

Economic and Capital Market Review

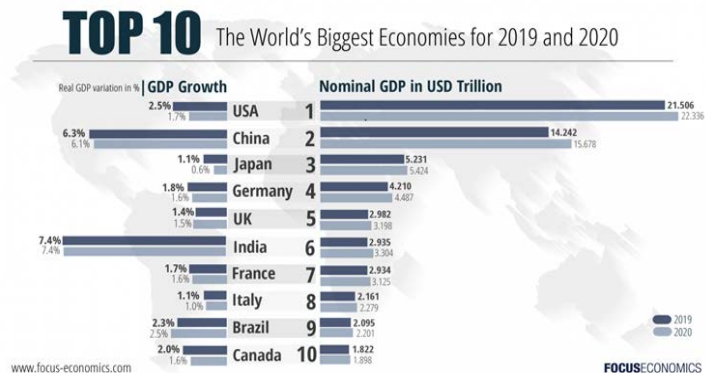
Fourth Quarter 2018

What a difference 90 days can make. The fourth quarter, and the month of December in particular, were unkind to the equity and high-risk fixed income markets.

The ongoing U.S.-China trade stand-off has manifest itself in the form of slowing economic growth in Europe, Asia and the United States. In turn, the global economic slowdown is placing downward pressure of corporate earnings as indicated by the reduction in expected 2019 S&P500 earnings per share from \$178 to \$168 over the last 90 days alone. All of which is leading to fears of a global recession. To add insult to injury, the U.S. Federal Reserve increased interest rates once again in December 2018. The markets considered the Fed's latest action to be tone deaf given the preceding weaker economic reports and fear set in that the Fed will blindly tighten the U.S. economy into recession. The end result was a violent repricing of risk assets (equities and riskier fixed income) during the quarter.

As indicated in the chart to the right, the US and China have the world's largest economies as measured by Nominal GDP.

In bilateral trade between the world's two largest economies, there is a huge imbalance against the U.S. In 2018, U.S. imports to China rose to US\$155 billion and Chinese exports to the US to US\$478 billion, which means that the US is running a trade deficit of US\$323 billion. Such a large imbalance is obviously not conducive to the constructive development of China-U.S. relations. Yet, while the Trump Administration has emphasized the importance of balanced trade, it may not be realistic to expect an instant rebalancing, given the strong interconnectedness between the two economies.



The Trump administration has imposed import tariffs on Chinese goods to put pressure on Beijing to meet a long list of demands that would rewrite the terms of trade between the two countries. The demands include changes to China's policies on intellectual property protection, technology transfers, industrial subsidies and other trade barriers. While the Trump Administration is focused on narrowing the trade gap between what the U.S. imports from China, experts note the biggest issue is technology, which leads to military and defense superiority. That's first and foremost, that's the root of the problem of the trade war.

The U.S. and China are seeking to resolve the trade dispute ahead of a March 1 deadline. At 12:01 a.m. the following day, tariffs on \$200 billion of Chinese goods are scheduled to jump to 25% from the current 10%. The higher levies could batter U.S. importers and further harm an already weakening Chinese economy.

Experts remain pessimistic that Beijing will make the kind of deep structural changes to its economy that the United States wants as part of a comprehensive trade agreement by the March 1 deadline. Needless to say, the world is holding its breath for what may or may not happen. The general belief is that, for their mutual benefit as well as global economic peace, it is better for the U.S. and China to move on from the trade war. However, most experts think it unlikely that China will take any major steps to address these concerns as technological leadership is the core of the dispute between the two countries and that additional tariffs will most likely come into force in the first half of 2019.

Normally we view stock-market drawdowns as opportunities to buy equities cheaply, but the prospect of increased trade tariffs, decelerating earnings growth and the late stage of the business cycle have caused us to hesitate this time. We will be rebalancing selectively, especially in cases where we have been waiting for an opportunity to put new money to work, but we remain cautious as risk and uncertainty continues.

Federal Open Market Committee (FOMC)

At the FOMC meeting in December, the committee voted to increase short-term rates by 25 basis points. The Fed Funds rate now stands at 2.375%.

