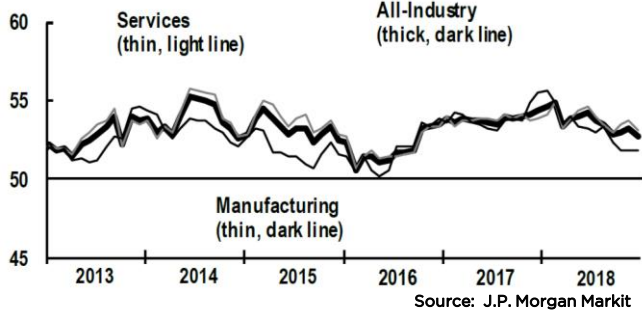


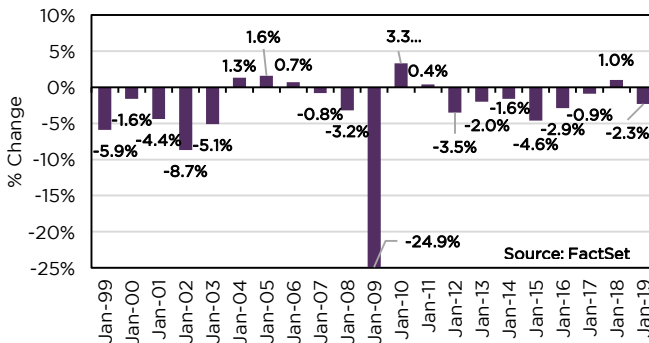
DECEMBER 2018

December was a terrible month for many risk assets, which experienced their worst December performance since the Great Depression. Price declines reflected a host of uncertainties: (1) the gradual slowdown in global growth, in place for several quarters, continued, (2) Policy uncertainty became more acute, particularly involving trade conflicts and Brexit. The trade impasse worked its way into company earnings. Examples include FedEx's disappointing earnings call, where Chairman Fred Smith stated, "Most of the issues we're dealing with today are induced by bad political choices." Apple attributed its negative revenue guidance to trade conflicts with China, (3) Federal Reserve (Fed) chairman Jerome Powell provided dovish forward guidance that, based on market reaction, was not dovish enough. The negative impact of this guidance was compounded with reports that the President wanted to fire the Fed chairman - something he does not have the authority to do, (4) the failed congressional negotiations and eventual partial shutdown of the Federal government. This uncertainty visited markets at a time when the availability of bank balance sheet capital was extremely low, due to seasonal and technical factors. In environments such as these, sentiment rather than fundamentals can have an outsized impact on asset prices. Sentiment can shift rapidly reflecting evolving narratives and result in sharp price swings. Eventually, however, fundamentals, which are much less volatile, are reflected in asset prices. As a result, it becomes critically important for investors to focus on fundamentals, particularly in volatile markets. Currently, the key questions are; how much and how fast will growth slow? Are earnings collapsing as a result of the slowdown? Has the Fed gone too far? Answers to these questions likely will drive asset prices over the longer-term.

1. Global purchasing managers diffusion index



2. S&P 500: Change in bottom-up EPS estimate

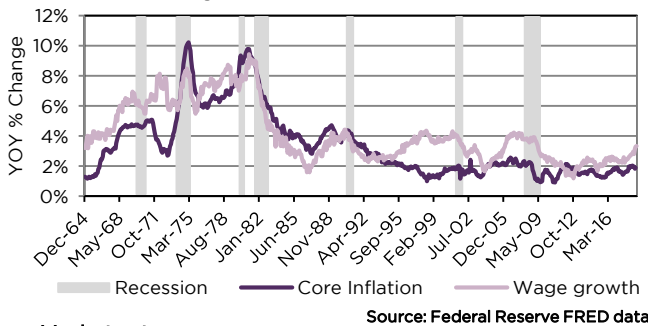


How slow is too slow? Since early 2017, global growth has been slowing and becoming less synchronized. While growth in the U.S. accelerated over this period, growth in regions such as China and the European Union slowed. The result was a transition from above trend global growth to something closer to the long-run trend. Recent data, however, has given way to concerns of a more severe slowdown. While data from surveys of purchasing managers suggests a slowdown, the data remains consistent with a transition to trend growth - not recession. Figure 1 highlights this slowdown. In the figure, any values above 50 reflect above trend growth, values below 50 reflect below trend growth. Clearly the pace of economic activity has slowed, but remains near levels seen throughout the recovery and above the pace experienced in 2016 or 2012. Looking more deeply at the data reveals interesting additional information. Economic activity among consumers remains strong, reflecting the positive income growth seen in both the U.S. and internationally. Economic activity has slowed primarily in intermediate and capital goods, reflecting the uncertainty prevailing among business leaders. This raises the concern that reduced investment will bleed through to earnings, which could possibly deepen the slowdown. Any resolution to current conflicts likely would provide a welcome boost to growth.

