STRATEGIC OUTLOOK

Strategic Frontier Management

First Quarter 2019

In The Living Years

- US economic and earnings growth accelerated over the last two years, as others languished in an era of asynchronous global expansion. Europe and Japan are growing below their potential, but secular benefits from income tax and regulatory reforms increased US potential growth from 2 to 3%, as well as global competitiveness. Higher productivity should increase with business investment, supporting profit margins. Divergent monetary and fiscal policies increase global economic differences. Volatility increased facing a tug-of-war between stronger US growth versus higher inflation, rising interest rates, and policy uncertainty. *Countries Still Matter*, offering reliable diversification and more liquid tactical opportunities.

- Global equity declines last quarter hinged on investors' concern about sustaining global growth, given risks of higher US interest rates, trade policy uncertainty, BREXIT, stagnating Europe, and US government shutdown. Concern about impact of trade and monetary policy uncertainty manifested as equity and currency volatility, but we expect trade tariffs are transitory in pursuit of free and fairer global trade. Still low interest rates risk increasing financial imbalances, but rising rates shouldn't impair growth.

- We closed within 1% of our S&P 500 year-end target of 2950 on Sept. 26th, but a subsequent Q4 decline through 12/24 of nearly -20% hinged on increasing fear of a recession. Instead, we believe this provides a good opportunity for strong equity returns in 2019 after 22% S&P500 earnings growth in 2018. US equity valuations are more compelling as Price/ Forward Earnings improved to 14.6x vs. 18.4x a year ago. We are more concerned about overvalued global government bonds after years of rate manipulation.

- Last quarter we warned about overreacting to *Monetary Dependency*, but we were surprised how quickly equity volatility soared as economic sentiment shifted with misguided concerns about economic fragility to withstand further rate increases or reducing bond holdings. An independent Federal Reserve still believes monetary policy must normalize further, but remains data dependent and won't imperil the economy. Keeping rates too low now may require a greater number of hikes in the future.

- Long-term US inflation and interest rate expectations have declined precipitously, but as disinflationary forces moderate and potential growth increases, economic and interest rate expectations should normalize. Thus, US monetary policy should tighten until interest rates reach equilibrium of 3.5% or evidence of a recession emerges. We expect growth to exceed 3% again in 2019, so normalization must continue with at least three quarterly hikes of ¼% in 2019 as inflation increases further and the yield curve steepens, driving 10yr. Treasuries toward 3.7%

- Our view on emerging markets has evolved recently. Since the mid-1990s, we embraced the secular theme of strong potential growth within Emerging Markets. Industrialization and urbanization combined with insatiable consumption, emerging culture of credit, and rapid income growth of an expanding workforce drove secular growth. India and others may postpone or defer the erosion of their competitive advantages, but China's challenges are already at its doorstep. We expect China's potential growth to slow toward 4%. Labor cost advantages in manufacturing have declined with adaptive automation reversing decades of offshoring. Secular disinflationary forces enjoyed by developed economies are receding too.

- Our Global Tactical Asset Allocation return forecasts suggest more compelling global equity opportunities in 2019, and U.S. equity returns should significantly exceed bonds. We suggest increasing the tilt toward small-cap, with a modest bias toward value. S&P 500 valuation improved significantly after decline in price and strong earnings growth. High profit margins should persist with increasing revenue growth yielding further earnings growth. Global equity volatility is an opportunity for investors. Safe havens and rate sensitive exposures, such as high dividend yield and low volatility equities should underperform the S&P 500 index as normalization continues. Gold, commodities, and cryptocurrencies also should be avoided, while underweighting global bonds.

May Your Sails Find Favorable Winds

"The Living Years" is a ballad recorded by composer Mike Rutherford's band Mike + The Mechanics in 1988. It reflects upon the relationship between a Son and his Father, but it seems to have even greater meaning in today's world of society's difficult relationships. Many simple truths are evident in simple lyrics of a song:

> *You just can't get agreement …We all talk a different language, [but] You can listen as well as you hear...to admit we don't see eye to eye*.

It is hard to imagine when relationships between generations or ideological beliefs could have been so strained, yet time can obscure difficult or painful memories. Recurring conflicts between differences of ideological vision must coexist with the clash of different interests. Intuition about consequences of policy choices should be well understood by now, but this gap between vision and interests may explain why after generations of experimentation across many countries that we still don't agree about certain values and beliefs, as if we are speaking a different language. Social media has given greater voice to populist policies to increase entitlement or outcome equality, rather than fostering equal opportunity and preserving rule of law. These are the new "earmarks" to ally political support of voters.

Time has a way of tempering fears, feelings, and emotions, but that doesn't make them less significant. To continue to improve our standard of living, we will need to resolve our differences in beliefs amongst the fog of modern social media platforms and alternative journalism. Wide open and free media access arrived at a cost measured in credibility and trustworthiness. Greater education in economics, logic, history, science, and mathematics bolster our defenses against the dark arts of influence peddling versus competing interests. Basic fundamental beliefs are being challenged again with pivotal consequences *In the Living Years*.

The most stunning sunsets often follow horrific storms. Investors might infer last quarter's equity market and bond yield declines foretell an imminent recession, but many harrowing declines often turn out to be fears getting ahead of reality. We may never determine what caused Q4/2018 global market volatility to go haywire, but we have highlighted the trading dynamics of stop-loss risk management, akin to portfolio insurance. Low volatility coexists with complacency, so sentiment can shift swiftly.

We must get comfortable with being uncomfortable *In the Living Years*. Risk obsession and seeking to avoid losses is costly—investors rarely capitalize on hedges (gold, options/puts, or alternatives). Lower risk or greater diversification can't overcome subpar returns. Modern Portfolio Theory demonstrates that investors must be paid for undiversifiable risk. However, management fees and trading costs are not rewarded, nor diversify return. Similarly, neither volatility nor correlation are lower because illiquid or unlisted securities aren't marked-to-market monthly or quarterly. So, private market assets are implicitly riskier than can be measured. For example, private equity securities won't recognize Q4's volatility. While we can observe historical changes in public market risk, forecasting volatility and correlation is at least as difficult as forecasting return, thus attempts to minimize risk or maximize diversification must be inferior.

