

STRATEGIC OUTLOOK

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Strategic Frontier Management
First Quarter 2018

NAVIGATING A MAD, MAD WORLD¹

- Tax and regulatory reforms should bolster potential growth and restore global competitiveness. Tax reform should add 0.5-0.7% to potential economic growth, as well as 1-2% to potential earnings growth that will compound over the next decade. Tax revenue can increase with corporate earnings and household income growth despite lower tax rates, thereby should not increase the federal deficit. However, Congress needs to follow through with difficult spending reform. Fiscal stimulus more than offsets monetary tightening.
- Equities responded to pro-growth policies as business and household confidence improved, bolstering investment and business activity---that increased jobs and is flowing through to household and business income. As equity valuations relative to interest rates close in on equilibrium, the upside potential declined but the S&P 500 is still not yet extended. Below we highlight why some *alternative valuation* ratios have been misleading and should be ignored. When equities are closer to equilibrium, valuation changes in growth are more important.
- Global interest rates are clearly rising now, led by quarterly hikes to normalize U.S. rates. We expect quarterly interest rate hikes through 2018 (1%/year). Interest rates and central bank holdings must normalize, as long as recession is unlikely. While the FOMC skipped hiking in October, it used the opportunity to begin winding down their balance sheet, ramping to \$50 billion/month of refunding. More vigilance about interest rate sensitivity is needed, even within private markets and equities.
- We are concerned instead about overvalued global government bond markets and various imbalances that have developed. Central banks promoted explicit moral hazard in manipulating interest rates for an extended period, including forward guidance, quantitative easing, and holding policy rates low for nearly a decade. U.S. and Japanese government bonds are of particular concern---as evident in our tactical models, although timing tipping points is difficult. A meaningful correction in global bonds is the greatest financial risk, particularly for issuers tenuously clinging to unjustified credit ratings with rising fiscal deficits and increasing interest burdens.
- Central bank policy will be more difficult to predict. We highlighted that the Fed's Board of Governors is under new management, while Canada and England started raising rates too. The ECB (Europe) and Bank of Japan are slowing bond purchases too. Investors are likely to be surprised by changes in policy that increase currency and bond volatility.
- Differences in monetary, fiscal, trade and regulatory policy are again key to economic divergences and suggest continuation of *Asynchronous Global Expansion*. Tactical opportunities across different regions and countries emerge in varying responsiveness to changes. Of course, geopolitical risks persist, but concerns still seem to come and go without much market impact, other than to intermittently increase market volatility.
- Our tactical models expect global equities, including Emerging Market Equities, to outperform global bonds. High U.S. profit margins should support equities and drive earnings growth as domestic activity and trade increase. Value equity tilts, including financial, basic materials, and industrial sectors, should benefit most with a preference for cyclical exposure. Risk factor exposures such as low volatility, dividend yield, and interest rate sensitivity should continue to disappoint investors with rising rates. Foreign currency exposure (Euro, Yen) may be a risk as repatriation taxes come due, US\$ strengthens, U.S. competitiveness increases, while foreign developed economies muddle along.

1. *It's A Mad, Mad, Mad, Mad World* was a 1963 comedy about a whacky self-deprecating race to the bottom of civilized society in pursuit of stolen cash at any cost, among colorful strangers. We observe various "mad" behaviors in pursuit of wealth and power seeking short-cuts and advantage by any means, at nearly any cost.

Things Are Not As Clear As They Appear

Few would disagree that it feels like we are living in a *Mad, Mad World*. Capital markets, geopolitics, natural disasters, faith (trust), alliances (partnerships), traditional values (morals), relationships (social media), journalism (misinformation), and other organizing principles of global society, seem to have all become a little unhinged and over-sensitized. Our fundamental beliefs are being challenged and many feel threatened, but these issues are not limited to America.

The great challenge for 2018 is *Navigating a Mad, Mad World*. The Financial Times recently suggested a *New Global Disorder*, notably beyond just the U.S. Investors must assess geopolitical, economic, secular, market and globally relevant policy crosscurrents that are at least confusing, if not complicated or transitioning. We believe constructive trends are driving stronger U.S. potential economic and earnings growth, but there always seems to be new emerging geopolitical risks to consider, as well.

Constructive economic trends, as observed in 2017, often begin with rising economic confidence anticipating accelerating growth. This is what the Federal Reserve sought with extended easy monetary policy. The Administration's new policies seek to restore 2.8% potential growth versus 2.1% today through greater productivity and improved global competitiveness. Rotation from a fiscal and monetary policy induced *Synchronized Global Recovery* (2009-2014) into an *Asynchronous Global Expansion* should extend into 2019 given divergence in policies globally.

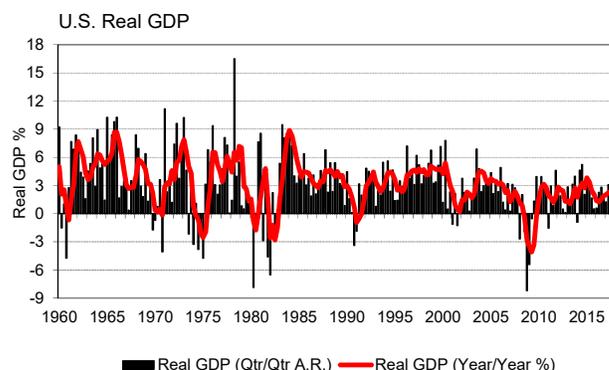
Economic Forecasts	2013	2014	2015	2016	2017e	2018e	2019e
GDP Growth (Y/Y Real)	2.7	2.7	2.0	1.9	2.6	3.2	3.3
S&P500 Earnings	5.7	8.3	-1.1	0.5	11.3	14.1	8.0
CPI Inflation (Y/Y)	1.8	0.7	0.7	2.3	2.5	2.7	3.0
Unemployment	6.7	5.6	5.0	4.7	4.1	4.2	4.5
Fiscal Deficit	-3.3	-2.7	-2.5	-3.1	-3.5	-3.0	-2.5
Fed Funds 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	2.41	3.50	4.50
S&P 500 Target	1848.	2059.	2044.	2239.	2674.	2950.	3100.