Earnings, down but not out: The softening of economic data has brought increased scrutiny to corporate earnings. Numerous commentators have emphasized declining earnings growth and negative revisions to estimates as a source for concern. What these comments appear to overlook is that these circumstances are actually closer to normal than not. According to FactSet data, 2018 S&P 500 earnings are on track to have grown 24%. This compares to the longer term average of approximately 7.5%. While tax cuts made an important contribution to the recent strong growth, analysts' estimates of the contribution from these cuts range from 8% to 10%. The bottom line is no one should be surprised earnings growth is slowing - 24% was unsustainable. In 2018, earnings estimates were revised higher consistently as analysts garnered insight into the full impact of the tax cuts. Upward revisions, however, are the exception, not the rule. Figure 2 charts the average revisions to analysts' full year earnings estimates in the final quarter of the preceding year (as calculated by FactSet). The typical pattern is for analysts to lower estimates for the coming year, usually about 4%, as forward guidance improves and firms attempt to lower the earnings bar so as to beat expectations (on average, more than 70% of firms beat earnings expectations). To date, FactSet calculates that analysts have lowered earnings growth estimates for 2019 from about 10% to 7%, close to the long-run average. While estimates of earnings growth may be revised lower still, even at zero the implied earnings yield on equities would remain at a level that is historically high relative to corporate bond yields, a condition unlikely to persist indefinitely.

But what about the Fed? The Fed raised rates another 25 basis points at their December meeting. While expected, many thought the rate increase would be accompanied by commentary addressing the increasing economic uncertainty. Instead Fed Chairman Powell emphasized that future policy changes would be "data dependent." Some believe this suggests the Fed will respond to falling unemployment and rising wages by raising rates further. An alternative interpretation exists. Over the last 25 years, the correlation between inflation and wages has become very low. This fact was recognized in the mid-1990s by Chairman Greenspan when he halted rate increases despite rising wage pressures. Figure 3 highlights this relationship between wages and inflation. We think this historical experience is not lost on the current Fed leadership. With quarter point increases occurring only every quarter, the Fed has plenty of runway to avoid a material mistake.

3. Inflation & wages disconnected



Market returns

	December	QTD	YTD
S&P 500	-9.0%	-13.5%	-4.4%
Russell 1000 Value	-9.6%	-11.7%	-8.2%
Russell 1000 Growth	-8.6%	-15.9%	-1.5%
Russell 2000	-11.9%	-20.2%	-11.0%
MSCI EAFE	-4.9%	-12.5%	-13.7%
MSCI Emerging Markets	-2.7%	-7.5%	-14.6%
Bloomberg Barclays Agg	1.8%	1.6%	0.0%
3-Month T-Bills	0.2%	0.6%	1.9%

Source: Factset

Market Review

December 2018

Overview

Markets were jolted by rising uncertainty in December, driving declines across risk assets as investors fled for safety. This year's unresolved risks were joined by seasonal factors and heightened political gridlock, spurring a one-track response in the market and spiking implied volatility to February levels. The consistent rotation out of risk assets into risk-free assets pushed the 10-year yield down to 2.69%, over 50 basis points below October's high. Falling yields bolstered high quality fixed income, but risk aversion held back spread product and hurt low quality credit. Domestic equities which had been the stalwart throughout 2018 bore the brunt of the downturn with the S&P 500 Index declining almost 20% since September. Outside the U.S., emerging market equities fared the best, buoyed by currency moves and already expanded risk premia. While seasonal factors are likely to dissipate, volatility will persist with unresolved risks

Index Total Returns (%)

