investors need a reliable *foundation* upon which to build an investment discipline and fundamental intuition to equip us for any challenge. We don't want to be deceived, but how do we separate good innovation and best practice from foolishness? Experience and good intuition helps, but prudence is better when managing other peoples' money. As investors, we may have unique portfolio objectives, but the flexible framework of Modern Portfolio Theory (MPT) can accommodate any quantifiable client objective, portfolio guideline, or investment constraint. Given the staggering number and breadth of different client strategies encountered, it is a credit to methodologies that stood the test of time.

The quantitative management revolution began 65 years ago with Harry Markowitz publishing *Portfolio Selection* in the Journal of Finance (1952). The beauty of this framework is that the objective function may be transformed to produce portfolio allocations for a variety of different strategies by simply redefining utility.

MPT specifies that investors must be compensated for undiversifiable portfolio risk, defined by an objective function (utility) and subject to constraints:

Max (Utility = Expected Return – λ * Risk – TCost)

Such that,

Expected Return = X * R = $\Sigma_I \, x_i * r_i$, for i={1..n}
TCost = Transaction costs
X = Portfolio allocations (x_1, x_2, x_3…),
C = Covariance elements in Risk = X C X^t
λ = Investor risk tolerance

How can this mathematical program be controversial having survived so long and being so widely accepted? Critics are sure to grab headlines, but no alternative has displaced it. Poor assumptions or data quality issues can compromise any model, but a model eligible for social security probably shouldn't be referred to as "modern"[4]. Just "Portfolio Theory" would be fine with us. However, we should not lose sight that MPT is practical and became intertwined with the *Prudent Investor Rule* officially in 1992, although compatible with the prudent man standard for longer. Empirical evidence suggests the Capital Asset Pricing Model (CAPM) is incomplete[5]. Indeed, CAPM extensions or additional risk premiums suggested by Fama-French (company size and value) and Carhart (momentum) seem to improve results.

[4] Taking issue with "smart" beta might be more worthwhile, particularly single risk factor strategies labelled as such.

[5] Portfolio selection or MPT can be thought of as the optimal allocation of portfolio holdings, whereas CAPM is an algorithm to determine expected returns needed for MPT. CAPM may be extended beyond linear market risk (β) to many factors. Indeed, relationships are often nonlinear.

Strategic Frontier Management adapted MPT in our proprietary methodology more than 15 years ago, and since utilized it to construct more efficient strategic allocations. Problematic assumptions (i.e., normally and independent-identically distributed returns) were addressed. For active strategies, we use an alternative measure of investor risk that has intuitive appeal versus return covariance. Despite significance of these adaptations, the foundation of portfolio construction defines investor utility[6] balancing risk vs. return.

A small minority continue to criticize MPT for not "protecting" portfolios during the Financial Crisis, but we think the greatest challenges with MPT are related to developing practical risk and return inputs. MPT provides essential tools needed by asset managers to engineer prudent portfolios or how analyst insights should be reflected in holdings. CAPM is a framework for developing expected returns, style analysis, and performance attribution. We believe provocative articles, blogs, or click-bait that seeks to discredit MPT or CAPM can be misleading.

A few months ago, I was asked to review a professor's academic paper entitled: *Is It Ethical to Teach That Beta and CAPM Explain Something*? I was not amused, but after collecting my emotions, I put fingers to keys as rigorously as I could while keeping moral exasperation in check. The premise of the paper was that CAPM is unable to add value in presumed efficient markets. However, there is nothing unethical about suggesting investors should be compensated for risk (i.e., technology vs. utilities, value vs. growth, small-cap vs. large, equities vs. bonds). Model assumptions are often more or less flawed, but approximations of theory define logic and intuitive relationships. If CAPM and MPT are a foundation and core principles of investing, then it is negligent not to teach them.

Investors must be rewarded for undiversifiable risk. The low volatility anomaly observed over the last decade suggests there has been a free lunch, but many thought the *New Economy* (1998-2001) valued eyeballs or clicks as much as earnings. In the Quant Quake of 2007, performance of BARRA's risk factors dramatically flipped for 3-4 months, resulting in devastating underperformance (note: quants not using BARRA or similar risk factor models fared better—factor exposures were key, not security overlap as suggested). Certain prop-trading desks took advantage and exploited the opportunity. Risk factors can behave badly for periods of time. Yet, the CAPM and MPT are basic tools needed to understand more complex theories and best practice that build on its foundation. Discouraging young analysts and portfolio managers about the importance of such theories is sad.