Earnings	2019e	2018e	2017e	2016	2015
IBES Consensus \$	162.22	\$ 147.23	\$ 131.47	\$ 118.10	\$ 117.46
Strategic Frontier \$	162.00	\$ 150.00	\$ 131.47		
SFM Growth	8.0%	14.1%	11.3%	0.5%	-1.1%

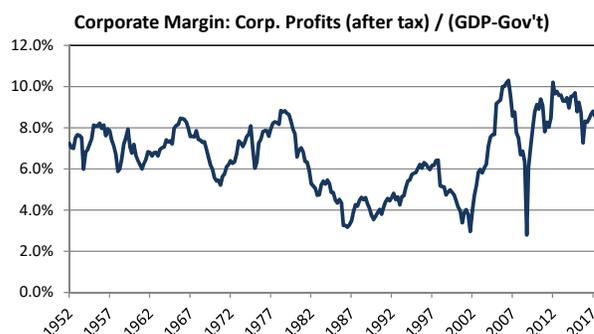
U.S. tax and regulatory reform provides for increased global competitiveness and income. Other countries dropped corporate tax rates, following the U.S.'s lead (1986 tax reform), so U.S. corporate tax rates became the highest globally--increasing corporate inversions and tax avoidance increased inefficiency. Free market solutions are always better than regulating market behaviors. Lower repatriation tax will spur investment.

While there is always focus on the economy, the key variable for the stock market is earnings. Notice what happened in the earnings recession of 2015-2016. Declining sector earnings for Energy and Basic Materials due to falling oil prices and a strong U.S.

dollar dragged down aggregate earnings, but has stabilized now as these effects have sunset. We have increased 2018 earnings expectations by \$10 (7.3%) with passage of tax reform encouraging repatriation and investment.



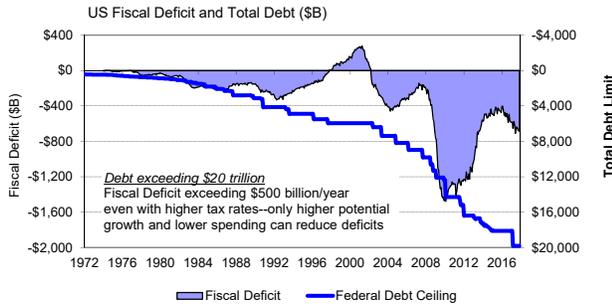
Global divergence of profit margins between countries and U.S. sectors or equity styles remains significant. Trends in this regard have been critical to relative performance, we believe. Margins in emerging economies declined since the Financial Crisis, which limited earnings growth. Thus, it was likely a key reason investors struggled with overweighting Emerging Market exposure in 2013-2015, despite strong economic growth. Countries most dependent on cheaper labor for exported goods and services saw their margins cut in half, although revenue growth outpaced developed nations. Similarly, large company profit margins, with the S&P 500 at 11.2%, diverged from smaller company (S&P 600: 4.9%) margin, despite a stronger US\$ and good revenue growth. We think this is due to higher cost of increased regulation, which impact smaller companies more with less revenue to spread fixed costs.



Source: BEA U.S. National Accounts (GDP basis)

Long-term productivity over the last 57 years (since 1960) was 2.2%, while growth in the workforce has been 1.5%. Given potential real growth = productivity + workforce expansion, long term potential real growth has been 3.7% by this sum. So, it is not surprising that many economists anchored much lower expectations

on recent performance. Since 2009, productivity was a disappointing 1.2%, while workforce growth was just 0.8%, yielding about 2.0% potential growth (real GDP was 2.1%). This is why we focused attention over the years explaining the significance of bad policy decisions and 2009 fiscal stimulus (ARRA) that ballooned federal debt, but failed to lift potential growth.



The U.S. fiscal deficit declined to a manageable level, but mandatory federal spending, plus interest on the debt made up 66% of the 2014 budget. Treasury debt, not including unfunded liabilities, has doubled since 2009. As interest rates likely double in the next five years, interest burdens will balloon and rolling maturities will become more difficult. Debt capacity of asset owners will decline after a decade of seemingly irrepressible demand for income reverses with persistent losses and compulsive bond vigilantes.

The emerging crisis of expanding global sovereign debt and fiscal deficit imbalances, including pension liabilities, is problematic for global bonds and currencies. Fundamental fiscal reforms are required to reduce deficits and slow growth of mandatory spending to have a chance of rescuing Greece, Venezuela, Brazil, and Japan, as well as Puerto Rico, Hawaii, California, Connecticut, Detroit, Chicago, and New York City. Interest costs can soar if investors lose confidence, compounding debt at an even higher rate. Fixed income illiquidity can increase quickly in manipulated and overvalued markets, as with failure of auction rate securities in 2007 or 2008 Credit Crunch.

The BoJ's extraordinary purchases of Japanese equity ETFs is not often discussed, but reached a staggering 20.3 trillion yen (\$182 billion) as of Sept. 30 or over 75% of Japanese equity ETF shares. Remember that its bond holdings total more than 40% of outstanding government debt in a long battle waged to boost inflation, assuming symmetric inflation targeting is a good idea---it isn't, in our view.