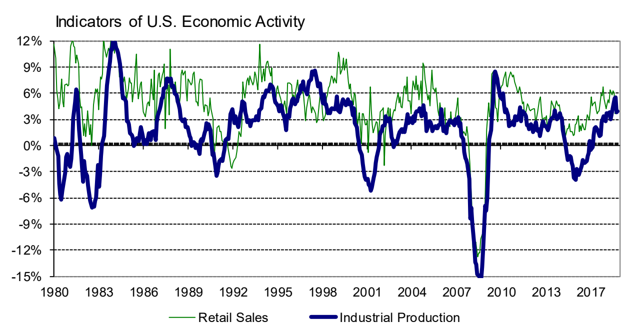
Economic Outlook

Many suggest the America is headed for recession or at least a significant slowdown. While it is true that the US expansion is now the longest in history, likelihood of recession is not a function of time. Expansions don't just die of old age, instead they are typically murdered by central banks seeking to squelch inflation by raising interest rates aggressively. The issue is that recessions often result in declining earnings, which undermine equity returns. Recessions are a function of changes in economic fundamentals, rather than timing or cycle duration. Declining earnings typically trigger equity bear markets, but recessions don't emerge out of the blue sky or according to schedules. Obsession with changes in growth or "second derivatives" is premature.

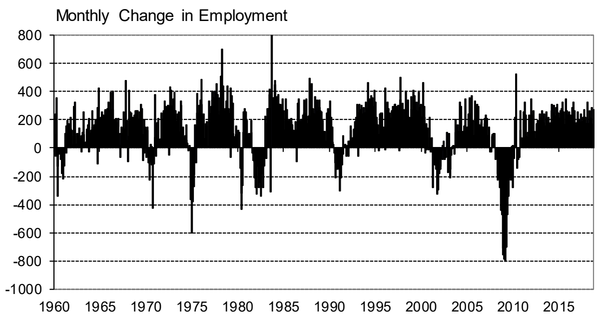
Economic Forecasts	**2014**	**2015**	**2016**	**2017**	**2018e**	**2019e**	**2020e**
GDP Growth (Y/Y Real)	2.7	2.0	**1.9**	**2.6**	**3.1**	**3.2**	**3.0**
S&P500 Earnings (Y/Y)	8.3	-1.1	**0.5**	**11.8**	**22.7**	**8.0**	**8.6**
CPI Inflation (Y/Y)	0.7	0.7	**2.3**	**2.1**	**2.3**	**2.7**	**2.7**
Unemployment	5.6	5.0	**4.7**	**4.1**	**3.8**	**3.9**	**4.2**
Fiscal Deficit (vs.GDP%)	-2.7	-2.5	**-3.1**	**-3.5**	**-4.5**	**-4.3**	**-4.2**
Fed Funds Target[1]	0.25	0.50	**0.75**	**1.50**	**2.50**	**3.25**	**3.50**
10y Treasury Notes	2.17	2.27	**2.45**	**2.41**	**2.69**	**3.70**	**4.50**
S&P 500 Target	2059	2044	**2239**	**2674**	**2507**	**2950**	**3300**

Source: Strategic Frontier Management

US tax and regulatory reforms were a secular shift providing recurring incentives to sustain higher potential economic growth. Fixation lately on "peak" growth or "second derivatives" (changes in growth rates) are misleading. We observe no evidence of increased likelihood of US recession in the foreseeable future. Higher frequency statistics such as retail sales, housing, industrial production, business sales, construction, or unemployment are well within reasonable bounds and point toward at least 3% growth.

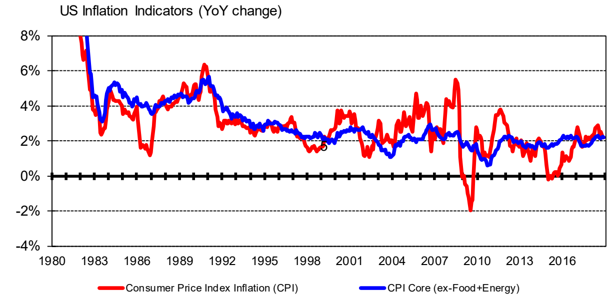


Most cycles stall because central banks hike interest rates faster and further than necessary, certainly more so than observed recently. Poor fiscal and regulatory policy decisions can limit potential growth, as observed after the Financial Crisis. Anticipation of higher potential growth due to tax and regulatory policy reforms jump-started positive economic sentiment.



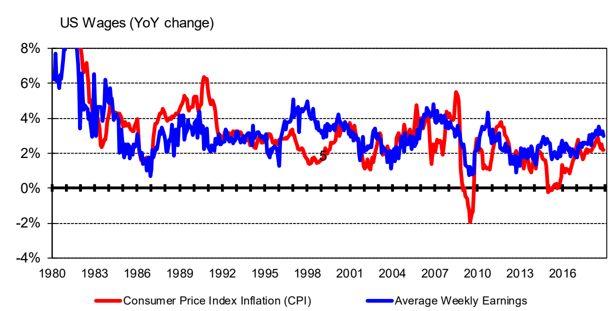
Current US economic trends are stable, consistent with near potential growth of 3%, in contrast to other lagging economies. We expect US economic growth to strengthen in 2019 as economic risks and uncertainties recede. Anticipated new trade deals including USMCA (NAFTA 2.0), as well as with Japan and China, should bolster net trade and boost potential growth further. December's decline in the ISM Purchasing Managers Survey was concerning, but we expect it to rebound given its design as a sentiment survey. So, despite growth-fear driven equity declines, we can't identify any variable among the usual suspects of leading indicators that implies a US recession in the foreseeable future.

Changes in inflation expectations have a notable impact on long bond yields, although there is some debate about which measure of inflation[1] is most relevant. Central bank credibility in sustaining economic stability depends on a logical and transparent decision process. The CPI Index has yielded more reliable tactical asset allocation forecasts, while PCE Index hasn't proven to be any better (just lower inflation) or used long enough to understand its cyclical behavior. Changes in inflation can be expected as economies evolve, mix of goods vs. services changes, and price competition increases. Low inflation may provide an opportunity for patience, but similar logic suggests stability offers an opportunity to normalize the still significant policy gap. The Taylor Rule output of over 4% exceeds a 2.25-2.5% target rate given by the Federal Reserve Bank of Atlanta.