The chart at the right depicts the FOMC's projection for the federal funds rate at the end of 2019, 2020 and 2021. The Fed's current projection indicates a rate of 2.875% at the end of 2019 which implies two rate hikes in 2019. However, the Fed and the market are at odds concerning rate moves for 2019. The market currently forecasts no additional increases in 2019.

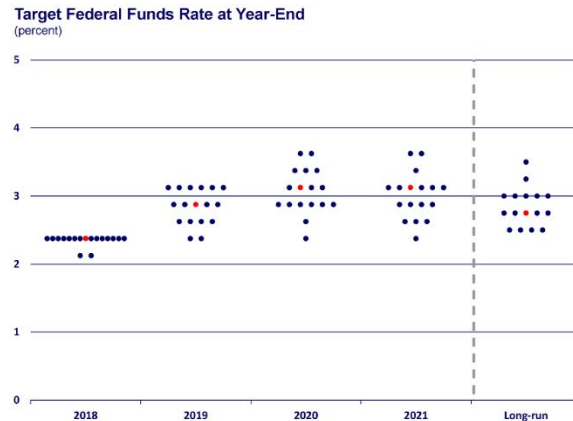
Why is this important?

In response to the financial crisis in 2008-2009, the Fed embarked on a novel path to save the financial system by injecting massive amounts of liquidity into the credit markets. The Fed's initial approach was to reduce the Fed funds rate (short-term rates) from 5% to 0%. The Fed funds rate determines the short-term interest rate at which financial institutions access money and therefore sets the rate at which businesses and consumers have access to credit.

The novelty was introduced when the Fed initiated a program called quantitative easing (QE) whereby the Fed used its own balance sheet to create demand for longer-term bonds and thus affect interest rates for long-term borrowing. By making money plentiful and inexpensive, the Fed created economic demand for items that consumers/businesses buy on credit. The QE stimulus was effective in creating the economic cycle we've enjoyed for the last decade. However, just as the Fed induced stimulus encouraged growth, Fed induced quantitative tightening (QT) makes credit more expensive and dampens consumption and business investment.

Given the Fed's transition from QE to QT, their messaging to the markets becomes critical. Unfortunately, the Fed's messaging is a mess. In one appearance during the fourth quarter, Chairman Powell said the Fed was "a long way off" from neutral interest rates, "maybe". In another, he stated the Fed would continue to increase short-term rates while simultaneously reducing the size of their balance sheet as if the two programs were on autopilot. The Fed's messaging was a bridge too far for the markets, investors feared the Fed would blindly tighten monetary policy into a recession. The damage was done.

Following the market rout, comments from the Fed reflect an abrupt softening in perspective. As a result, risk assets (equity and risky fixed income) markets stabilized and recovered about half of their December losses. Needless to say, the market will be watching the Fed closely.



Real Gross Domestic Product (GDP)

(Note: The government shutdown postponed 4Q GDP data. Chart at right reflects data through September 2018.)

Real GDP measures the value of all goods and services produced by the nation's economy.

The U.S. economy grew at a faster-than-expected pace in the third quarter as consumers boosted spending and businesses accumulated inventory. Based on the final reading, GDP grew at a 3.4% annual rate following 2Q18 growth of 4.2% and 1Q17 growth of a 2.2%. This is the strongest back-to-back reading since 2014.

Consumer spending, which accounts for more than two thirds of U.S. economic activity, grew by 3.5% percent in the third quarter, the strongest since the fourth quarter of 2014. The strong rise in consumer spending helped offset declines in business spending and residential investment.

For a better sense of underlying domestic demand, economists look at final sales to domestic purchasers, which strips out inventories and trade, the two most volatile components of GDP. Domestic final sales grew a healthy +3.0% percent in the third quarter.

Inflation

(Note: The government shutdown postponed December PCE data. Chart at right reflects data through November 2018.)

The Consumer Price Index (CPI) measures price changes in consumer goods and services from the perspective of the purchaser.