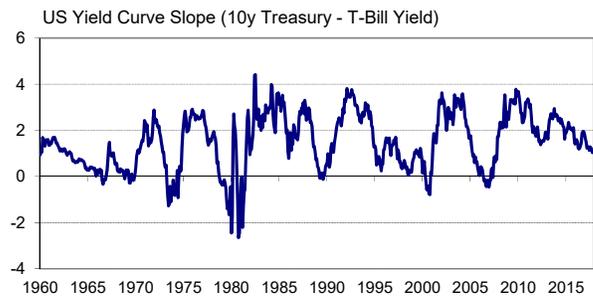
There is risk that the BoJ would not be able to defend against either a rapid rise in bond yields or Yen devaluation. A loss of investor confidence could also hit the Topix, which would expose the government to losses that might be difficult to cover. Rising bond

yields would increase fiscal distress (Debt/GDP exceeds 250% a -4.5% fiscal deficit) that might spiral across JGBs and Yen as interest burdens rise. A collapsing House of Cards might drive the Topix index lower, undermining equity holdings. How is it prudent for central banks to ever buy equities?

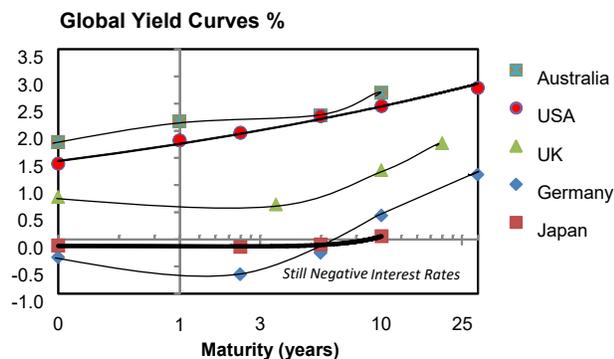
Many year-end outlooks appear to favor overweighting Japanese equities, but our tactical forecast gets us close to benchmark. Our quantitative factors don't observe qualitative risks to Japanese stocks, bonds, and the currency arising from extended market manipulation by the BoJ, which after years has had little economic effect increasing potential growth or boosting inflation.

A combination of increased productivity and potential growth will benefit from spending on research and investment with earnings repatriation and increased cash flow, as well as faster job growth, wage increases, and cost efficiency gains from regulatory reform. While real growth, and thus productivity, has probably been understated given various recognized measurement issues, we expect real growth exceeding 3.0-3.5% in the foreseeable future.

The flattening U.S. yield curve slope raised concern about the likelihood of recession, yet we don't think recession is likely in the foreseeable future. A flat or inverted yield curve is usually the result of the Federal Reserve aggressively hiking interest rates to slow inflation, not simply policy normalization. For example, during the first Persian Gulf Conflict in 1989, oil prices soared, which drove up inflation. Although economic growth was moderate, the Federal Reserve mistakenly increased interest rates quickly, which drove the U.S. into recession, albeit short-lived (ex: why inflation targeting can be a terrible idea).



A concern is maintaining negative interest rates in Japan and Europe (ECB). This chart is all we need to dismiss the idea of *synchronous* economic conditions. Investors expect the ECB and BoJ to begin tapering their asset purchases, as we expect Interest rates will continue rising in Australia, Canada, England, and the United States during 2018.



Each quarter we highlight our forecasts focused on a 12-18 month horizon, as well as offer certain qualitative insights that should have greatest impact:

1. U.S. policy tailwinds displacing previous headwinds yielding greater potential economic growth. Equities should be resilient to normalizing rates. Tax and regulatory reforms in 2017 will have positive effect for many years to come increasing potential growth. Trade and immigration policy are next up for 2018.
2. *Global Monetary Policy Normalization* accelerates, including rising interest rates and reducing bond holdings. Implications for evolving asset class returns and portfolio risk management (correlations and volatility) are significant to investors.
3. Extended global debt issuance will be difficult to manage with narrowing global debt capacity. We expect a 0.5% excess yield risk premium emerges until over-indebtedness is reduced.
4. Effects of an emerging *Industrial Renaissance* and *Manufacturing Revolution* on product development, manufacturing, labor, productivity, potential growth, and inflation are defined by persistent forces of *Creative Destruction* in free-market economies.
5. Asset management is experiencing transformative changes in risk factor investing, risk management, products, asset allocation policy, alternatives, fund fees and a mid-life crisis in active management.
6. Declining labor and energy intensity of resource efficiency belie the productivity puzzle of stagnated growth, but disinflation should begin moderating.
7. Who imagined a decade ago during *Peak Oil* that surging U.S. oil production would collapse oil prices (2014) and surpass Saudi Arabia? Expanding energy production reduces foreign dependence, yet greater efficiency reducing energy intensity.
8. Individual security and privacy are critical risks for economies dependent on data/analytics revolution. Reputational risk of failure to protect information has real consequences for companies and government.

9. Global Asynchronous economic dispersion enhance international diversification: *Countries Still Matter*
10. Disappointing net performance, cost, higher risk than anticipated and continued lack of transparency has increased scrutiny of private market funds and value-added of *alternative investment* allocations.
11. Bank of Japan has put the financial system at risk acquiring excessive bond and equity ETF holdings. Rising bond yields would drive up interest burdens and risk losses on equity ETF holdings.

Geoeconomic challenges regarding trade, immigration, security, nationalism, populism, employment and inflation are globally significant, but our hope is to offer some navigational guidance for the *things that matter most* to investors. We spend a lot of effort assessing geopolitical risks, yet markets seem to be desensitized to adverse turmoil, attacks, unrest, or events. For example, the 2013 government shut-down caused a substantial market decline, but subsequent threatened shut-downs haven't had much impact. Terrorist attacks hardly register in daily volatility---in contrast, the stock market didn't re-open until Sept. 17th after 9/11.

