MILL CREEK
CAPITAL ADVISORS, LLC

Capital Markets Annual Perspective: What a Difference a Year Makes

Calendar year 2018 was the most challenging year for investors since 2008. Although all seemed well with the world – or at least with capital markets – as the year got underway with a +7.7% return on global equities through late January, the easy money environment of 2017 (in which risk markets advanced unchecked month-by-month and most broadly diversified portfolios earned double-digit returns for the year) gave way to uncertainty and rolling price corrections across markets as the year unfolded. If 2017 was "remarkable" (as we described it a year ago), 2018 was "manic" relative to the prior year's calm and most especially during the final few weeks of the year.

There are some highlights worth noting – and worth remembering – about 2018. Notably, the U.S. economy grew at an estimated +2.9% rate, matching 2015 as the best year post-Great Recession. Unemployment averaged 3.9% in 2018, achieving the lowest level of joblessness since 1969. And boosted by the strong economy and lower corporate tax rates, corporate earnings and dividend payments surged to all-time highs. One result for investors: broad U.S. equity market benchmarks (e.g., the S&P 500 Index) fully recovered from an early -10% correction to achieve all-time highs (and YTD returns of nearly +11%) by late-September.

Doubts, however, began to creep into capital markets and dampened investors' optimism during the final months of 2018, due partly to higher borrowing costs that have accompanied more restrictive Fed policy. By the end of the third quarter, most short-term interest rates were at their highest levels in 10 years. And concerns about the potential economic impact of higher rates and prospectively tighter credit markets, combined with domestic political uncertainties, worsening trade disputes, and a slowing pace of global growth all combined to produce very weak stock markets in October and a near-rout in December. What seemed unlikely just three months earlier became fact on December 24 (Christmas Eve): a cumulative peak-to-trough price decline of -20% means that the U.S. equity bull market that began in March 2009 "officially" ended in late September.

Investor sentiment can as easily become clouded by bad news as good news. The near-euphoria of investors just 12 months ago has now given rise to rampant gloom and doom, and greater certainty in the minds of many that recent price trends (bond and equity markets alike) portend an imminent U.S. recession. We are not yet convinced this is the case, or that if an economic slowdown is indeed in the cards between now and 2020 that it will necessarily be as painful or long as the Great Recession of 2008-2009. The over-valuations to which 2017's "remarkable" returns took stock prices have now been unwound, creating an opportunity for better long-term returns for investors with the patience and resources to ride-out any short-term uncertainties.

January 2019

The Top Capital Markets Stories of 2018

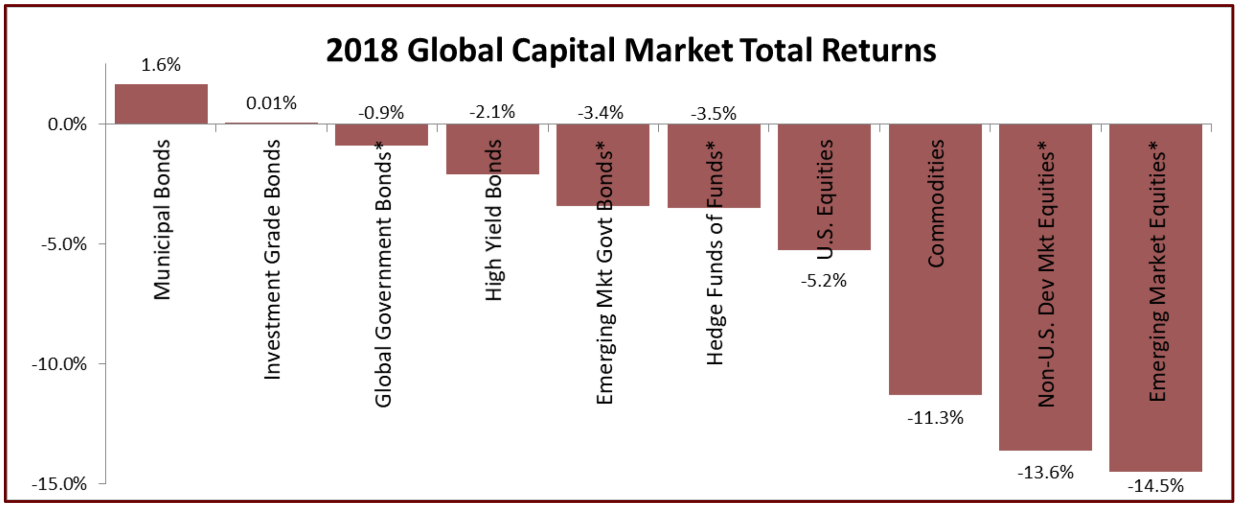
Every recent calendar year seems to produce much different capital market narratives than the immediately preceding period. A year ago, we noted that 2017 was "remarkable" for having produced a nearly uninterrupted advance in global equity market prices (and a +24% total return) and comparatively stable bond markets. Now, if asked to use a single word to define 2018 markets we would describe them as having been "manic", certainly relative to the prior period and most especially across the final few weeks of the year. Notably, global equity market returns diverged widely across markets and from quarter-to-quarter, and low bond market yields did little to insulate most diversified portfolios against equity market losses for the full year. It was the most difficult year in which to produce positive portfolio returns since 2008.