The Personal Consumption Expenditures Index (PCE) includes a broader range of expenditures than CPI and uses a formula that adjusts for changes in consumer behavior. PCE measures price changes from the perspective of the purchaser.

The Producer Price Index (PPI) measures the change in selling prices of goods and service by domestic producers from the perspective of the seller. PPI inflation generally appears before CPI and PCE.

When making decisions on monetary policy, the Fed is most interested in the less volatile Core PCE, which excludes food and energy. Core PCE inflation increased +1.9% on a year-over-year basis and continues to trend at Fed's target of +2.0%.

Business

The Conference Board's Leading Economic Index (LEI) declined -0.2% during the quarter to 111.7. For the twelve-month period ending December, the leading economic index has increased by +4.3% which suggests the U.S. business cycle remains on a solid trajectory heading into 2019. However, the LEI's growth has slowed somewhat in recent months. While the effects of the government shutdown are not yet reflected, the LEI suggests that the economy could decelerate towards 2% growth by the end of 2019.

According to the latest Manufacturing ISM Report on Business, the overall economy grew for the 116th consecutive month. The past relationship between the ISM PMI and the overall economy indicates that the December reading of 54.1% corresponds to a 4.0% increase in real gross domestic product on an annualized

Economic Growth	4Q18	3Q18	2Q18
Real GDP ⁽¹⁾		3.4%	4.2%
Personal Consumption ⁽²⁾		2.5%	2.6%
Private Investment ⁽²⁾		2.5%	0.0%
Government ⁽²⁾		0.4%	0.4%
Net Exports ⁽²⁾		-2.0%	1.2%
Real GDP Components			
Domestic Final Sales ⁽¹⁾		3.0%	4.2%
Foreign Trade Effect ⁽¹⁾		-2.0%	1.2%
Final Sales ⁽¹⁾		1.0%	5.4%
Inventory Effect ⁽¹⁾		2.4%	-1.2%
Real GDP ⁽¹⁾		3.4%	4.2%
Demand Components			
Personal Consumption ⁽¹⁾		3.5%	3.8%
Business Fixed Investment ⁽¹⁾		2.5%	8.7%
Residential Investment ⁽¹⁾		-2.6%	-1.4%
Government Spending ⁽¹⁾		2.6%	2.5%

⁽¹⁾ Annualized Q/Q % Change, ⁽²⁾ Contribution to GDP Growth

Inflation	12/18	5 Year High	5 Year Low
Headline (All Items)			
CPI ⁽³⁾	1.9%	2.9%	-0.2%
PCE ⁽³⁾	1.8%	2.4%	0.1%
PPI ⁽³⁾	2.4%	3.3%	-1.5%
Core (Less Food and Energy)			
CPI ⁽³⁾	2.2%	2.4%	1.6%
PCE ⁽³⁾	1.9%	2.0%	1.2%
PPI ⁽³⁾	2.7%	2.8%	0.2%
Inflation Expectations			
5Yr Breakeven Inflation	1.6%	2.1%	1.1%
10Yr Breakeven Inflation	1.8%	2.3%	1.3%
30Yr Breakeven Inflation	1.9%	2.4%	1.5%

⁽³⁾ Y/Y % Change

Business	12/18	5 Year High	5 Year Low
Leading Economic Index	111.7	111.9	92.0
Leading Economic Index ⁽³⁾	4.3%	7.1%	0.5%
Small Business Optimism	104.4	108.8	91.6
ISM PMI	54.1	61.3	47.8
ISM NMI	57.6	61.6	51.6

⁽³⁾ Y/Y % Change

basis. (A reading above 50% indicates that the manufacturing economy is generally expanding and a reading below 50% indicates that it is generally contracting.)

The latest Non-Manufacturing ISM Report on Business indicates economic activity in the non-manufacturing sector grew for the 107th consecutive month. The past relationship between the ISM NIM and the overall economy indicates that the December reading of 57.6% corresponds to a 3.2% increase in real gross domestic product on an annualized basis. (A reading above 50% indicates that the non-manufacturing economy is generally expanding and a reading below 50% indicates that it is generally contracting.)