Lists of improbable surprises, pioneered by Byron Wein, have become popular exercises for others in a world that annual outlooks are not exciting or provocative enough. We'd like to make investing easy, but global markets and economies are complicated. Fundamental expectations still drive investor sentiment and capital market returns. We enjoy stretching our horizons and considering unthinkable things, but we can't arbitrarily place meaningful bets on low probability surprises with unknowable consequences. We focus instead on *what matters most* in higher conviction forecasts with meaningful investment consequences.

Global *madness* of populism attributed to BREXIT¹ and President Trump's election has increased U.S. and U.K. economic growth potential and global competitive advantages, rather than a source of *secular stagnation*. We expect further decline in support for the European Union, IMF, and United Nations unless they reform their organizations. However, NATO should benefit from U.K. defense realignment with U.S. efforts to modernize its objectives and organization.

The madness of chasing market share and influence, defined by commercial volume, versus price and margin, harkens back to Y2000. Beggar-thy-neighbor \$0-price convergence has become pervasive in the new *Industrial Revolution*. It weakens potential and exposes unintended consequences in nearly every industry, including media, entertainment, information services, financials, software applications, and others. If only health care and education would follow suit.

¹ *British Independence Day*, June 2017

Media's influence on society has always been significant. Americans (84%) believe reliable news media is "critical" or "very important" to a strong democracy, according to a Knight Foundation/Gallup Survey². Media shapes our beliefs and helps us make decisions by providing information, entertainment, news, and education. In this chaotic *Mad World*, our cherished beliefs and logic appear to be our only filters when jealousy and envy are too easily exploited.

Trust in the media has declined for over a decade, squandered by bias and an increasing credibility gap. We are overloaded with information from blogs, websites, tweets, threads, and hashtags that are easily corrupted by "bots", which is customized by our interests, only to be gamed by commercial and political interests. Balancing free speech, government control and trust are tricky with the temptation of spreading misinformation. Influence of information services, media and journalism expose risks of thinking too fast. Should we expect resurgence of thoughtfulness, independent thinking, objectivity, and self-reliance?

2016 Capital Markets Review

The S&P 500 returned 21.2% in 2017 (Q4: 6.4%) to close at 2673.6, which was well above our year ago forecast of 2450 (11.4% return expected). In a world that we chase private alternative investments, we observe significant dispersion between countries, currencies, sectors, styles, and even size. Small-cap stocks (Russell 2000: 14.7%) lagged larger companies, while Growth more than doubled the return to Value (Russell Value: 13.3% vs. Growth: 30.2%). It was notable that the S&P 500 return was positive every single month of the year, and December was the 21st positive month of the last 22 months.

Emerging Market equities (37.3%) soared, led by China (54.1%), and exceeded international equity returns (MSCI EAFE: 25%) as the Euro increased 13.8% and the Yen rose 3.5%. Even the British Pound rebounded 9.5%, despite lingering concerns about BREXIT. The -7.7% decline in the trade-weighted dollar will bolster U.S. exports in 2018. Currency volatility also increased with economic uncertainty and policy divergence, which provided the best tactical currency opportunities in years.

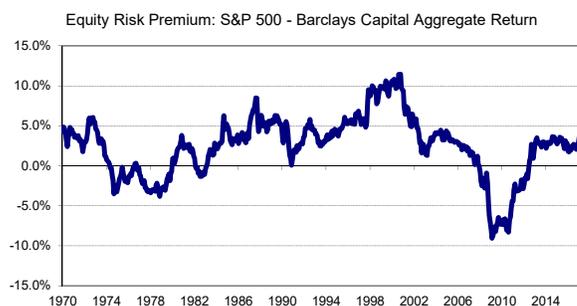
We expected stocks to outperform bonds by a wide margin, which indeed they did, although bond yields were almost unchanged. We expected 10-year Treasuries to increase to 3.5%, but low bond volatility belies the ¾% increase in Fed Funds Rate, which was nearly as much as we expected. The U.S. Aggregate Bond Index returned just 3.5%, lagging every equity index by a wide margin. High yield provided a bit better return of 7.5%, as expected as well. Equities had a

² *American Views: Trust, Media, and Democracy*

great run since 2009, well exceeding any *New Normal*. However, it has been disappointing for those rotating into higher duration and leveraged bonds, including risk parity and de-risking strategies.

Global equity volatility declined further in 2017. U.S. equity volatility fell from a slightly below average 14.5% to 8.7% by year-end, while European equity market volatility fell to 10.1%. Japanese equity volatility rose modestly to 18.5%. Last year our unique view on equity risk last year corresponded with rising variance-of-volatility. Low macroeconomic volatility, unwavering monetary policy with forward guidance, and excess liquidity with stable currencies have limited volatility. However, volatility should eventually mean revert and we expect more typical equity volatility of 10-12%.

Long-term return differentials of equities versus bonds or cash (i.e., equity risk premiums), have normalized. Public company earnings rebounded since 2009. As the Financial Crisis sunsets from 10-year rolling returns, the stock – bond return difference should increase. Those relying on 10-year calculations for return correlation, volatility (risk), or cyclically-adjusted earnings are forewarned. Many Robo-platform and risk analysis vendors have hard-wired 10-year returns into their risk analysis, so how stable will recommendations remain as 2008-2009 effects roll off?



2008-2017	Large Eqty	Small-cap	Int'l Eqty	Agg Bonds	Commod
Return	8.5%	8.7%	2.4%	4.0%	-1.2%

Source: *Strategic Frontier Management*

A new article³ by in the Financial Analysts Journal suggests that long-term real returns are overlooking U.S. share buyback contributions. Decomposition of corporate payout explains +0.6% of return for 1871-2004 and forecasts a 1.5% contribution due to buybacks. This increases expected return from 5.9% to 7.4%, assuming 2.5% inflation. Tax reform will increase free cash flow to boost share buybacks and dividends.