The economic fundamentals underpinning 2018 capital market price trends differed somewhat from the going-in consensus of 12 months ago. Signs of "synchronized" economic growth in late 2017 had been expected to boost the overall pace of global economic growth in 2018, with China and other emerging economies leading the way. But instead, growing concerns about U.S. trade policies and tariffs, combined with worries about the impact of a strong U.S. Dollar (USD) on emerging market economies, gave rise to less strong worldwide growth in 2018. Ongoing geopolitical issues (e.g., the U.K.'s inability to finalize its BREXIT plan, Italy's budget woes, Japan's continuing struggles to jump-start sustainable economic growth) also colored capital market outcomes throughout the year.

Closer to home, the U.S. stock market's two sharp price corrections belied what otherwise appeared to be an ideal environment for a continuation of the equity bull market that began in early 2009. The U.S. economy (GDP) grew at its fastest rate since 2015, unemployment that averaged 3.9% was at its lowest levels in 50 years, and lower corporate income tax rates contributed to high profit margins, 22%+ higher aggregate earnings growth, and good-sized (+6.7%) increases in cash dividends. But as the year came to a close, the optimism that such strong fundamentals had engendered within the year's middle (2nd and 3rd) quarters was quashed both by rising political concerns and worries that boosts to short-term interest rates engineered by the Federal Reserve might dampen future economic growth rates and potentially lead to an economic contraction (recession) by 2020. A precipitous December sell-off pushed broad price measures of the U.S. equity market (i.e., the S&P 500 and Russell 3000 indices) into bear market territory, bringing an end to the strong and long bull market that began nearly 10 years earlier in March 2009.

Capital Markets: 2018 Results

Reflective of these broad global trends and markets' reactions to these trends, total returns to U.S. investors across the major asset classes in which investments are typically made are shown in the following chart:

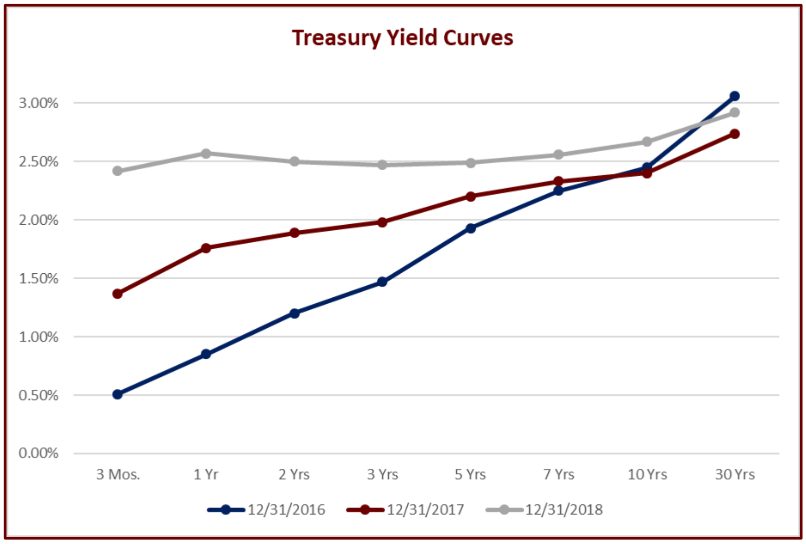


Tighter Monetary Policy, Bond Markets, and Fixed Income Securities

The Federal Reserve's monetary policy actions in 2018 matched consensus expectations: it boosted the benchmark Fed Funds rate four times (25 basis points per increase), bringing it to a target rate of 2.50% at year-end. The U.S. central bank also continued to shrink the size of its balance sheet (i.e., its ownership of U.S. Treasury bonds and mortgage-backed securities), consistent with its previously announced plans to do so given the U.S. economy's full recovery from the Great Recession and banking crisis of 2008-2009. Higher interest rates generally get transmitted directly into rising yields at the shorter end (maturities of 5 years and less) of the Treasury bond market, and that was the case in 2018. Yields on 3-month Treasury Bills (a commonly used measure of the risk-free rate of return to which other investments are compared; it is also a key driver of money market fund returns) rose from 1.40% to 2.40% during 2018. Yields on other Treasury bond maturities also rose: after ending 2017 little changed at 2.40%, for example, the benchmark 10-year Treasury bond yield rose as high 3.20% before a risk-off rally in Treasury bonds pushed it much lower (to 2.69%) at year-end.