With many different measures of inflation trending in different directions, it is not surprising the outlook for interest rates is confusing, but both headline and core (ex-food and energy) inflation are useful. CPI inflation has converged toward the core rate, stable around 2% since 2016, as expected and observed above. However, we think stability of core inflation is better for policy decisions. CPI also is still used for contracts (annual price adjustment) and remains an accepted global standard for cost of living increases from wages to Social Security benefits. We prefer CPI for global comparability, methodological consistency, sub-index detail, and relevance of its long history (1913).

Some expect further monetary normalization to be sidelined in 2019, but increasing cyclical inflation is driven by rising housing costs (+3.6%), wages (+3.2%), import prices, and service costs at a rate rising faster than inflation. Housing still has a significant impact given its 32% weighting in the CPI index and minimum wage increases extended rising labor costs. Recent volatility in CPI is attributable to fluctuating oil prices and currency, including a wide spread versus core inflation during 2015-2016 due to plunging oil prices. Another recent decline in oil prices may again drag inflation lower for a period, but as potential growth increases and secular disinflation moderates, inflation should rise toward 3.0%.



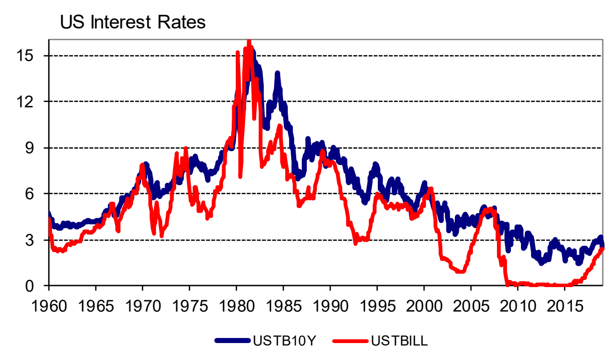
[1] Various measures of inflation are available today. Personal Consumption Expenditures (PCE) typically lags Consumer Price Index (CPI) inflation by 0.5% historically (CPI begins 1913) and differs by a similar measured over the last year. PCE is calculated by the Dallas Federal Reserve, while CPI is calculated by the Department of Labor. The Federal Reserve began publishing Economic Projections in 2012, using PCE as its preferred inflation measure. The first reference appears in February 2000 with simulated data back to 1995. We prefer an independent agency (BLS) calculating inflation, rather than Federal Reserve Staff. PCE was introduced in response to Chairman Greenspan's concern CPI inflation was overstated, although today many suggest CPI is now too low including "hedonic adjustments" (i.e., deflation in consumer goods). Lower inflation reduces entitlement and benefit costs, as well as federal debt interest.

Disinflation benefited from creative destruction and efficiency gains that reduced labor, energy, and basic material intensity. Conservation, substitution, and innovation not only reduced price and volume of consumption, these forces increased supply of labor, energy, and basic materials. Mining and drilling are more productive, while additive manufacturing minimizes waste and accelerates prototyping. before entering production. Time, effort, and cost to bring a new product to market has declined with computer-aided design and simulation to more efficiently optimize designs. If impact of disinflation moderates, how will we adapt to shifting inflation expectations reverting to historical averages?

Investor sentiment declined with global growth fears and uncertainties, boosting equity and currency volatility. Not much has changed economically since September to justify slowing normalization (no hikes in 2019 expected) or causing Treasury yields to drop over ½% to 2.69% during Q4. Recessions are not caused by yield curve inversions (10yr–2yr yields < 0%), even if a flattening yield curve raises concerns about likelihood of recession and is symptomatic of declining inflation expectations.

Interest Rates Should Rise Further

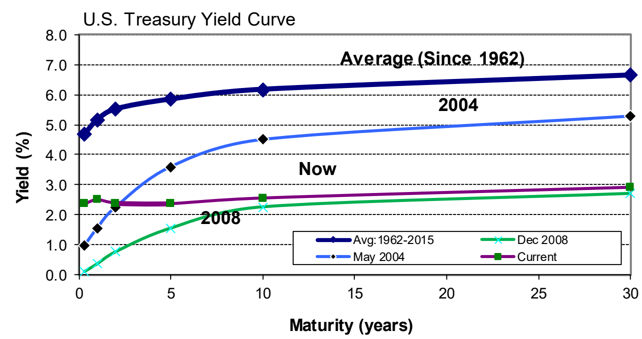
Interest rates and bond yields have risen since 2016, but not as fast as expected to achieve needed monetary policy normalization. We think delaying normalization is illogical given economic conditions, even if there appears room for patience with below average inflation. Fears that raising interest rates further might plunge the economy into recession are misguided. The US is not as fragile as some suggest, although Europe and Japan continue to struggle. Real growth should exceed 3% and can maintain full employment in 2019 while hiking interest rates at least 3 x ¼%.



Source: Federal Reserve and Strategic Frontier Management

Treasury bond yields need to rise more than interest rates, so the yield curve (long-short maturity yields) is more likely to steepen, rather than invert with no indication of recession in the foreseeable future. The yield curve is at the narrowest 2-10y spread since 2007. An inverted yield curve can be symptomatic of slower growth with declining inflation, which tends to result from hiking rates too fast or too far. An inverted yield curve doesn't cause a recession, and in fact may prevent one if long-term financing cost is lower. US economic and earnings growth has accelerated as inflation rose and unemployment fell. Treasury yields should be near normal rather than below 3% with unemployment below 4%, inflation over 2%, and 3-4% real GDP growth. The slowest pace of interest rate normalization shouldn't cause such concern.

Treasury Bills should exceed CPI inflation by 1% and 10-year Treasury yields should exceed T-Bill rates by 1.5%. Thus, 10-year Treasuries can double toward 5.5% yield within a few years. With high convexity (low bond yields increase interest rate sensitivity), investor losses will compound more quickly for any given rise in bond yields. In 1994, as 10-year Treasury yields rose just 2%, but returned -12% even with lower convexity than today. This is why we are concerned about extending duration (rate sensitivity) or leveraging bond portfolios.



The Federal Reserve continues to embrace economic data dependency and remains independent following its dual objective: to promote "maximum employment" and "stable prices" with moderate interest rates in pursuit of maximum sustainable growth. Unlike other central banks, the Federal Reserve has no explicit inflation target. Attempting to enforce a symmetric inflation range is problematic given monetary tools prove more effective limiting inflation, than increasing it. Other central banks have failed seeking to boost inflation, rather than growth.