The S&P 500 returned 260% since February 2009, but this is perhaps the most unloved and mischaracterized equity bull market. However, international equity has

³ Phillip Straehl and Roger Ibbotson, "The Long-Run Drivers of Stock Returns: Total Payouts and the Real Economy"

lagged with disappointing economic performance that limited earnings growth in Japan and Europe. Consider that the S&P 500 returned 8.5% A.R. versus the 1.9% annualized return for MSCI World (ex-US). As interest rates rise, extended risk factors may underperform. Low volatility, large size, and high dividend yield tend to exhibit higher interest rate sensitivity.

Hopes that liquid alternative funds might increase return and better diversify risk haven't been observed. None of the subsectors below has even come close to matching the return of Global or U.S. balanced (60/40) allocations. Average fees exceeding 1.2% are a challenging headwind, while higher correlations and volatility than expected limited portfolio diversification. As 2008 returns roll-off, the case for liquid alternatives will deteriorate further in 10-year comparisons.

Alternative Funds%	Q4 2017	1 Year	3 Year	5 Year	10 Year	15 Year
Multialternative	1.8%	5.1%	1.8%	2.7%	1.2%	4.3%
Managed Futures	4.7%	3.0%	0.1%	3.3%	-1.8%	0.0%
Long/Short (Avg Credit & Equity)	1.9%	6.8%	2.8%	3.9%	3.8%	4.3%
Market Neutral	0.8%	2.4%	0.9%	1.1%	0.9%	2.3%
Multicurrency	-0.4%	0.8%	0.4%	-0.3%	-0.1%	2.4%
Option Based	2.2%	9.1%	4.6%	5.4%	3.0%	5.1%
Bear Market	-7.5%	-27.0%	-19.9%	-22.8%	-21.5%	-17.7%
Average (excl. Bear Market)	1.9%	4.9%	1.9%	2.8%	1.5%	3.8%
Global Balanced (60/35/5)	3.6%	14.6%	7.1%	8.9%	5.7%	5.5%
U.S. Balanced (60/35/5)	4.1%	14.4%	7.7%	10.2%	6.5%	5.7%

Source: Morningstar

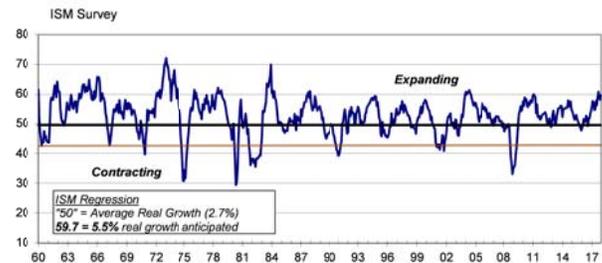
FOMO madness (fear of missing out or envy bias) led us to tackle cryptocurrencies last quarter ("Gold and Crypto Fools' Gold" in *RATES, RISKS, REALITIES & RETURNS*). Strong returns can compel "mad" behavior chasing further gains. Last quarter, we pointed to the madness in Bitcoin (+1331% in 2017) trading to almost 20,000 \$/BTC and market capitalization of \$200 billion, yet Bitcoin paled relative to Ripple/XRP (+35,555%) and others. Crypto-alchemy madness has become routine with Initial Coin Offerings (ICOs) coming to market without restriction or security regulation. Now more than 1330 alt-coins have been issued without being legal tender (i.e., not backed by government's faith and credit or hard assets like gold). Buyers of Bitcoin assumed supply was limited, but issuance of indistinguishable crypto-clones is unlimited.

We don't think Bitcoin-mania will cause a financial crisis, but we are concerned about the moral hazard to individuals trading unregulated commodities, which can now be leveraged through derivatives. We don't advise investors allocate their portfolio to cryptocurrencies. Yet, imagine our surprise that Kodak (KODK) jumped 200% when they announced the launch at CES of a photo-centric cryptocurrency called KODAKCoin with a blockchain-powered image rights platform. Madness of the DotCom issuance playbook never gets old!

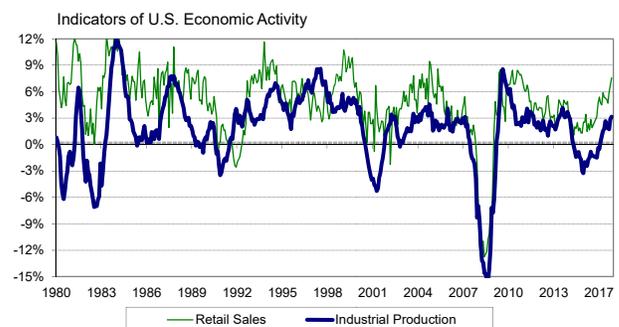
Global Economic and Market Outlook

It is clear that the global economy has accelerated. The charts on U.S. economic activity are rarely so decisive,

but trends in leading indicators, particularly ISM surveys, suggest economic growth can strengthen in 2018. It often takes several quarters for fiscal and regulatory effects to flow to the real economy, but confidence was high that Administration efforts would be successful, so businesses and equity investors anticipated reforms before changes were recorded. In 2018, we think that trade, immigration, and financial regulatory policy initiatives are high on the agenda.



Economic recessions take several quarters to develop. Considering economic measures such as retail sales (7.6%) and industrial production (3.2%), or business sales (8.1%) with a 4.1% unemployment rate, there is no evidence of recession in the foreseeable future. Underlying strength in U.S. ISM Production (65.8) and New Orders (69.4) also are compelling as the headline number approaches its highest level since 2002. How economic growth, earnings and inflation evolve will be critical to interest rates, bond yields, and stock prices.