As illustrated in the following chart, some short-term bond market yields finished the year as much as 50-150 basis points higher than they were two years ago but longer-term yields are little changed. There is now very little pick-up in yield (only 0.21%) between 10-year and 2-year Treasury bonds. The considerable flattening of the Treasury yield curve by late 2018 was a cause for some market concern, given a widely cited (but in our view, somewhat misguided) axiom that the shape of the yield curve was nearing a point at which it would be signaling a pending economic recession[1].

[1] See our December 5, 2018 Market Update (*"Keep Calm and Carry On"*) for a summary of our recent research on the loose relationship between inverted Treasury yield curves and the start of economic recessions.



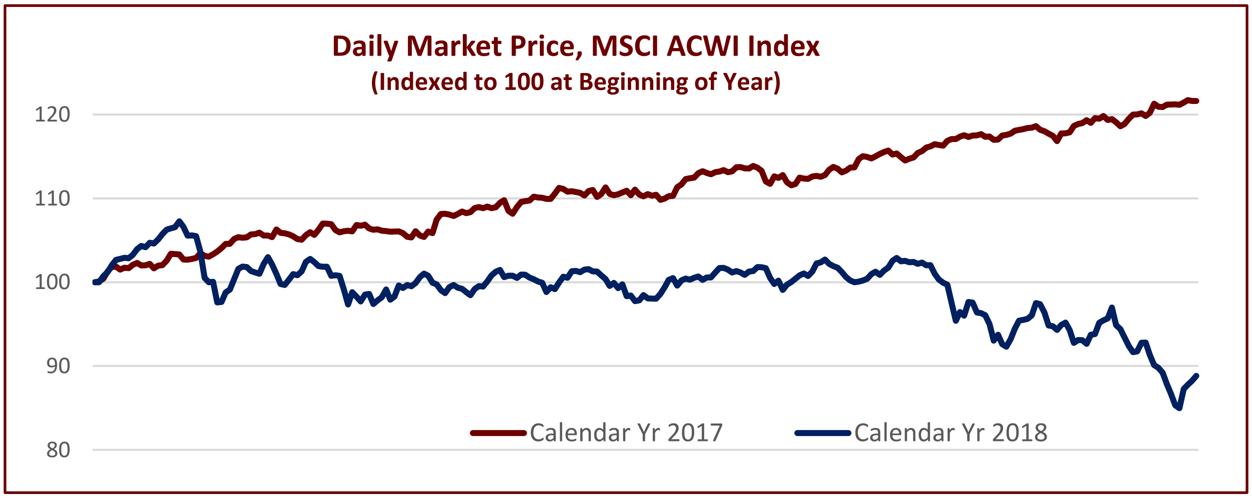
The impact of Federal Reserve monetary policy on prices of Treasury bonds (which comprise roughly 35% of the investment grade U.S. bond market) contributed to price declines of roughly -1.4% on these securities in 2018. Both rising yields and the somewhat higher credit spreads the market started to require on corporate bonds (25% of the high-quality bond market) contributed to -6.2% lower prices on this segment of the bond market. Investors got little help from interest income: on average, taxable bonds paid a 3.06% coupon rate of income during 2018. These and other factors combined to produce breakeven results and the lowest total returns on taxable bonds since 2013 (when such investments produced a -2.0% return). All told, the net result was periodic and yearly returns on bond portfolios that did very little to offset the price declines that investors experienced within other parts of their portfolios.

Quarterly Bond Market Outcomes					
	Total Returns				
	1Q	2Q	3Q	4Q	**2018**
Taxable Bonds	-1.50%	-0.16%	0.02%	1.64%	**0.01%**
Tax-Exempt Bonds	-0.70%	0.81%	-0.07%	1.61%	**1.64%**