Federal Reserve Forecasts

Interest Rates	2016	2017	2018e	2019e	2020e	2021e	Longer Run
FOMC Avg.	0.5-0.75%	1.38%	2.35%	2.85%	3.07%	3.01%	2.84%
SFM[1]	0.75%	1.50%	2.50%	3.25%	3.50%	3.50%	3.50%
SFM Hikes	0.25%	0.75%	1.00%	1.00%	-	-	-

1. Top-end of indicated Fed Funds range

Central Tendency (midpoint)

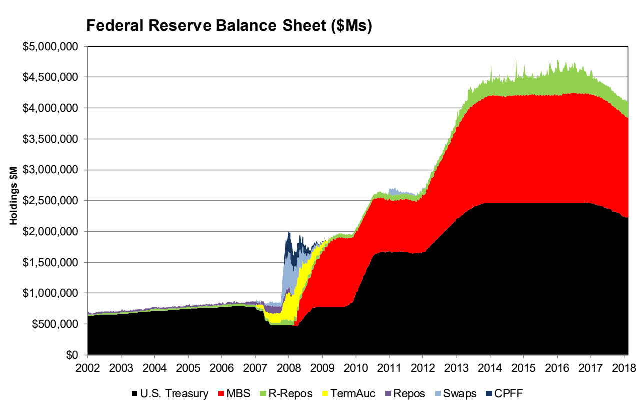
U.S. Fed %	2016	2017	2018e	2019e	2020e	2021e	LongRun Forecast Fed	LongRun Forecast SFM
GDP	1.90	2.45	**3.05**	2.40	1.90	1.75	1.90	2.70
U.Rate	4.70	4.10	**3.70**	3.60	3.65	3.75	4.30	5.00
PCE	1.50	1.65	**1.85**	1.95	2.05	2.05	2.00	2.50
Core PCE	1.70	1.50	**1.85**	2.05	2.05	2.05	2.00	2.50
Implied CPI	1.70	2.15	**2.35**	2.45	2.55	2.55	2.50	3.00

Source: Federal Reserve and Strategic Frontier Management

Declining long-run FOMC forecasts now diverge from 45-year historical averages. The Federal Reserve's r* or normal interest rate expectation has declined from 4.0% to 2.8% in just four years, following their inflation forecast lower, as well. We should be skeptical about why the basic secular variables should be altered so significantly, and how does that affect policy? We expect long-run forecasts will gradually revert back toward r*=3.5%, as CPI inflation rises toward 3% with potential growth below 2% heading toward 3%. Changing expectations require a re-rating of bond yields---this is an explicit moral hazard of imbalances that concerns us.

The explicit moral hazard of manipulating interest rates for an extended period will be more difficult to avoid. Consumer goods disinflation and a three-decade-long decline in bond yields shifted cognitive biases that warp our perspective of what is normal. The hazard of *Monetary Dependency* increases volatility and is a consequence of residual cognitive bias after a decade of manipulating market interest rates. Financial Reform regulation (2009 Dodd-Frank) also has increased bond market illiquidity, apparent in reduced dealer inventory. Policy consistency in hiking rates and unwinding quantitative easing can minimize normalization hazard, and be prepared to tackle any future slowdown.

Expanding issuance overwhelming falling demand may be another driver of higher bond yield. Unwinding QE holdings requires refunding maturing bonds, plus issuing new debt to cover the fiscal deficit. US Treasury should be extending average debt maturity instead of shortening it as observed since 2009. Interest burden on Treasury debt is likely to be the fastest growing federal liability with rising interest rates, compounded by rising state and local government debt. The imbalance between growing supply and diminishing demand as fixed income liquidity declines could foster the next crisis, in our opinion, with scrutiny of new age central banking.

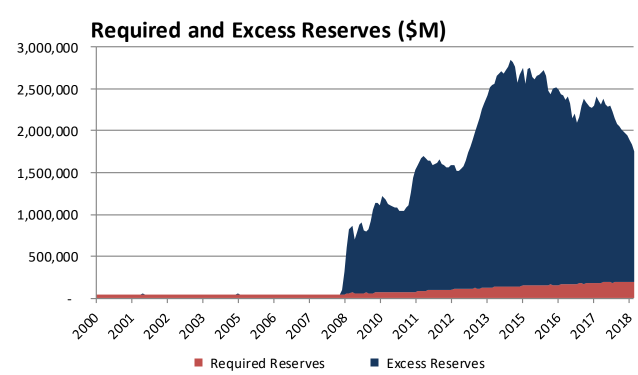


Source: Federal Reserve

Money supply should expand at the rate of desired nominal growth in GDP or about 5-6%, so extrapolating 5% growth in the balance sheet from $872B in 2007 to today suggests bond holdings should not exceed $1.6T. A $4T Fed balance sheet is still 2.5X too large. Reducing the Federal Reserve's bond holdings by $600 billion per year will slow growth in monetary base but still take about four years to normalize. Of course, reducing the balance sheet always was going to be problematic, and as we've discussed cause a moral hazard. Many believe QE-II and QE-III didn't actually improve growth, thus maybe steady refunding of bond holdings might not have much impact either. The 35% decline in money velocity from its peak suggests over-stimulative monetary policy was ineffective, but if it were to rise, should offset lower money supply. Patience raising rates may seem prudent, but slowing normalization extends explicit manipulation of interest rates and financial market imbalances.

By shear coincidence, $700 billion of foreign earnings was repatriated last year, after collecting 15.5% tax on cash (8% on foreign assets). This repatriated capital can substitute for credit to promote investment, expand employment, or reduce leverage (debt or equity), so the effect of reducing bond holdings may not be as worrisome as suggested. Remember that policy surprises, not levels, have the most impact on sentiment.

We've been critical for years about paying Interest on Excess Reserves (IOER), resulting in accumulation of excess bank reserves. Lowering or eliminating IOER might encourage greater lending and reduce taxpayers bill for interest paid to banks on total reserves of nearly $2 trillion versus required reserves of $300 billion. Consider: 2.5% x 1.7 T = $43 billion in annual interest expense added to our federal debt, which increases with the Federal Funds rate. Before the Financial Crisis, interest on bank reserves was 0%, so excess reserves were negligible. Limiting IOER would force banks to invest elsewhere, boosting credit growth and money velocity. When interest rates were near 0%, IOER helped manage the effective Federal Funds rate, but rates are higher now. We advocate paying interest only on required reserves or not paying interest on any reserves.