We expect equities will continue to outperform bonds as growth and inflation increase, while promoting a stronger U.S. dollar. The Fed should hike rates 1% in 2018 (4 x ¼%) as it reduces bond holdings up to at least \$50 billion/month. Bond refunding without reinvestment increases supply that will tend to drive up Treasury yields. Increasing the deficit from compounding higher interest costs is problematic when fiscal deficits exceed 80% of GDP.

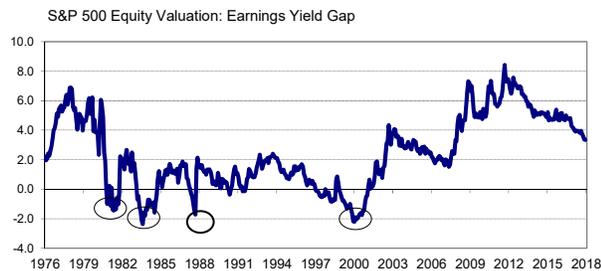
Our quarterly equity forecasts (12-18 month horizon) have moderated and suggest there isn't much upside for global equity markets after strong returns. The most attractive equity markets are Australia, New Zealand, Switzerland, and the U.K. We still favor a tilt toward small-cap and value equities. Global 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.



Source: Strategic Frontier Management

S&P 500 valuation doesn't appear stretched relative to interest rates and no recession is likely in the foreseeable future with stronger earnings growth expected. Thus, we believe risk of an equity correction is low, although a 5-10% correction is possible at any time. Any meaningful dip may provide a buying opportunity in rebalancing, as investors should revisit regularly. Strong operating earnings growth limited the S&P 500 P/E increase from 19.1 to 21.0x (reported P/E: 24.0x), but below extremes of 1929, 1987 or 2000.

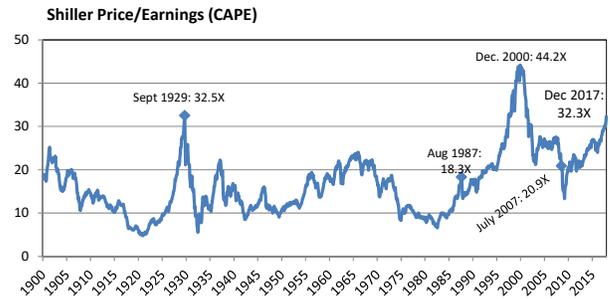


Source: Strategic Frontier Management

Feverish obsession over various misleading valuation ratios does not concern us. We don't need Shiller's CAPE⁴ ratio or Market Capitalization/GDP, which have implied the S&P 500 was overvalued for years, to see that nominal equity valuations are extended---a P/E ratio of 24x reported earnings (21x operating earnings) is stretched under normal conditions, but interest rates

⁴ Market Capitalization/GDP and Shiller's CAPE (Cyclically Adjusted Price/Earnings) implied the S&P 500 was overvalued in 2016-17 as the S&P 500 returned 36.4%. Also, consider their relevance in 1965 vs. 1975 and Oct. 1987.

remain low with high earnings growth expected. Empirical studies suggest some correlation around 10 years may exist, but that isn't very useful, particularly if only a few cycles were available since inception of the S&P 500 in 1957⁵



Source: Quandl.com (Multi)

The chart above highlights other timing issues with CAPE versus our valuation measure. Consider CAPE's value around October 1987 (18.3X) or exceeding 30X from June 1997-August 2000, years before the technology bubble burst. Some suggest CAPE was useful before the Financial Crisis, but timing of changes in the ratio were misleading and valuation was not an issue until earnings collapsed as the credit crunch unfolded. FASB's fair value accounting rule (FAS 157) adopted in mid-2008 triggered mortgage bond losses that wiped out bank earnings. The credit-induced recession that caused earnings and price volatility will affect CAPE's 10-year horizon calculation over the next two years, having nothing to do with changes in earnings or prices. Professional analysts instead focus on current earnings and future growth, not 10-year average earnings---it is nonsense to assume otherwise.

Wilshire 5000 (Market Capitalization) / U.S. Nominal GDP



Source: Advisor Perspectives (dshort.com)

⁵ Roger Ibbotson compiled annual asset class returns in the 1970s dating back to 1926, enabling the first analysis of risk and return characteristics of portfolios. *Stocks, Bonds, Bills, and Inflation* or S&PBI® was first published in 1976.

Conceptual inconsistencies between numerator and denominator variables are problematic, for example comparing capitalization of public companies to the GDP of the entire economy, including government and household consumption. Company preferences for issuing debt vs. equity can drive variances public market capitalization unrelated to earnings. *Navigating a Mad, Mad World* requires sorting out the relevant from the noise and misleading nonsense. Investors should ignore conceptually inconsistent ratios.

Making Money the Old Fashioned Way

Asset allocation remains the most important determinate of long-term wealth. Appreciation for the importance of strategic asset allocation has increased--this is encouraging because total return depends more on allocation decisions than any other portfolio decision. Asset managers have increased resource investment in multi-asset solutions. Introduction of *Alternative Beta* and *Risk Factor Investing* are an interesting evolution in asset management. Proliferation of ETF index strategies has added many investable dimensions to our universe of global tactical asset allocation decisions. Management of multi-asset portfolios is becoming more sophisticated, including focus on multi-factor risk management.