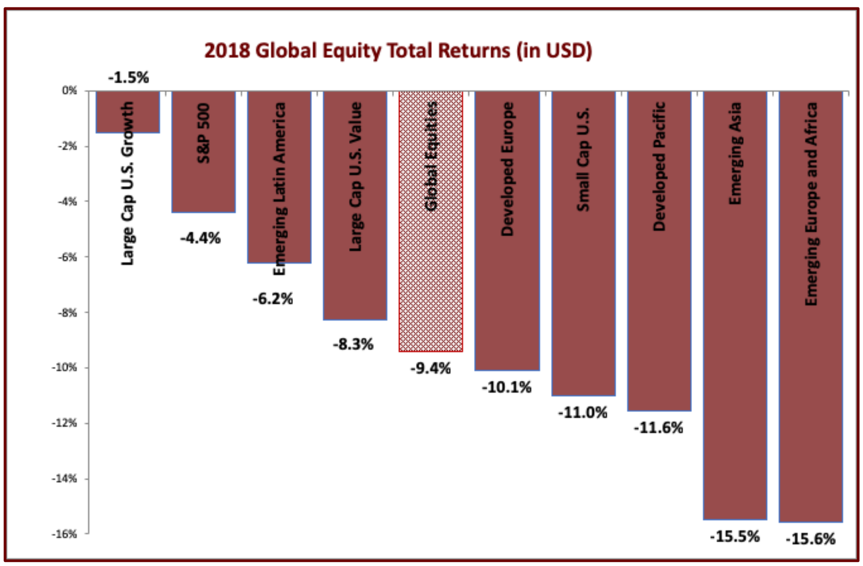
The tax-exempt (municipal bond) segment of the U.S. bond market generally follows trends in the taxable bond market. As shown in the adjoining table, however, this asset class outperformed its taxable counterpart during much of the year and for all of 2018. And, as shown previously, it had the somewhat dubious distinction of producing the best total returns (+1.6%) of any major asset class for the year. The tax-exempt bond market benefited from tight supply conditions (there was comparatively less net new bond issuance in 2018) and tax law changes affecting individuals in certain high tax states (e.g., New York, New Jersey, California) that increased investor demand for tax-sheltered income. But an average price decline of -2.6% offset a big portion of the 4.25% average coupon rate of interest paid on these securities, producing comparatively flat total returns on a portfolio of these securities.

Equity Markets and Investments: Volatility and Anxiety Return

As 2018 began, we wrote that our chief concerns for equity markets going into the year were much the same as they were heading into 2017. Namely *equity valuations* that were elevated relative to long-term norms and *price volatility* which was extremely low by historic standards and could be lulling risk-averse investors into a false sense of complacency. The MSCI All-Country World Index (ACWI) had achieved positive total returns in each month of 2017, the first time that had occurred across the 30-year history of the index. We warned investors that across the long history of financial markets, a peak-to-trough correction of -8% or worse during a calendar year was a normal eventuality (having occurred in all recent calendar years save for 2017).



As shown in the below chart, global equity market trends were markedly different in 2018. Rather than advancing virtually unchecked (the worst overall decline in 2017 was -2.2%), global stock market prices peaked in late-January (+7.2%), experienced a -11% correction through mid-February, rallied into positive YTD territory by late-August, and then experienced a second (and much worse) -17% correction to finish all of 2018 with a -9.4% total return (MSCI ACWI Index). Day-to-day volatility was substantially greater, too. The broad S&P 500 Index, which experienced just 8 trading days with one-day returns greater than +1%/worse than -1% in 2017, had 64 trading days (26% of the total) with daily moves of this magnitude in 2018. It's no small wonder, then, that stock market investing felt so much riskier in 2018.



Prior to December, the equity markets story of 2018 was that of a series of "rolling corrections." Emerging market stocks, for example, were slammed by concerns over prospective U.S. trade tariffs and a rising USD (as well as some country-specific woes), declining -27% from their late-January highs through late-October. European stocks were -10% by late-March, nearly retraced these losses by late-May, then suffered a second larger (-14%) correction alongside other world markets toward year-end. Cumulatively, non-U.S. equity markets were the first to achieve the dubious distinction of entering bear market territory in 2018.

U.S. equity markets also experienced a series of rolling corrections but were, on balance, nevertheless in positive territory YTD through the third quarter. Large Cap Value stocks declined -10% in the January correction but had gradually and fully offset that decline by late August; Small Cap stocks led the way higher for much of the year (+14% YTD through August 31) but fell sharply (-27%) thereafter. Large Cap Growth stocks similarly declined about -10% in January, staged an impressive +19% rebound through the summer, but gave-up -22% thereafter (with the seemingly indefatigable FANG stock sub-segment

Quarterly Stock Market Outcomes					
	Total Returns				
	1Q	2Q	3Q	4Q	2018
U.S. Large Cap	-0.7%	3.6%	7.4%	-17.0%	**-8.3%**
U.S. Small Cap	-0.1%	7.8%	3.6%	-22.1%	**-13.2%**
Non-U.S. Developed	-1.9%	-0.8%	1.4%	-13.5%	**-14.4%**
Emerging	1.4%	-8.0%	-1.0%	-11.1%	**-17.7%**
Global	-1.0%	0.6%	4.3%	-15.2%	**-11.9%**

falling -32% from mid-year onward), ultimately shaking many investors' confidence heading into the year's final month. With no sector of the U.S. market immune to the December downturn, adding that month's -9% return (Russell 3000 Index) to earlier declines from the all-time highwater marks achieved in late September, officially put the U.S. market firmly into bear market territory as of the market's close on Christmas Eve (December 24).

Commodities

Investing in a basket of commodities (whether precious metals, industrial metals, energy, agricultural, or combinations thereof) has only rarely provided investors with satisfying total returns given the above-average price risks that have accompanied investments in this asset class. This was as true in 2018 (a basket of commodity futures contracts returned -11.3%) as it was in 2017 (+1.7%). Net of double-digit returns in just two post-recovery years (2010 and 2016), investments in this asset class have produced annualized losses of -6.1% (-43% cumulatively) since December 2009.