Employment

(Note: The government shutdown postponed December wage growth data. Chart at right reflects data through September 2018.)

The labor market has now posted 99 consecutive months of employment growth, extending the longest streak on record. Employers added an average of 223,000 jobs per month in 2018.

The unemployment ticked up to 3.9% in December as people come off the sidelines to re-enter the labor force. A more encompassing measure of unemployment that includes discouraged workers and those at part-time jobs for economic reasons also increased slightly to 7.6%. As we mentioned last quarter, the labor force participation rate and the employment to population ratio remain low, suggesting higher wages might draw workers off the sidelines and into the labor market adding fuel for continued growth.

Labor	12/18	5 Year High	5 Year Low
Wage Growth ⁽³⁾	3.0%	3.0%	1.7%
Unemployment Claims ⁽⁵⁾	222	338	207
Nonfarm Payrolls ⁽⁶⁾	254	290	134
Unemployment Rate	3.9%	6.7%	3.7%
Under-employment Rate	7.6%	12.7%	7.4%
Labor Force Participation	63.1%	63.1%	62.4%

⁽³⁾ Y/Y % Change, ⁽⁵⁾ Four Week Moving Average in Thousands,

⁽⁶⁾ Three Month Moving Average in Thousands

Consumer

(Note: The government shutdown postponed December auto and retail sales data. Chart at right reflects data through November 2018.)

Historically, strength in consumer confidence surveys bodes well for increased economic activity in the following months. The December survey indicates consumers remain optimistic on the prospects for the economy as reflected by the reading of 128.1.

Consumer	12/18	5 Year High	5 Year Low
Consumer Confidence	128.1	137.9	78.3
Consumer Sentiment	98.3	101.4	80.0
Auto Sales ⁽³⁾	-0.7%	8.9%	-5.5%
Retail Sales ⁽³⁾	4.2%	6.6%	1.6%

⁽³⁾ Y/Y % Change

The Present Situation Index was virtually unchanged, suggesting economic conditions remain favorable. Expectations, however, declined sharply as financial market volatility and the government shutdown appear to have impacted consumers. Shock events such as government shutdowns (i.e. 2013) tend to have sharp, but temporary, impacts on consumer confidence. Thus, it appears that this month's decline is more the result of a temporary shock than a precursor to a significant slowdown in the coming months.

Housing

(Note: The government shutdown postponed December housing data. Chart at right reflects data through November 2018.)

According to a report from the National Association of Realtors, December wrapped up the weakest year for home sales since 2015 and raises fears that 2019 will be marked by a continued slowdown in the U.S. housing market. The market slowed particularly in the second half of the year amid rising interest rates and a greater uncertainty about the stock market and economy at large.

Housing	12/18	5 Year High	5 Year Low
Housing Affordability	144	184	138
Housing Starts ⁽⁴⁾	1,256	1,334	888
Building Permits ⁽⁴⁾	1,328	1,377	985
New Home Sales ⁽⁴⁾	657	712	400
Existing Home Sales ⁽⁴⁾	4,999	5,720	4,720

⁽⁴⁾ Monthly Seasonally Adjusted Annual Rate in Thousands

The final six months of 2018 also saw sale price declines, as sellers cut their asking price in hopes of getting reluctant buyers to bite. The median sales price of existing homes declined -7.4% from its \$273,800 peak in June 2018 to \$253,600 in December.

Looking forward

Overall, domestic economic indicators maintained their strength during the fourth quarter of 2018. We believe the prospects for 2019 appear favorable based on positive trends in consumer spending, job gains and inflation. We expect the U.S. economy to grow at annualized rate of +2.5% in 2019 due in part to tax law changes and low unemployment, a combination that produces stronger consumer purchasing power.

Equity Market Summary

As measured by the S&P 500, domestic equities lost -13.5% during the quarter, marking its worst quarterly loss since 2011.