Global yield substitution of low or negative rates in Europe and Japan drives foreign demand for higher yielding Treasuries with a stronger US dollar. A strong US dollar and low currency volatility reduces value-at-risk (VaR), encouraging foreign investors to buy

Treasuries with much higher yield. Foreign Treasury demand tends to decline when non-US bond yields rise, currency volatility increases, or the US dollar weakens given this VaR relationship. Investors also may reduce bond exposures if bond losses persist, resulting in a rotation in their strategic asset allocation. Under-funded pension plans with higher duration or leveraged bond portfolio exposures are particularly susceptible.

Interest rates are still so low they support strong growth, but normalization will increase interest burdens. Higher US Treasury yields typically drive up global bond yields elsewhere, albeit to a lesser extent. Similarly, local government (municipal), corporate, and mortgage debt financing costs should increase too. Additional Treasury supply to finance bond refunding (quantitative tightening) compound financing needs of large fiscal deficits. So, as 10-year Treasury yields rise from 2.7% to 4.5%, interest costs could increase 88%. Office of Management and Budget expects federal interest costs to increase over 70% by 2020 versus a FY'2017 baseline of $200B, thus debt interest will become the fastest growing major liability. Many forgot how quickly rising interest costs consume increasing share of the non-discretionary budget. We've indulged on low interest rates for so long that we've lost our sense of fiscal spending discipline.

The greatest market risk may be excess supply of global debt given swelling fiscal deficits, rising interest costs on high debt ratios and refunding central bank holdings, as bond demand retreats. Central bank manipulation for an extended period caused global bond markets to become overvalued with Japan at greatest risk. Withering bond demand with rising fixed income illiquidity can turn financial imbalances into a global debt crisis, triggering higher currency and bond market volatility.

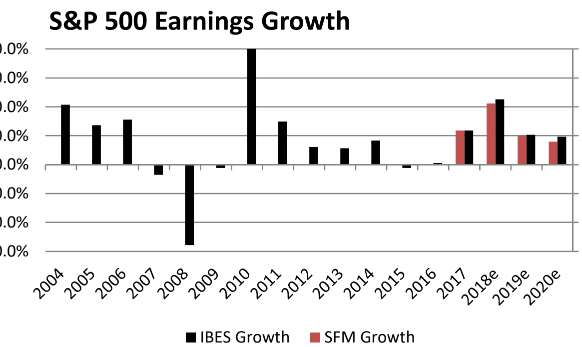
Earnings

Stronger revenue growth translated into about 22% operating earnings growth in 2018. valuations improved and leave room for further equity appreciation in 2019-2020. Oil prices ranged between $45-73 in 2018 yielding 94% energy sector earnings growth. Financials and Materials also led S&P 500 earnings growth, but Utilities, Real Estate, and Staples lagged. Remember 2015-2016, growth of near 0% was limited by declining energy earnings from falling oil prices, so attributing growth to *fleeting* fiscal stimulus is misleading. We expect earnings will increase 8% in 2019, led by Industrials, Financials, and Consumer Discretionary sectors, suggesting greater upside risk to our 2950 S&P 500 index target.

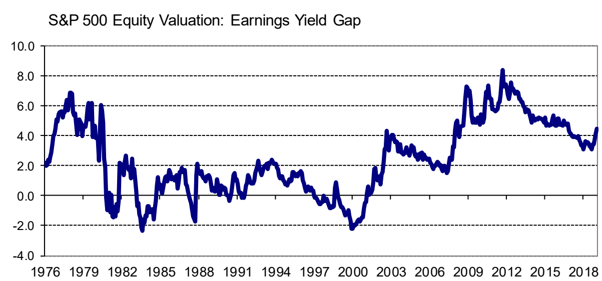
Earnings	2020e	2019e	2018e	2017	2016	2015
IBES Consensus	189.50	169.60	161.49	132.00	118.10	117.46
Growth	11.7%	5.0%	22.3%	11.8%	0.5%	-1.1%
Strategic Frontier	190.00	175.00	162.00			
Growth	8.6%	8.0%	22.7%			
S&P 500 @17x	3230.00	2975.00	2754.00	2244.00	2007.70	1996.82

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

S&P 500 profit margins are near record highs, but the trend still suggests margins haven't peaked yet (11% for S&P 500 and 9% for Russel 2000 vs. 6% for Europe & Japan), as many have feared. Accelerating revenue leverage margins to increase earnings growth. 2018 was remarkable as earnings forecasts climbed every quarter. Discussion of "peak earnings" confuses level with growth rates. Growth rates may peak, but the level of earnings has no upper bound, just as with equity index prices.



The S&P 500 has returned 305% since the index low of 666 on 03/06/09 (JPM preannounced better than expected earnings), thus this bull market was the longest in duration. Accounting for earnings growth and still low interest rates, we don't believe US equities are overvalued, nor should the duration of the economic expansion concern us. Instead, equity valuations are more constructive in most countries than a year ago, but particularly in the US. Strong S&P 500 earnings growth combined with share buybacks and buyouts bolstered equity valuations in 2018. Improved valuations increase potential return beyond previous highs (S&P 500: 2935).



Source: Strategic Frontier Management

Not every equity correction is the result of recession—prior to Global Financial Crisis of 2008, the US Savings and Loan Crisis of 1991-92 yielded neither a recession or correction in the S&P 500 (1991: +30.5%, 1992: +7.6%). Tactical Asset Allocation models with equity risk premium factors (function of price/earnings) routinely identified overvalued markets, including Aug. 2000–Sept. 2002 and October 1987 Crash. Neither Market Capitalization/GDP or Shiller's CAPE ratio were able to discern these periods of overvalued equity indices.