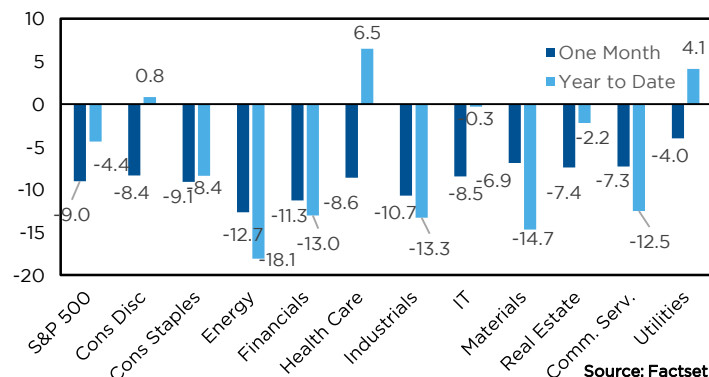
As of December 31, 2018

Domestic Equity Indices	Month	Quarter to Date	One Year
Dow Jones Wilshire 5000	-9.3	-14.3	-5.3
S&P 500 Index	-9.0	-13.5	-4.4
Russell 1000 Index	-9.1	-13.8	-4.8
Russell 1000 Growth Index	-8.6	-15.9	-1.5
Russell 1000 Value Index	-9.6	-11.7	-8.3
Russell Midcap Index	-9.9	-15.4	-9.1
Russell Midcap Growth Index	-9.1	-16.0	-4.8
Russell Midcap Value Index	-10.5	-15.0	-12.3
Russell 2000 Index	-11.9	-20.2	-11.0
Russell 2000 Growth Index	-11.7	-21.7	-9.3
Russell 2000 Value Index	-12.1	-18.7	-12.9
International Equity Indices			
MSCI EAFE Index	-4.9	-12.5	-13.8
MSCI EAFE Growth Index	-4.8	-13.3	-12.8
MSCI EAFE Value Index	-4.9	-11.7	-14.8
MSCI EAFE Small Cap Index	-6.5	-16.1	-17.9
MSCI AC World Index	-7.0	-12.8	-9.4
MSCI AC World Index ex U.S.	-4.5	-11.5	-14.2
MSCI Emerging Markets Index	-2.7	-7.5	-14.6
Fixed Income Indices			
Bloomberg Barclays Aggregate	1.8	1.6	0.0
Bloomberg Barclays U.S. Int. Gov/Credit	1.3	1.7	0.9
Bloomberg Barclays U.S. Long Gov/Credit	3.7	0.8	-4.7
Bloomberg Barclays U.S. Corp: High Yield	-2.1	-4.5	-2.1
Bloomberg Barclays U.S. Treasury: U.S. TIPS	0.6	-0.4	-1.3
Citigroup Non-U.S. World Government	2.5	1.3	-1.8
JPM EMBI Global Div (external currency)	1.4	-1.3	-4.3
JPM GBI-EM Global Div (local currency)	1.3	2.1	-6.2
Real Asset Indices			
Bloomberg Commodity Index	-6.9	-9.4	-11.3
Dow Jones Wilshire REIT	-8.4	-6.9	-4.8

- Uncertainty pummeled domestic equities, with the U.S. leading markets down during the month and finishing the quarter near international equities.
- High quality fixed income generated positive performance, benefiting from falling yields, but widening spreads held back returns.
- Led by energy, commodity prices declined throughout the quarter, as excess supply concerns have driven oil down ~40% since September.

S&P 500 Sector Total Returns (%)

December 31, 2018



- December's downdraft pulled the U.S. into negative territory year-to-date.
- Falling oil prices hurt the energy sector while trade and corporate investment uncertainty weighed industrials. Growth uncertainty similarly hindered financials, as investors assessed the extent of the slowdown anticipated over the next year.

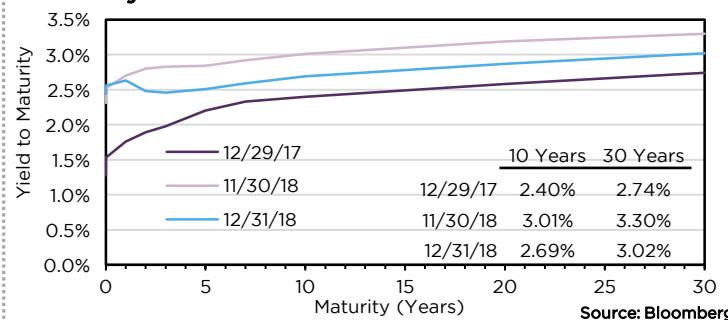
Duration-Matched Excess Returns to Treasuries

	Month to Date (bps)	Year to Date (bps)
Barclays Aggregate	-33	-100
Agency	-16	-78
MBS	-15	-58
ABS	-8	12
CMBS	-40	-41
Corporate	-106	-316
High Yield	-366	-357
Emerging	-72	-347

Source: Bloomberg

- No sector was immune to the market's risk aversion during the month, as credit underperformed similar duration treasuries.
- In 2018, consumer strength helped ABS become the sole sector to generate positive excess returns, as high yield flipped and spreads blew out over 100 basis points in December.

Treasury Rates



- As expected, the Fed raised rates 25 basis points, pushing up short-term yields.
- Additionally, Powell sought to clarify forward guidance, but messaging was insufficient to calm and reassure markets, as yields declined beyond 1-year and risk aversion took hold.