Crude oil and gold, however, are two commodities whose prices the markets generally and some investors in particular follow closely. This is largely because the former is perceived as a good proxy for changing geopolitical and economic risks and because the latter is a good contra-indicator of investors' risk concerns (i.e., gold prices have a historical tendency to increase in the face of rising investor risk aversion). Oil prices experienced one of their more volatile years in 2018, with actual and perceived supply-demand imbalances pushing both Brent (European) and West Texas (United States) spot prices +27% through October but then pushing prices down nearly -45% by year-end. Gold prices (which have yet to come close to their Great Recession era high price of $1890/ounce) were comparatively flat through April, declined -13% through the summer rally in U.S. equities, but provided some calm-in-the-storm protection with a strong fourth quarter gain (+8%) to finish 2018 at $1282/ounce (-2.7% for the full year).

Selected Commodity and Crypto Currency Prices				
	12/31/17	High Price	Low Price	**12/31/18**
Crude Oil per Barrel	**$ 60**	$ 76	$ 42	**$ 45**
Gold per Ounce	**$ 1,318**	$ 1,358	$ 1,175	**$ 1,282**
BITCOIN	**$ 13,625**	$ 16,753	$ 3,510	**$ 3,674**

Lastly, we cannot resist paraphrasing a statement from last year's annual market recap, in which we wrote that BITCOIN's extraordinary (+1300%) 2017 price rise would likely go down in financial history as *one of the biggest speculative bubbles of all-time.* We stated then that BITCOIN had any number of attributes (a lack of intrinsic value, the difficulty of buying/selling it, a lack of regulatory oversight, etc.) that made it inappropriate as an investment asset. That continues to be our view. With condolences to BITCOIN speculators, we note that its year-end estimated value of $3,674 was nearly -80% below its early-January all-time high price of $16,750 per "coin."

Alternative Investment Strategies and Private Equity

The sharp divergence of returns within and across asset classes in 2018 proved, on balance, to be a challenge for alternative investment programs and strategies. After 2017, when one-way markets helped broadly diversified Fund of Funds hedge programs produce an average net outcome of +7.7%, program returns averaging -3.5% in 2018 were comparatively disappointing. Among the industry's individual strategies, those investing in global equity markets on a risk-controlled basis (so-called Equity Hedge strategies) produced average returns of -6.9%, faring better than overall global equity markets. Macro strategy returns held up appreciably better during the late-2018 risk-off environment than in the year's earlier rolling market pullbacks, paring full year losses to -3.2%. At the opposite end of the annual total return spectrum, but achieving little benefit for the average investor, Event Driven and Relative Value fixed income strategies produced total returns of -1.7% and +0.7%, respectively[2].

Private Equity markets and managers therein were particularly active in 2018. The industry's "dry powder" (money raised but not yet committed) declined from a peak of nearly $1 trillion a few years ago to around $500 billion in 2018, with fund managers in Venture and Buyout raising about $200 billion but investing $600 billion. Exits (capital returned to investors) were well over $350 billion, giving investors ample capacity to commit to new funds. Buyout fund activities were helped by relatively low interest rates, an abundance of lenders and loose lending standards, an increase in M&A activity, and solid demand for IPOs. Venture Capital raised and invested more money than in 2017, with unicorns (privately-held start-up companies with valuations over $1 billion) soaking up considerable capital. Some unicorns went public in 2018, while others (e.g., Uber) have not yet done so. Half of the $80 billion in Venture exits during 2018 came from IPOs, 40% were from corporate acquisitions, and 10% from purchases by Buyout funds. Software deals absorbed 40% of new venture dollars and life sciences another 15%. Real estate, credit lending, and growth capital funds expanded their market presence, while Secondaries funds took in record amounts of capital. Distressed and Special Situations funds raised less money, reflecting many investors' views that global growth and supportive capital markets would continue into 2019.

Capital Markets: 2019 Outlook

The U.S. economy is currently projected to grow at a slower – but still above-trend – *real rate* of +2.6% in 2019. Though a seemingly small annual change, this would equate to a roughly $540 billion increase in the nation's GDP. Strong consumer spending, fueled by an overall confidence in job security and modestly higher wages, will remain critical to the economy's on-going expansion. Were growth to continue, it would achieve a record-setting 10th consecutive calendar year of positive economic growth in the United States[3]. Although increasing marketplace attention was paid in late-2018 to analyst forecasts that a recession *could occur* in 2020 – and that a flat and possibly inverting Treasury yield curve could be an early warning sign of an economic contraction – we are not swayed by the historic precedents and are as yet unconvinced by the currently available data that a U.S. economic contraction is imminent.