For the first nine months of the year, investors were willing to overlook worrisome global economic developments as investor mentality was focused on buying the dips (BTD) on fear of missing out (FOMO) on the ensuing equity rally. However, equity markets ended 2018 with their worst one-year performance since the financial crisis and revealed how quickly investor sentiment can change. BTD and FOMO quickly turned to sell the rally (STR) as investors fixated on trade tensions with China, political disruptions both here and abroad, less accommodative monetary policy, the flattening of the yield curve, the U.S. government shutdown, higher credit spreads, high levels of corporate debt and divided government effectively freezing the legislative process. By the end of the year, almost every segment of the stock market including large and small companies, growth and value stocks, and domestic and foreign markets, had declined the requisite 20% from their peaks to officially enter bear market territory.

From a fundamental perspective, valuations declined faster than fundamentals weakened. Blended earnings growth is projected to exceed 20% for 2018 on revenue growth of 8%. Expectations for 2019 are less exciting, with earnings and sales expected to grow 8% and 5%, respectively. However, investor sentiment trumped the underlying fundamentals.

Given the uncertainty about the economic outlook, we expect market turbulence to continue in 2019. On the bright side, the plunge in stock prices means valuations are lower now, so expected returns should be higher. The S&P 500 ended 2018 at 14.5 times forward earnings, well below the 17.0 multiple in January. Of course, the risk in using forward earnings estimates as a basis for the price/earnings (P/E) calculation is that the earnings forecast could turn out to be overly optimistic (see bottom right chart). The earnings picture will take shape in late January as the fourth-quarter reporting season will be in full-swing. These earnings reports will either settle the nerves of investors or lead to increased volatility.

Economic concerns weighed on international markets as global growth became less synchronized. For the year, the S&P 500 lost -4.4% while the MSCI EAFE index lost -14%. The overall tone of sentiment toward non-U.S. stocks remains bearish and valuations reflect that sentiment so international stocks remain cheap relative to the U.S. As of December 31, the All-Country World Index ex U.S. (ACWI ex U.S.) was trading at 11.5 expected 2019 earnings.

The lackluster performance of emerging markets equities over the past year has been driven by fundamental factors. The emerging markets "bucket" includes a wide range of regions and countries but the largest and most important emerging economies are enjoying economic growth in the 4-5% range. The demographics of the emerging world are favorable with generally younger populations and expanding consumer bases. Emerging market specialists see competitive, growing companies with good long-term prospects and the ability to withstand economic cyclicality comparable to that of companies in the United States.

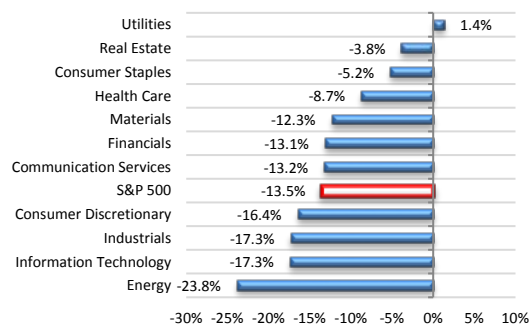
Looking forward

In the current environment, we are now neutral to negative on equities and will hold a slightly underweight exposure until the 2019 earnings picture solidifies.

Equity Total Returns			
	4Q 18	YTD	12 MO
DJIA	-11.3%	-3.5%	-3.5%
S&P 500	-13.5%	-4.4%	-4.4%
Nasdaq	-17.3%	-2.8%	-2.8%
International ⁽¹⁾	-13.0%	-14.0%	-14.0%
Emerging Markets ⁽²⁾	-7.4%	-14.7%	-14.7%
Domestic Market Cap			
Mega ⁽³⁾	-13.2%	-3.0%	-3.0%
Large ⁽⁴⁾	-13.2%	-3.1%	-3.1%
Mid ⁽⁵⁾	-15.4%	-9.1%	-9.1%
Small ⁽⁶⁾	-20.2%	-11.0%	-11.0%
Domestic Style			
Growth ⁽⁷⁾	-16.3%	-2.1%	-2.1%
Core ⁽⁷⁾	-14.3%	-5.3%	-5.3%
Value ⁽⁷⁾	-12.2%	-8.6%	-8.6%