Rational Expectations (RE) is commonly recognized as the commonly recognized theory defining market fair value or utility versus equilibrium prices, yielding the notion of efficient markets. However, readers know we have championed Mordecai Kurz' alternative theory of *Rational Beliefs* (RB), which relaxes the assumption that all investors must have the same consistent market view. Diversity of beliefs is intuitive, and *Rational Beliefs* explains why investors can behave rationally, yet depart materially in their respective beliefs. Thus, market prices follow the dominant view of all beliefs, which may adapt over time. In this alternative framework, free markets will tend to follow the most compelling beliefs favored by those with the most money. Thus, there need not be only one rational expectation, but many rational beliefs.

This theory provides a logical basis for why we believe active management makes sense, including Global Tactical Asset Allocation. The market is the aggregate of all investors' beliefs. It also suggests that markets won't compensate investors for high agency costs (i.e., commissions, fees, transaction costs, etc.), so high costs in public and private market strategies are indeed a consistently difficult hurdle to overcome on average.

Risk factor investing has increased transparency of econometric risks and factor anomalies *capitalizing on enduring beliefs*. Operationalizing new risk factors has been limited by lack standardization, like equity sectors (i.e., industrials, financials, materials, etc.) or bond sectors (corporate, mortgage, asset-backed,

government, etc.). While familiar with large-small size or value-growth, addition of new factors include: momentum, credit, carry, currency, valuation, interest rates, commodity, growth, and inflation. Improved portfolio and risk management tools reveal previously unmeasurable exposures that can now be managed, rebalanced, and even hedged.

Investors have embraced *Smart Beta* products primarily through ETFs seeking to enhance return and diversify portfolio risk, but *Smart Beta* is an unfortunate label attached to strategies that diverge from market capitalization-weighted index strategies, such as the S&P 500. We distinguish between multi-factor and single factor strategies. We suggest that single factor strategies can be highly cyclical, and are best characterized as alternative or strategic beta strategies. Some popular single factor strategies such as momentum, dividend yield, and low volatility may be particularly unattractive in a period of rising interest rates. Another challenge for even multi-factor smart beta is that growing popularity may lead to disappointing performance as factor tilts become more expensive relative to the market, although regular rebalancing of index constituents will tend to mitigate some of this concern.

Smart beta products can experience prolonged periods of relative underperformance, and tend to be simplistic constrained versions of active quantitative strategies. Optimized portfolio construction⁶ in individual securities with similar factor tilts can achieve similar objectives. Less attention has been given to the emergence of risk factor investing, which highlights new understanding of portfolio risk. Risk factor investing is even displacing asset class fund exposures, but we think the benefits to risk management are only beginning to gain traction.

Risk management has struggled for decades with the challenge of multi-factor alignment across equity, fixed income, currency, and derivative holdings in multi-asset portfolios. Statistical models, including value-at-risk, became the default choice and were hard-wired into investment policy statements. However, multi-asset class risk models are emerging that provide meaningfully improved portfolio risk analysis with global stock, bond, currency, derivative, and even private market holdings. For example, risk factor exposures may be defined in terms of macroeconomic factor exposures that correlate with stock and bond

⁶ "Fundamentals of Efficient Factor Investing" by Clarke, de Silva, and Thorley (*Financial Analysts Journal*, 2016). We have also pointed out that fund-of-funds approach is far less portfolio efficient than portfolio construction of similar factor tilts due to relaxing structural constraints. In the meantime, we remain concerned about particular smart beta products that tend to be more interest rate sensitive factors, such as low volatility and dividend yield. Empirical results of this paper confirm intuition of the impact of limiting constraints.

returns. Changes in interest rates, yield curve slope, credit, economic growth, housing, inflation, currency, trade, commodities (inc., gold, oil), or market volatility are more intuitive to understand or even actionable as variables that they consider in portfolio construction. .

As interest in Smart Beta led to an increase in risk factor investing and quantitative equity mandates, interest in global multi-asset investing has re-ignited interest in Global TAA. While Global TAA can be practiced by shifting asset allocation exposures between index or style box strategies, tactical overlays are an underexploited source of value added as a new *alternative investment*. It need not displace underlying security management, benefits from low transaction costs, and may be applied in parallel across the entire portfolio with exceptional liquidity and transparency. Taxable investors can benefit by maintaining strategic allocations for long-term capital gains, than overlay tactical long-short ETF or futures exposures to enhance potential active return. We have advocated *Dual Alpha Portfolio Management* (i.e., active security selection + Global TAA) as a way to efficiently increase potential excess returns without increasing total risk.

Rising asset class and style box volatility provides greater opportunity for Global TAA. Risk factor exposures such as large/small and value/growth have provided additional dimensions that have been available for years. We have observed that managing security selection and tactical asset allocation in parallel often yield uncorrelated sources of value added that increase portfolio risk diversification across up to 100% of the portfolio, rather than a modest portion available with alternative strategies. Thus, it is possible to enhance potential active return by layering tactical overlay strategies in parallel, without displacing underlying security selection or materially increasing total portfolio risk, enhancing risk-adjusted return. Tactical overlays can also facilitate rebalancing and hedging at lower cost.

Correlation between benchmark and active returns are generally negligible, or even negative, hence active management being a new and noteworthy alternative investment. Thus, active management can be a novel *alternative investment* with greater transparency, liquidity, consistency, and likelihood of adding value with superior risk and performance attribution at lower cost than most alternatives. Rebalancing and completion fund objectives can be easily combined with tactical asset allocation (TAA) excess return objectives without displacing underlying strategies. Portfolio diversification is available in excess returns.

Criticism of Modern Portfolio Theory (MPT) continues, yet it is still widely used by asset owners and their investment managers. If there was a better process for portfolio construction, these institutions would be the

first to use it. Investor utility is a measure of risk-averse well-being or satisfaction, so MPT seeks to optimize the relationship between expected return and risk, subject to given constraints. While some suggest their risk aversion is inconsistent with standard deviation, there is nothing to preclude re-defining their own utility function or risk. We believe there has been no better alternative to MPT that has yet emerged.