Globally, rates of economic growth are projected to be little different in 2019 than in 2018. The world's major developed economies are projected to grow slightly more slowly than the U.S. (e.g., just +0.9% in Japan and +1.7% in Eurozone nations and the U.K.) and its developing economies at a more robust +4.7% rate[4]. China remains a key wildcard in these forecasts: the primary engine of post-2008 global

[2] Hedge fund strategy return data is net of manager fees. Source: HFRI

[3] Although the U.S. Commerce Department's Bureau of Economic Analysis data shows that the U.S. economy expanded in real (inflation-adjusted) terms in each of the 15 calendar years 1992 through 2007, official National Bureau of Economic Research statistics on trends in the overall U.S. economy indicate that a modest 8-month recession occurred from March-November 2001.

[4] Source: International Monetary Fund "Global Economic Outlook" (October 2018)

economic growth (with a 6.9% average growth rate across the last 5 years), China's economy will inevitably experience a slowdown as it matures, and tougher U.S. trade and tariff policies could have an adverse impact on China's economy and on global growth in 2019 and beyond.

U.S. Inflation, Central Bank Policies and Currency Values

The rate of U.S. inflation has yet to achieve the kind of lift-off velocity during the nearly 10-year long economic expansion that would create a debilitating cycle of materially higher prices and interest rates. In 2018, core consumer prices increased at a +2.00% year-over-year rate through July but trended somewhat lower thereafter. Consensus forecasts for inflation in 2019 (a tight range of +1.7% to +2.4%) project more of the same. The Federal Reserve, in concert with its announcement of a mid-December Fed Funds rate increase, indicated that it may boost rates just twice (probably a total of just +50 basis points, to 3.00%) in 2019. The Fed's Dot Plot estimates for rates thereafter show that the U.S. central bank's governors do not see short-term rates going much above 3.25% in 2020-2021. This suggests that it now thinks that little additional tightening of monetary policy will be necessary to guard against a potentially over-heating economy. Barring unexpected and adverse economic developments, the Fed's plan to gradually but progressively shrink the size of its balance sheet by $50 billion/month (chiefly by not reinvesting maturing Treasury bond and MBS security proceeds) is likely to continue apace in 2019.

We expect that yields on short-term Treasury bonds (maturities of 5 years and less) will rise in concert with the Fed Funds rate, increasing 25-40 basis points (0.25% - 0.40%). Though longer-dated bond yields may rise and fall during the year in reaction to various market developments and forces, we expect them to end the year roughly unchanged. The net result: a likely further flattening or flat yield curve for maturities between 2- and 10-years.

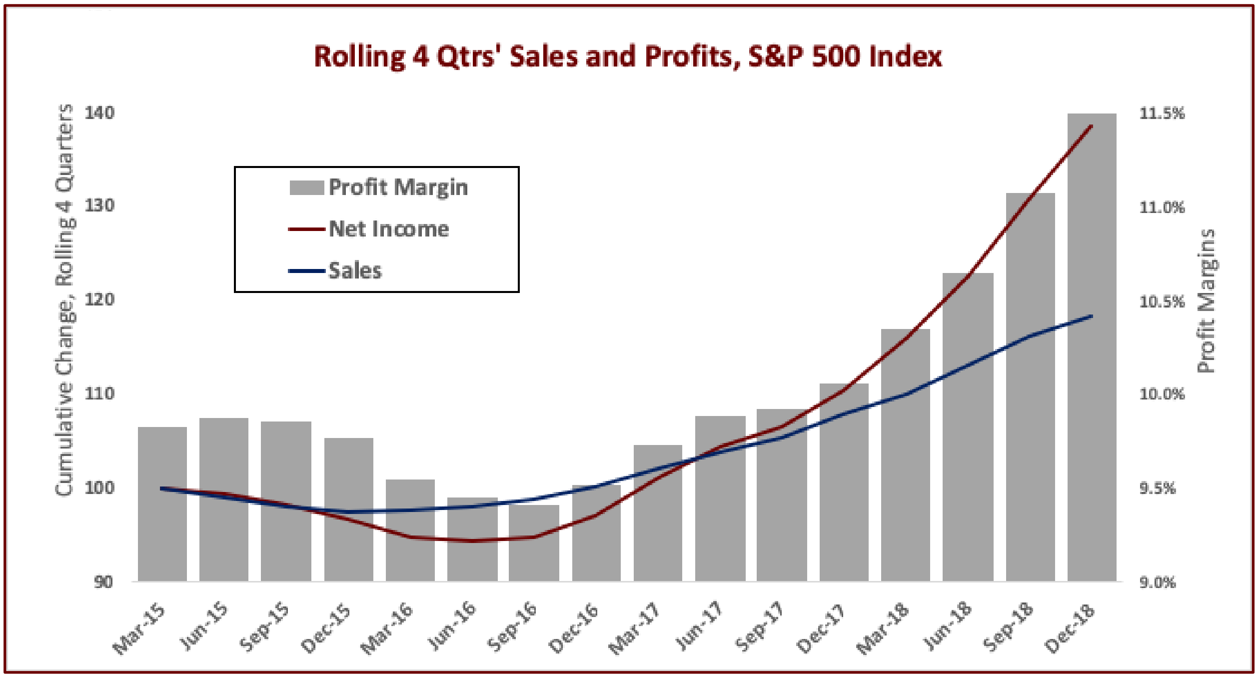
Although interest rate differentials between the U.S. and other nations have historically affected trends in currency exchange rates, other factors (e.g., central bank policies, global trade activity) have also contributed to widely divergent currency outcomes across each of the last three calendar years (the USD rose +3.0% versus a basket of other major currencies in 2016, fell -8.5% in 2017, and rose +4.3% in 2018). The depreciation/appreciation of non-USD currencies can be either a headwind (subtracting from the returns earned by U.S. investors on investments made outside the U.S.) or a tailwind (adding to returns) across short time periods. We expect this to be true again in 2019, with current consensus estimates of a somewhat weaker USD potentially boosting total returns on non-U.S. equity investments in particular.