⁽¹⁾ MSCI EAFE IMI, ⁽²⁾ MSCI Emerging Markets IMI, ⁽³⁾ Russell Top 50, ⁽⁴⁾ Russell Top 200, ⁽⁵⁾ Russell Midcap, ⁽⁶⁾ Russell 2000, ⁽⁷⁾ Russell 3000

4Q 2018 S&P 500 Total Returns by Sector



Taxable Bond Market Summary

The fixed income market posted mixed results in the fourth quarter as investors focused on the Fed. The Bloomberg Barclays U.S. Aggregate Bond Index generated a return of +1.6% in the quarter and ended the year with no return.

In the U.S. Treasury market, short-term yields (<1yr) were driven higher by Fed rate increases and long-term yields were driven lower by concerns about the health of the economy. As a result, treasury yields fell sharply with the two year down 33 basis points (bps) and the thirty year down 17 bps. The yield curve extended its year-to-date flattening, as the premium investors require to hold longer debt fell to its lowest level in more than a decade at 21 bps (10-year yield minus 2-year yield).

In the U.S. credit market, risk assets were sold indiscriminately on fears the Fed would blindly tighten the U.S. economy into recession; the trade war with China would escalate; the flattening yield curve would lead to a recession and growth slowdowns in Europe and Asia would spread worldwide leading to lower earnings.

The most notable performance issues in the fixed income markets during the quarter were widening corporate bond spreads and the flattening yield curve, both of which reflect diminished investor appetite for risk. Credit-sensitive sectors, including high-yield and bank loans, were hit hardest by the flight to quality with high yields bonds (<Baa) down -4.5% and leveraged bank loans down -4.7%. As seen in previous quarters, limited liquidity in the credit market exacerbated spread movement during the December volatility.

Intermediate-term bonds, which suffered as rates rose earlier in the year, provided the best returns in the quarter as the flight to quality and diminished inflation expectations led to more demand and higher prices.

The Fed's balancing act of maintaining price stability while supporting a strong labor market will become increasingly difficult as this rate hike cycle approaches its end. And tail risks, such as emerging market contagion, a spike in crude prices, or an unexpected turn in domestic politics could also cause bond market dislocations.

But at the top of the list is the ongoing flattening of the yield curve. The short maturity segment of the bond market is driven primarily by the rates set by the Fed while longer-term yields are driven by expectations about growth and inflation. The narrow gap between short and long yields reflects not only the ongoing strong demand for income-producing assets but also skepticism on the part of bond investors about the long-term outlook for growth and inflation. If the market believed that economic growth would remain strong and that inflation would rise it would demand higher yields on longer-term bonds.

A moderation in domestic growth appears increasingly likely in 2019, which may also limit the ability of long-term interest rates to rise further. Should the trajectory of interest rate hikes moderate, looser financial conditions may result in an extension of what has already been the second longest economic expansion in U.S. history.

Looking forward

We continue to maintain a "defensive overweight" to credit by emphasizing shorter duration holdings and avoiding issuers that we feel lack the ability to maintain their credit fundamentals in a decelerating economic environment.

U.S. Treasury Yield Curve				
	Dec 18	QTR BPS Δ	YTD BPS Δ	12 MO BPS Δ
2 Year	2.48%	-33	59	59
5 Year	2.51%	-43	31	31
10 Year	2.69%	-36	29	29
30 Year	3.02%	-17	28	28
Credit Spreads				
	Dec 18	QTR BPS Δ	YTD BPS Δ	12 MO BPS Δ
Aaa	17 bps	4	4	4
Aa	74 bps	21	24	24
A	119 bps	33	46	46
Baa	197 bps	60	73	73
< Baa	526 bps	210	183	183
Taxable Bond Total Returns				
	4Q 18	YTD	12 MO	
Aggregate Bond Index	1.6%	0.0%	0.0%	
International	0.9%	-2.2%	-2.2%	
Emerging Markets	-0.2%	-2.4%	-2.4%	
Domestic Sector				
Treasury	2.6%	0.9%	0.9%	
Agency	1.1%	0.5%	0.5%	
Corporate	-0.2%	-2.5%	-2.5%	
Securitized	2.0%	1.0%	1.0%	
Domestic Quality				
Aaa	2.3%	0.9%	0.9%	
Aa	1.3%	0.1%	0.1%	
A	0.3%	-2.3%	-2.3%	
Baa	-0.9%	-2.9%	-2.9%	
< Baa	-4.5%	-2.1%	-2.1%	
Domestic Maturity				
Short ⁽¹⁾	1.2%	1.6%	1.6%	
Intermediate ⁽²⁾	2.0%	0.9%	0.9%	
Long ⁽³⁾	0.9%	-4.5%	-4.5%	