[6] Many machine learning algorithms also are rooted in maximizing utility or minimizing predictive error.

Financial engineering can be a blessing and a curse that increases opportunities, efficiency or transparency, but also requires new skills, analytical tools and datasets that reveal previously unquantifiable risks. Neglect of unintended risks is no longer acceptable to clients. Risks such as illiquidity or interest rate sensitivity were negligible or unobservable before the Financial Crisis, but new products and increasing private market exposures expose risks that are more difficult to identify, quantify, or even hedge.

Private markets are more volatile and correlated to public markets than assumed, while risk premiums or value added must exceed management cost by a sufficient margin proportional to risk. Asset owners enjoy many advantages of greater flexibility, longer time horizon, and scale, but are too often unexploited. Private markets offer wide breadth and high growth, but rely on greater active selection skill given longer investment horizon required and higher transaction costs. This is why we focus on identifiable sustainable competitive advantages. Disappointing private fund returns resulted from a declining illiquidity premium, limited capacity, and high fund management costs. Increasing direct investments is vital to bypassing high costs of private market funds (4.5%/year of 2+20%).

Concluding Thoughts

We expect global equities to outperform global bonds as interest rates normalize. U.S. policy reforms bolster our long-term potential growth outlook. Our models favor overweighting global equities versus bonds. Resilient high U.S. profit margins should support equities and drive earnings growth. Low volatility and high dividend yield equity tilts could be vulnerable, but small-cap and value equity tilts, including financial and industrial companies, should benefit most. A correction in overvalued global bonds may be the greatest risk, particularly for issuers tenuously clinging to unjustified ratings with rising fiscal deficits and interest burdens. Our U.K. equity overweight is particularly interesting.

Since 2009, we anticipated a *Global Synchronized Recovery* (2009-2012) with coordinated monetary and economic policies. Correlations increased and tactical decisions seemed limited to risk-on-risk-off or stocks versus bonds. "*Are The Nightmares Behind Us?"* in 2012 described an emerging *Global Asynchonized Expansion*, which we characterized as a more typical normal equilibrium state. As the global economy became more resilient, differences between countries, sectors, and risk factors increased in importance. International diversification is improving even as Jack Bogle condemns owning international stocks---the wizard behind ruinous splitting of Windsor Fund in March 1999 between Wellington and AllianceBernstein, as fundamental value investing had fallen out of favor.

After 27 years developing and managing quantitative strategies, the importance of discipline, consistency and patience is clear, as is the durable value of fundamentals. Investors expect to be compensated for risk and are constantly evaluating the value of every investment. Thus, markets are relatively efficient, but competing *Rational Beliefs* continuously challenge efficiency of *Rational Expectations ("the market")*. We also are susceptible to behavioral tendencies, including being constrained by preferred habitats, seeking comfort in consensus, reinforcing recent success, or over extrapolating growth (momentum). Persistently recurring cognitive biases and differing rational beliefs provide systematically exploitable inefficiencies, but contrarian disciplines are inherently uncomfortable.

Too often simplicity is sacrificed for complex solutions that seem to have greater appeal. We subscribe and been well-served favoring Einstein's simplicity principle: "...as simple as possible, but no simpler". Investors should extend time horizons and simplify asset allocation to improve risk-adjusted returns. Active management is uncorrelated, thus active strategies may be a new alternative investment providing greater portfolio transparency and diversification at lower cost. Active overlay strategies, such as Global Tactical Asset Allocation, should be compelling. Seemingly complex relationships do not require more complex portfolios.

We observe *Creative Destruction* all around us, while seeking more reliable ways to differentiate real trends from illusions and misguided strategies. Difficulty isolating cause and effect is common, and reinforces that coincidence is not causality. Neverland investors want most what they can't have, but promises of high return with low correlation and lower volatility can be an illusion that only becomes visible with experience. Infrequent mark-to-market of unlisted and illiquid investments does not reduce return correlation or risk. Limiting access to accredited investors may increase perceived appeal of new, exotic, or complex strategies that are often expensive. Yet, years of disappointing performance has finally exposed consequences of chasing complex and unproven strategies.