Corporate Profit Margins and Profits

U.S. and global corporations, on balance, produced strong earnings per share (EPS) growth during 2018. Trailing 12-month earnings reported by U.S. large cap companies (S&P 500 Index) were +22% higher in aggregate; their small cap counterparts produced EPS that were +31% higher year-over-year[5]. Profits were also greater at non-U.S. companies: publicly traded corporations comprising European (+23%), Japanese (+18%) and Emerging Market (+17%) stock market indices all logged double-digit increases. Current consensus estimates project that overall earnings will rise globally in 2019, though at somewhat slower average rates.

[5] Based on companies' earnings reports through December 31, 2018

The science that goes into deriving earnings estimates (whether for individual companies, industries, or entire markets) includes estimating changes in top-line revenues and changes in various expenses (e.g., operating costs, interest payments, taxes). In 2018, most U.S. companies' earnings got a boost from the reduction in corporate income tax rates. As illustrated in the below chart based on companies comprising the S&P 500 Index, this change contributed to higher profit margins and to earnings that rose more rapidly than sales.



Our December review of consensus 2019 EPS estimates indicated that on balance analysts are expecting profit margins to remain high in the year ahead. S&P 500 Index estimates, for example, were for +8.5% growth in EPS to $177 per share on sales growth of +5.5%, implying that profit margins would remain elevated in 2019. We think these forecasts could be overly optimistic[6]. Softening margins, as we pointed out in last year's review of capital markets, are a defining characteristic of the late-cycle phase of an economic expansion due to increasing input costs, rising wages, and higher interest expenses. Companies, too, could decide to be less generous with cash dividend payouts and share re-purchases in 2019 than was the case in 2018. Accordingly, we think there is a risk in 2019 that declining profit margins in comparison to expectations could result in earnings growth and dividends that fall somewhat short of current consensus estimates.

Equity Markets

Projecting short-term (e.g., the next 12 months) investment returns on equity markets is problematic, primarily because two of the key inputs that go into such projections (future earnings and future market valuations applied to those earnings) are not reliably predictable one year in advance. At the end of 2017, for example, S&P 500 earnings estimates for 2018 were $149/share and the market was valuing these earnings at (was selling for a P/E of) an 18.0x multiple. By December, estimates of 2018 EPS had risen to nearly $163 (9% higher) but the P/E applied to those earnings had fallen to 15.4x (-14% lower).

[6] By early January, consensus estimates for 2019 EPS were starting to be revised downward to $172, 3% lower than estimates made just two weeks earlier.

Further complicating projections about returns in 2019: actual full-year earnings for 2018 won't be known until all companies finish reporting their fourth quarter results (most likely not until mid-March 2019).

We think there is a possibility that profit margins (and hence earnings) will not be as strong in 2019 as is incorporated in current consensus forecasts. There is a possibility, too, that 2018 earnings come in slightly below current forecasts, making the 2019 estimates that much more difficult to achieve. But as the just completed year so well illustrated, the market's short-term price reaction to earnings trends is unpredictable. Accordingly, the table below illustrates the range of total returns (price changes plus cash dividends) that would be produced by various combinations of changes in earnings and in valuations.

Potential Total Returns (Price Change plus Cash Dividends)					
Yr-over-Yr	Valuation (Price to Estimated 2019 Earnings)				
EPS Growth	14.0	15.0	*15.4*	16.0	17.0
0.0%	-7.4%	-1.0%	1.6%	5.5%	12.0%
4.5%	-3.3%	3.4%	6.1%	10.2%	16.9%
6.0%	-2.0%	4.9%	7.6%	11.7%	18.6%
8.5%	0.3%	7.3%	10.1%	14.3%	21.3%

Achieving the 2019 consensus earnings estimates and paying the same multiple now being applied to projected 2018 earnings (15.4x) would result in a roughly +10.1% total return for the year. A good year for earnings (perhaps with expectations for more of the same in 2020) combined with rising valuations could produce higher double-digit returns. But an unexpected slowdown in earnings growth matched up with lower valuations could produce another year of disappointing (flat or negative) one-year investment outcomes[7].