China and Emerging Markets

China's economy was transformed from one of the poorest nations per capita into the world's second largest economy. In doing so, China's economy is expected to surpass the US given seemingly unrelenting economic growth. China adapted to a mixed export-led economy that benefited from urbanization and state-financed industrialization, despite demographic challenges. We believe drivers of its potential growth are not sustainable. Concern about reliability of economic statistics persists, as variables like GDP still exhibit little volatility and appear more flattering than realistic given global trade dependency. China's growth should decline from 6.5% in 2018 toward 6% in 2019 due to debt deleveraging and trade tensions, even with aggressive fiscal and monetary stimulus. Most believe recent decline is cyclical, but secular competitive advantages needed to maintain or increase potential growth are also declining.

The ability for China to maintain or increase potential growth is a function of workforce growth and productivity growth. China's trade surplus accrued from various competitive advantages that are now reversing. Other countries also will seek to follow the US lead in dealing with China's uncompetitive trade practices. Even greater global market share will be increasingly difficult to secure as developed markets grow only half as fast. Rising labor costs and slowing employment growth to leveling trade restrictions, tariffs and currency manipulation should undermine export growth. Suspending appropriation of proprietary innovation and intellectual property rights compound China's demographic stagnation and faltering productivity in a socialist command-based economy.

China's birthrate declined from 6.4 births per woman in the 1960s to 1.5 births today (2.1 is needed to maintain level population), A negative immigration rate doesn't help either (China: -0.4/1000 vs. US: +3.9/1000). The illusion of expanding employment resulted from industrialization and city migration with increased female workforce participation helped it pivot to a superpower exporter. Without workforce growth, higher productivity is needed, but the cost to jobs may be unpalatable in China, and also difficult to achieve for communist leadership with government owning strategic companies in banking, energy, construction, and transport sectors.

Recklessly mining and rapidly consuming its abundant natural resources for decades increase environmental and mining costs. As resource availability declines, reliance on imported commodities grows. Manipulating interest rates and currencies provide little if any sustainable benefit. The trade-weighted US dollar has appreciated 15% over five years, but this advantage is unlikely to extend much further with greater scrutiny. Efforts to improve productivity are likely to reduce labor intensity and limit job growth, which can be unpalatable to China and thereby constrain productivity growth.

Maintaining or increasing productivity also runs headlong into the US and UK considering new national security policies to restrict transfer of sensitive innovation and intellectual property to China, considered a national asset and competitive advantage. Chinese acquisitions, mergers, and partnerships secured transfer of intellectual property globally over the last decade, but are likely to be more regulated. Export controls on defense-oriented technologies has protected US interests for decades, but sensitive innovation was increasingly developed in the private sector. The Committee on Foreign Investment (CFIUS) has provided an effective mechanism to protect US interests. The Department of Commerce (BIS) believes updating these regulations, policies, and controls can address risks that no trade agreement can achieve. Limiting China's appropriation of intellectual property will be difficult to overcome still lacking research and development experience to compete in offering high-value technology and services.

Thus, China has reached a secular tipping point with countervailing forces opposing *Made in China 2025*. It seeks to upgrade industry to be more efficient and integrated (productive) in order to produce the highest value-added components in global supply chains, just as nearly every other country wants to do. Reliance on productivity growth increases without sufficient growth in its workforce, but rising labor costs must curb gains in productivity and profit margins. Lower margins limit earnings growth needed to fund investment. Thus, our thesis of declining Chinese potential growth implies a downside toward 4% with over 3% inflation by 2025.

China's trade surplus with the US rose last year to a new record of $323.32 B as exports increased +11.3%, but imports rose just 0.7%. Tariffs on US goods sold in China amounted to 9.7% for agricultural products and 5% for non-agricultural products. China's dependency on trade tariffs, manipulating currency, low cost resources and appropriation of intellectual property reached a tipping point. Game theory suggests non-cooperative players seeking to create negotiating leverage might strategically embrace economic threats. Under *Mutually Assured Economic Destruction*, the desire to negotiate increases if both players are incentivized to avoid detrimental conflict, such as a trade war. Imposing US trade tariffs increased negotiating leverage, but we don't expect these tariffs to persist long enough to cause harm to US growth or increase inflation.

The World Trade Organization (WTO) was established to promote fair and free trade, but has been ineffective promoting international cooperation for decades. Tariffs, trade barriers, regulations, quotas, and currency manipulation limited US import competitiveness. China's trade practices and respect for intellectual property run afoul of WTO rules, even after joining in 2001. Trade agreements would be unnecessary if the WTO was more effective. Interestingly, an alternative path for No-Deal

BREXIT would be for the UK to drop tariffs to zero and lean on the WTO to sort out fair trade issues, while it negotiated new bilateral trade deals (U.S., Japan, China, Korea), plus an envisioned CANZUK (Canada, Australia, NZ, and UK) treaty.

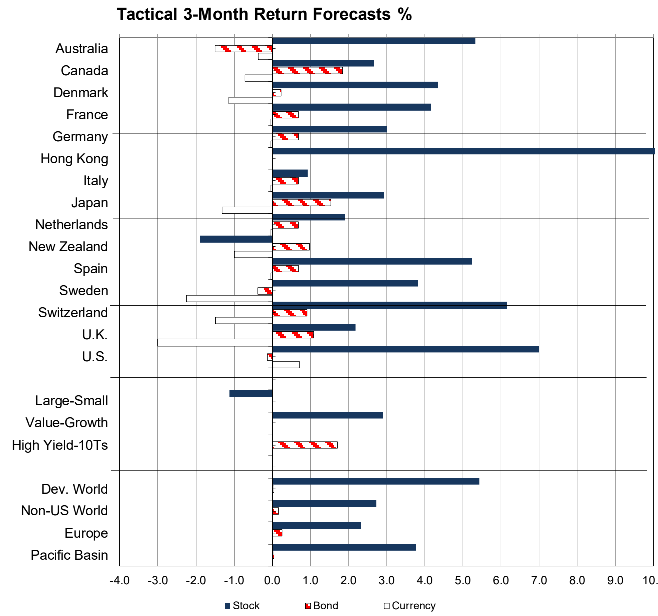
Recent trade friction timing couldn't more inconvenient, and secular risks in trade negotiations are more severe than China acknowledges. While its trade balance is higher than ever, its current account declined, publishing its first deficit since 1993. Foreign investors are reducing investment. China can repatriate foreign holdings, but US Treasuries provide the highest yield with minimal currency risk when quasi-pegged to US$. Thus, the US can negotiate from a position of unique strength given its wide trade deficit, reliance on services, and competitive advantages rooted in innovation leadership and entrepreneurship incentivized by free-market capitalism. More generally, the US will focus on bilateral agreements going forward, which are less compromised and realistically achievable, rather than multi-lateral deals.