Wealth advisors are increasingly embracing use of model portfolios or separately managed accounts (SMA strategies) at half to a third of the management fee. We believe it is one of the most transformative changes in how investment advice is conveyed to portfolio holdings. It impacts how investment strategies are designed, priced, and distributed. It also explains how the money redeemed from mutual funds has been redirected to individual stock and bond holdings that track model portfolio allocations, not just passive ETFs. Many assumed mutual fund redemptions reflected abandonment of active investing. While ETF flows have benefited, the money flowing into active SMA strategies also is very significant, although difficult to quantify. Similarly, ETF strategists have provided actively managed ETF model portfolios. It is interesting that wealth advisors led the way in this regard, but the taxable advantages to their clients were a compelling reason. We expect institutions eventually will seek to increase control, improve transparency, and lower costs by leveraging model portfolios, as well. We seek to be well positioned to support this trend as it is expected to accelerate.

Concluding Thoughts

*I find it hard to tell you, 'Cause I find it difficult to take...
When people run in circles..It's a very, very Mad World
--Tears for Fears, Mad World - The Hurting (1983.)*

In a *Mad, Mad World*, once popular year-end outlooks, still criticized for not being worth the paper their written on, the new provocation is crafting lists of provocative surprises or recycling cataclysmic predictions. We expect tax cuts and regulatory reform will bolster U.S. potential growth, competitiveness, earnings and incomes, thus tax revenue. Other countries may continue to lag, although overall global growth should be about the same as 2017 with the U.S. a little stronger. Margins may be low, but likely troughed for emerging economies, providing better earnings growth. Inflation also should trend higher globally.

A three decade long bond bull market has come to an end, but also led investors to assume unrealistic average returns, as well as misguided risk inputs of lower volatility and correlation than realistic. Forward guidance and manipulating interest rates have biased expectations. 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. Global interest rates are now rising, led by normalizing U.S. interest rates. Quarterly interest rate hikes resumed in December and should continue at 1%/year. Canada, Australia, and the U.K. should also continue to normalize their interest rates.

Extended decade-long interest rate manipulation of fixed income markets by central bankers is the root of explicit global moral hazard and thus more likely to cause eventual painful correction of debt imbalances. It seems mad that Treasury bond yields hardly budged during 2017 despite three interest rate hikes, stronger economic growth, 4.1% unemployment, and initiated unwinding of the Fed's bloated balance sheet. Economic strength with still low inflation allowed central banks to be more patient with raising interest rates.

Efforts that increase portfolio complexity such as alternative investing and divergent asset allocation solutions have increased management costs, reduced liquidity, limited transparency, yet failed to add value, particularly on a risk-adjusted basis. Private market funds remain expensive with high transaction costs and management fees. Illiquidity risk premiums declined on locked-up investments. Liquid alternative products also remain expensive, while net returns and portfolio diversification disappoint investors.

Global equity valuations do not appear stretched relative to interest rates in most G-7 countries, but weaker growth in Europe and Japan increase risk of a value trap. Margins in Emerging Markets are finally rising after being depressed by rising wages, but if global inflation takes hold, global margins may struggle again. We also believe global economic growth is more resilient to tightening monetary conditions than assumed. President Xi Jinping outlined his vision for the next five years in China at the Communist Party's Congress, but also given himself room for rationalizing perceived imbalances. Prime Minister Abe of Japan also secured greater control by calling early elections, providing an opportunity to finally pursue difficult economic reforms that alluded effort so far. Investors should be concerned about potential for rapidly steepening yield curves as higher interest costs widen fiscal deficits in weaker countries---Japan has the most to lose if bond vigilantes target them, as the Bank of England/ERM was challenged in 1992. Steady

monetary tightening can co-exist with robust economic growth in the U.S., particularly with improving trade.

We continue to highlight the impact of the new Industrial Revolution and an emerging Manufacturing Renaissance. Emerging secular trends are important as they affect potential growth, limit inflation, and drive differences in global profit margins. Routine, quantifiable, systematic, or process-oriented jobs are at risk in retail, services, transportation, basic resources, and manufacturing. New job skills are in demand, but many other workers will be displaced, as companies do more work with fewer workers. Structural changes in new industries displace those marginalized reflecting creative destruction. New products that don't just drive down prices anymore, but they change the functional essence of products and services as prices drop.

Consider how digitizing media changed how we buy and consume music, movies, and news. Automation doesn't just replace manufacturing workers, it changes how we book tickets, make reservations, communicate, and use professional services. Innovation also lowered extraction and production costs for energy and other commodities. In this new world order, productivity should increase with declining commodity, energy, and labor intensity. The effects of machine learning and artificial intelligence have finally arrived as they creep into many consumer products—Say Hi, Alexa! Even we still seem to underestimate change in the evolving future of work, as described by Brynjolfsson & McAfee's *Second Machine Age*. Inflation may seem to be slow to increase, but wage growth in line with inflation is as good as it gets.

Where others have concerns about the sustainability of the economic expansion, we believe the expansion is plenty resilient into 2019, even as government seeks to reform spending and further tighten monetary policy. Emergency stimulus measures are no longer needed and should be extinguished with predictable consistency, unless some unforeseen event knocks the economy off course. Exceptional readings of leading economic indicators suggest a stronger and more resilient economy than perceived or expected by most on Wall Street. Our rudder has dug in, guided by our disciplined models that served us well for the last 27 years. In *Navigating a Mad, Mad World*, it is important to *keep it simple as possible, but no simpler*, in the words of Einstein. There are no short-cuts, only hard work and a focus on fundamentals that need guide us.

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