⁽¹⁾ Short 1-3 Years, ⁽²⁾ Intermediate 5-7 Years, ⁽³⁾ Long 10+ Years

Municipal Bond Market Summary

Given falling interest rates and market volatility, municipal bonds performed well compared to all other alternatives. The Bloomberg Barclays Municipal Bond Index was up +1.7% in the quarter, pushing year-to-date returns into positive territory at +1.3%.

As investors encountered a constant barrage of headlines about U.S.–China trade tensions, rising interest rates, slowing global growth, and geopolitical tensions, they responded by selling higher risk investments and buying more conservative fixed-income investments. With this flight to quality, municipal bond yields moved lower in tandem with Treasury rates. These conditions supported municipal bond prices and contributed to their relative outperformance.

The 10-year AAA municipal yield curve finished December at 2.32%, down 30 basis points from September. While the flight to quality was the main driver of performance, municipals also benefited from increased clarity on potential tax reform and a supportive technical environment. The election results came in as expected and municipal participants still breathed a sigh of relief as a split Congress laid to rest any near-term threats to the market, such as capping the exemption, lowering tax rates or eliminating private activity bonds.

Municipal bond credit fundamentals remain benign. Credit conditions have been supported by strong tax receipts, low unemployment and rising home prices while favorable supply and demand factors persisted. Issuance was down and flows into mutual funds slowed in 2018 as rates drifted higher. Banks and insurance companies, which had been significant buyers of tax-exempt paper in recent years, continued to shed exposure due to the changes from last year's corporate tax reform.

Although the economy is expected to grow, albeit at a slower pace, we expect state and local tax revenues to continue to rise. Fortunately, most municipalities have been frugal regarding borrowing in recent years and are not highly levered if the economy does slow; however, rising pension and healthcare costs continue to present long-term fiscal challenges.

Structural risks still pose a challenge to many issuers, including a weaker federal government partner, growing pension and retiree healthcare costs. As happened with pension accounting a few years ago, new government regulations are about to shine a light on how states record healthcare liabilities, which the vast majority address on a pay-as-you-go basis. When the economy is humming along, these issues are often ignored. But the good times won't last forever. At this stage in the cycle, a more cautious outlook on credit is warranted.

Municipal bonds look well positioned as a hedge against turbulence in the global markets. The fourth quarter was a clear reminder of the protection the sector adds to a portfolio in periods of stress, as it was one of the few asset classes to post positive returns. As we enter 2019, volatility is likely on the rise. Between unresolved trade issues, geopolitical flashpoints and a Fed policy increasingly at odds with investors, swings in risk markets would not be a surprise. Against this backdrop, municipal bonds continue to look appealing as a stable hedge.

Looking forward

We continue to maintain a “defensive overweight” to municipals by emphasizing intermediate duration holdings and avoiding issuers that we feel lack the ability to maintain their credit fundamentals in a decelerating economic environment.