China's profit margins declined over the last decade. Wages and benefits are still just a fraction of developed countries, but have increased significantly and will be challenged by adaptive automation. Robotics plus advanced sensors and machine learning are a challenge to labor intensive manufacturing in China, India, Mexico, Korea, and others. Global utilization of adaptive robotics will continue to reduce labor, resource and energy intensity. It is also a key driver behind our future theme of *Manufacturing Renaissance*. Undermining China's competitive advantages would reverse decades of offshoring for the benefit of those with trade deficits. The relative importance of transportation cost and distance to consumer markets must increase, just as the US seeks to level trade deficits. China accepted lower margins or subsidized losses in state-owned enterprises to increase market share, but raising prices is more difficult now.

Allocating to Emerging Market equities is no longer an easy decision. China is the largest country, but declining labor intensity and rising labor costs with high decline rates for mining commodities has reduced its competitive advantages. Secular themes that supported stronger growth are subsiding. EM equity valuations improved after the recent decline, but strong economic growth is not translating into sufficient earnings growth with profit margins declining from 10% to 6%. China's equity market performed poorly (-18.9%) in 2018 as profit margin declines given the struggle to convert economic growth into shareholder returns with rising labor costs under socialist policies.

Global Tactical Asset Allocation Forecasts

Our Global Tactical Asset Allocation discipline focuses on cyclical change within an 18-24 month time horizon. Global equity models balance constructive valuations vs. rising interest rates and stronger US dollar. US economic growth now exceeds most other developed economies, but inflation is higher too. European and Japanese growth is lagging, but interest rates remain very low and currencies are weak. Only Hong Kong has a higher local equity market return forecast than the US, as Japan lags. Many strategists are favoring Japanese equities again this year, but the risk it is a value trap has increased. We also favor small-cap again with a tilt toward growth now.



Source: Strategic Frontier Management

The stock market doesn't always track the economy, and the economy doesn't always respond to policy changes as expected or even with a longer lag. Much like the Heisenberg Principle, one can't be certain of both where (or what) and when at the same time. Yet, there is still value in trying to forecast and the discipline of doing so. Direction and uncertainty can be valuable, even if magnitude and timing are allusive. Yet, forecasts that attempt to convey path dependency (rise, then fall…or multi-horizon) are always precarious.

2018 Retrospective

US equity indices set record highs in 2018 through September as strong profit growth leveraged increasing revenue growth with high margins. The S&P 500 got within 1% of our year-end 2950 target, before tumbling to a -4.2% return for the year. Bond yields approach 3.25%, just a quarter point off our year-end 3.5% too, but then dropped over ½% in Q4 with equity volatility. Our 2018 themes of volatility-of-equity-volatility and global asynchronous expansion were illustrated in plain sight.

Last year, the US S&P 500 (-4.4%) outperformed Japan (-12.9%), as well as Europe (x-UK: -15.3%) by a wide margin, despite rising interest rates and stronger US dollar. China (-18.9%), Korea (-20. 9%), South Africa (-24.8%) and Turkey (-41.4%) led Emerging Markets lower, while Small-cap stocks (-11.0%) also lagged, as did value vs. growth (-6.8%).

Below we summarize some basic asset class returns. We observe some unusual relationships over longer 10-year periods (growth > value, underperformance of small-cap, and lagging Emerging Markets). Europe and Japan also have underperformed the US for some time, consistent with our longer-term concerns about secular potential growth and profit margins.

Returns	1-year	5-year	10-year	20year	Index
US Large-cap Eqty	-4.38	8.49	13.12	5.62	U.S. S&P 500
US Small-cap Eqty	-11.01	10.44	11.97	7.40	Russell 2000
Value-Growth	-6.77	-3.97	-4.11	1.11	Russell 1K Value-Growth
International Equity	-14.09	4.56	6.24	3.68	MSCI World (ex-US)
Emerging Markets	-14.58	1.65	8.02	8.06	MSCI Emg. Market
US Broad Bond	0.01	2.52	3.48	4.55	Bloomberg BC US Agg
Commodities	-7.09	-5.11	0.74	3.64	CRB Index
Cash	1.88	0.62	0.36	1.77	US T-Bill (3m)

The starting point of 10 and 20 year ago periods is particularly interesting, specifically end of 2008 and 1998, rolling off the first half of the Financial Crisis and just before the Tech Bubble burst. So, the 10-year risk premium vs. bonds exceeded 9.6%, but the 20-year horizon includes both recent bear markets. As historic return averages were skewed, investor preferences evolved. So, there is a risk of adopting misguided strategic asset allocations reflecting declining or low rates, rather than normal fundamental value, small size, volatility (low volatility), default, and yield risk premiums.

Commodities must be particularly frustrating after the last decade. Once upon a time, the *Commodity Super-cycle* convinced investors to add gold, energy, and commodities to strategic allocations, with peak flows in 2011---our thesis of secular disinflation undermined returns, but left behind high volatility that overwhelms hoped for portfolio diversification. Input costs can't exceed output prices, thus commodity returns can't exceed inflation. So as cash yields rise and US dollar remains firm, the hurdle rate for commodities and real assets also increases. Calls for a new Super-Cycle were pronounced last year with the anticipate global re-synchronized growth thesis that never materialized.

Hedge funds on average returned -6.7% in 2018, according to the HFRX Global Hedge Fund Index. This is dreadful when alternative risk premiums are supposed to diversify capital market returns, thereby reducing risk. This resulted in the closure of many funds and staff layoffs. Issues with low volatility is a familiar chorus from hedge funds, but were seemingly unprepared to deal with volatility-of-volatility. Hedge funds should be "hedged" or exhibit little to no equity beta, but still underperformed declining equity indices. With rising cash yield, the hurdle rate for hedge funds rose too.

Callan celebrated its 20th anniversary publishing its *Periodic Table of Investment Returns* ranking 8 primary asset class returns. Emerging Markets was the top performing asset class in 2017 (+37.3%), but the worst performer in 2018 (-14.6%). Cash was the best performing asset class in 2018 and the first time it was ranked #1, beating both equities and bonds. Cash continues to be a fabulous portfolio risk diversifier, and underappreciated for its benefits of no correlation or volatility. Cash yield with rising interest rates is approaching offering a positive real return vs. inflation for the first time in awhile, although Treasury Bill yields should normally exceed inflation.