Applying this same logical framework to projecting returns on non-U.S. equity markets produces a similar but not identical range of potential one-year outcomes. Given the tendency of non-U.S. equity markets to move in the same direction as U.S. equity markets (particularly when prices decline), we expect global valuations to move in sync during 2019. However, the possibility of currency gains (from a declining USD) and substantial valuation discounts being applied to non-U.S. markets – relative both to these markets' long-term norms and to U.S. market valuations – leads to our conclusion that these markets are likely to outperform U.S. markets in 2019.

U.S. Bond Markets and Fixed Income Portfolios

Accurate short-run interest rate forecasts are not any easier to derive than projecting returns in global equity markets, though the comparatively narrow range of likely bond market annual outcomes generally makes for smaller overall forecasting errors. A year ago, our expectation was that the bond markets' long, slow adjustment toward a more "normal" interest rate environment would continue in 2018, with low total returns on bond portfolios a direct consequence of that trend. We opined that rising rates and the low starting yields on both taxable and tax-exempt fixed income portfolios meant that total returns would be less favorable than was the case in 2017. Both of these projections were borne out, though our estimates that annual returns might be in the range of +1.50% to +2.50% were marginally too high.

Although we expect U.S. interest rates to rise modestly during 2019 (particularly at the short-end of the yield curve in keeping with anticipated increases in the Fed Funds rate), two factors could combine to produce somewhat higher one-year total returns on bond portfolios in comparison to 2018. First, overall

[7] S&P 500 valuations (Price/Estimated Earnings) varied from a high of 18.7x in late-January to a low of 14.5x near year-end. Although a return to valuations that are higher than the maximum (17.0x) illustrated is possible, we believe that macro-economic and geopolitical concerns will likely act as a deterrent to substantially higher P/E ratios during 2019.

bond market yields are somewhat higher (3.28% on taxable bond portfolios versus 2.70% at the start of 2018; 2.25% on tax-exempt portfolios versus 2.00%). And second, we project that the net change in broad market yields will likely fall short of last year's overall rise given expectations that the Treasury yield curve remains flat or flattens further. The net result: taxable bond portfolio total returns could be marginally positive (e.g., +1.50% to +2.50%). Tax-exempt bonds, which benefited from strong performance in comparison to the Treasury market in 2018, will face a slightly less favorable technical environment (i.e., supply conditions are expected to normalize after being 23% lower year-over-year) in 2019. Accordingly, total returns on such bonds (potential outcomes of +0.50% to 1.50%) may modestly underperform taxable bonds in 2019 and their own results of the prior 12 months.

Summary and Conclusions

Calendar years 2017 and 2018 produced two real-world examples of both how different investment returns can be across relatively short periods of time and the unpredictability of predicting these returns. Last year was as *manic* as the prior year was *remarkable*. Although a different narrative is playing out as 2019 gets underway, the answer to whether the markets have correctly predicted that the U.S. economy will soon contract or that markets have (again) just overreacted to short-term concerns remains to be seen.

For most investors, the majority of whom own broadly diversified portfolios that own a mix of equities, fixed income securities, and alternative securities and strategies, the financial pain of the recent sell-off of U.S. and global equities in 2018 will have been somewhat tempered by the comparatively flat returns on other portfolio holdings. And, perhaps somewhat counterintuitively, price declines of the magnitude we experienced in late 2018 cause us to be more – not less – optimistic about future investment returns. At a current multiple (P/E ratio) of 15.4x, the likelihood of U.S. stock market returns that are positive and in double-digits across a 3- to 5-year holding period is much greater than when the market's current multiple is north of 18.0x.

Distribution of Valuations and Investment Outcomes, 1987-2018

Historical	Fwd P/E Range		P/E Higher		Ann. Price Change		Periods, Neg. Returns	
Range	Low	High	In 3 yrs	In 5 yrs	3 Years	5 Years	3 Years	5 Years
Bottom 20%	under 14.1		92%	97%	13.7%	12.2%	5%	0%
2nd Quintile	14.1	15.6	67%	67%	11.1%	11.8%	30%	9%
3rd Quintile	**15.6**	**16.7**	**32%**	**39%**	**7.4%**	**8.6%**	**9%**	**15%**
4th Quintile	16.7	18.8	24%	34%	9.9%	9.2%	0%	24%
Top Quintile	over 18.8		18%	0%	-1.7%	-2.0%	56%	68%

As always, the year ahead will likely pose its share of investment and investor challenges. We look forward to discussing the markets generally and your investment program in particular as the year 2019 unfolds.

January 8, 2019