Even more so than cash, our proprietary strategic asset allocation research has long included exposure to short-term gov't/corporate bonds of 1-3 year maturity, particularly in more conservative multi-asset strategies. In a rising rate cycle, lower duration fixed income offers much better return/risk. Unfortunately, rarely do asset owners, consultants, private wealth managers, or robo-advisors consider incorporating distinct exposure to short-term bonds. This particular asset class exposure can be held in an ETF or mutual fund at lower cost than money market fund expense ratios. Investor tend to ignore it because its boring and difficult to differentiate, or believe it is sufficiently included in their bond holdings. However, as one might include value or small-cap equity exposure overlapping US equities, investors can benefit from including dedicated short-term bonds in portfolios.

Revealing Perspectives

We are naturally drawn to alternative theories on how the future will be different. Varying opinions affect investor decisions, but markets respond in ways that can feel like they are "entering another dimension." *The Twilight Zone (1959)* was self-described as *our individual imagination between science and superstition, embracing our greatest fears of all that we know*. We enjoy the *journey into the shadows* of future themes and trends, believing that our imagination can be a powerful tool to anticipate meaningful changes in policy and trends. What is fundamentally probable and logical guides us, while differentiating between secular and cyclical forces. Forecasting is a logical exercise in practical possibilities and likelihood—not a pursuit of headline click-bait.

Investors appear concerned that a storm must be gathering, and appear fixated on equities, rather than overvalued bonds. Interest rates are rising and bond liquidity has declined. Our negative real return expected for 10-year Treasuries over at least the next five years undermines wealth and can trigger a rotation in asset allocation. Credit spreads widened a bit last quarter, but we shouldn't expect spreads to widen much without increasing default rates that coincide with economic instability or a slowdown. Turmoil in bonds might be revived most by declining preference for yield.

We expect global equities will outperform bonds by a wide margin led by US stocks. Rising inflation and stronger growth are inconsistent with flattening global yield curves---might this be caused by technical issue(s) rather than fundamental? In which case, global bonds are materially overvalued as more central banks begin tightening policy and inflation gathers momentum. Fiscal deficits persist, so interest burdens are rising with higher interest rates. Need to wind down QE programs will add refunding to excess debt supply and issuance. Credit ratings don't seem to matter much. We find this troubling, but explain why credit spreads are tight and indebted nations are not concerned about fiscal deficits. Equity valuations often correct when interest rates rise swiftly, but the S&P500 is not extended.

A significant global bond correction after years of market rate manipulation is a more likely to trigger a financial crisis, rather than housing, equity valuations, or policy mistakes. Needed interest rate hikes has only begun and we are still well below normal. Japan, and a few Eurozone countries, particularly Italy, are of most concern. Japan's equity ETF purchases is treacherous for taxpayers and an explicit moral hazard given lack of evidence it supported growth. Spiraling fiscal deficits, plus unsustainable debt, manipulated interest rates, low growth, stagnant margins, and weak currency begs for credit downgrades. Financing costs should soar if investors lost confidence in government ability to repay their debt.

It has been a decade since the *Perfect Storm* led to the Financial Credit Crisis of 2008. Various financial imbalances and new regulation helped trigger a credit squeeze that deteriorated into a credit crunch, causing a steep global recession. An artifact is that 10-year horizon risk calculations and stock-bond risk premiums are evolving rapidly as Q4/2008-Q1/2009 roll off.

Two decades ago in January 1999, the Euro was launched, irrevocably fixing exchange rates and transferring monetary policy authority for 11 nations to the ECB, but excluded the UK. Coincidentally, the United Kingdom is deliberating its final Withdrawal Agreement from the European Union today. Independence from the EU should bolster UK potential growth, released from uncompetitive regulation and misguided policies, as well as regaining sovereign control and competitiveness in freer markets and fair trade. UK economic uncertainty may persist a while longer, but starting over from scratch may be better than fixing what is broken. Focus on consequences for the UK ignored the problems that led to this for those left behind in the EU.

Bitcoin soared in value during 2017, but then prices of Cryptocurrencies collapsed in 2018. Bitcoin peaked at $19,588 on Dec. 15 2017, but closed 2018 at $3,880 or less than 20% of its peak value. Buyers of Bitcoin assumed supply was limited, but issuance of indistinguishable cryptoclones is unlimited. Initial coin offerings (ICOs) numbered 2166 through the end of 2018 and raised $7.9 billion last year, according to ICODATA.IO. *Bitcoin* or *cryptocurrency* might imply they are alternative currencies, rather than speculative commodities, as the CFTC classified them. Cryptocoins aren't legal tender, nor backed by the faith and credit of any government or hard assets. Cryptocurrencies continue to suffer numerous platform related losses. We still don't believe Bitcoin will destabilize capital markets, but Bitcoin's price could be even lower in a year, and suggest investors steer clear as we've long cautioned.

An age-old clash of interests is emerging again between populist policies of liberal socialism versus free-market capitalism that is globally undefeated over the last century, albeit with a twist---What is moral? Fundamental values and beliefs embraced for generations likely will be challenged by a new facade of morality or compassion. Competition is the free market's way of regulating enterprise and promoting opportunity for the greater good without imposing inefficient regulation. While we can objectively measure economic success, how does one judge moral beliefs *In the Living Years*?

In the words of Thomas Sowell, "Socialism sounds great. It has always sounded great. And it will probably always continue to sound great. It is only when you go beyond rhetoric, and start looking at hard facts, that socialism turns out to be a big disappointment, if not a disaster." Once the richest economy in South America, Venezuela is now the latest spectacular failure of liberal socialism. Socialism will forever be an ideological populist threat, and those who forget its historic economic failings are doomed to repeat its tried-and-failed misfortunes. Taxing wealth is unconstitutional, but shifts in political balance power can result in periods of terrible policymaking, so debate will increase headed into 2020 Elections. In America, economic strength is reinforced by free-market capitalism, but during times of turmoil, basic values and beliefs we hold dear may be threatened without better awareness of history, philosophy, and economics.