AAA Municipal Yield Curve (%)				
	Dec 18	QTR BPS Δ	YTD BPS Δ	12 MO BPS Δ
2 Year	1.80%	-18	24	24
5 Year	1.96%	-27	26	26
10 Year	2.32%	-30	31	31
30 Year	3.09%	-17	47	47
Municipal AAA Yield to Treasury Yield Ratio (%)				
	Dec 18	QTR Δ	YTD Δ	12 MO Δ
2 Year	73%	2%	-10%	-10%
5 Year	78%	2%	1%	1%
10 Year	86%	0%	2%	2%
30 Year	102%	0%	7%	7%
Municipal Credit Spreads				
	Dec 18	QTR BPS Δ	YTD BPS Δ	12 MO BPS Δ
Aa	11 bps	2	1	1
A	49 bps	7	0	0
Baa	118 bps	19	3	3
<Baa	262 bps	35	-42	-42
Municipal Bond Total Returns				
	4Q 18	YTD	12 MO	
Municipal Bond Index	1.7%	1.3%	1.3%	
Type				
General Obligation	1.8%	1.3%	1.3%	
Revenue	1.7%	1.2%	1.2%	
Quality				
Aaa	1.8%	1.1%	1.1%	
Aa	1.7%	1.2%	1.2%	
A	1.6%	1.3%	1.3%	
Baa	1.4%	2.0%	2.0%	
<Baa	0.3%	4.7%	4.7%	
Maturity				
Short ⁽¹⁾	1.1%	1.8%	1.8%	
Intermediate ⁽²⁾	2.0%	1.6%	1.6%	
Long ⁽³⁾	2.1%	1.4%	1.4%	

⁽¹⁾ Short 3 Years, ⁽²⁾ Intermediate 6-8 Years, ⁽³⁾ Long 8-12 Years

Economic Index Descriptions

Real Gross Domestic Product (GDP): Real GDP is a basic measure of U.S. economic output adjusted for inflation. Alternatively, it can be thought of as the final value of all goods and services produced within the U.S. Positive Real GDP growth signals an expanding economy.

Consumer Price Index (CPI): Measuring the change in the CPI provides an estimate for inflation. The CPI tracks the price of a basket of consumer goods and services. High inflation or deflation (negative inflation) can be signs of economic worry. CPI is typically reported in two ways: headline and core CPI. Headline CPI includes all categories that comprise the CPI basket of goods and services. Core CPI, which is closely monitored by the Fed, strips out the more volatile Food and Energy categories.

Personal Consumption Expenditure Chain-type Price Index (PCE): Measuring the change in the PCE provides an estimate for inflation. In comparison to CPI, which uses one set of expenditure weights for several years, this index uses expenditure data from the current period and the preceding period. This price index method assumes that the consumer has substituted from goods whose prices are rising to goods whose prices are stable or falling. Core PCEPI, which is closely monitored by the Fed, strips out the more volatile Food and Energy categories.

Producer Price Index (PPI): Measuring the change in the PPI provides an estimate for inflation. The PPI is a weighted index of prices measured at the wholesale, or producer level. A monthly release from the Bureau of Labor Statistics (BLS), the PPI shows trends within the wholesale markets (the PPI was once called the Wholesale Price Index), manufacturing industries and commodities markets. All of the physical goods-producing industries that make up the U.S. economy are included, but imports are not. The PPI measures the average changes over time in the selling prices received by domestic producers.

Conference Board Index of Leading Economic Indicators (LEI): The LEI is designed to signal peaks and troughs in the business cycle. The ten components of for the U.S. include: average weekly manufacturing hours; average weekly initial claims for unemployment insurance; manufacturers' new orders for consumer goods and materials; ISM® Index of New Orders; manufacturers' new orders for nondefense capital goods excluding aircraft orders; building permits for new private housing units; stock prices of 500 common stocks; Leading Credit Index™; interest rate spread on 10-year Treasury bonds less federal funds and average consumer expectations for business conditions.

NFIB Small Business Optimism Index: The small business optimism index is compiled from a survey that is conducted each month by the National Federation of Independent Business (NFIB) of its members. The index is a composite of 10 seasonally adjusted components based on the following questions: plans to increase employment, plans to make capital outlays, plans to increase inventories, expect economy to improve, expect real sales higher, current inventory, current job openings, expected credit conditions, now a good time to expand, and earnings trend.

The Institute for Supply Management (ISM) PMI Index: The PMI is a composite index of five "sub-indicators", which are extracted through surveys to purchasing managers from around the country, chosen for their geographic and industry diversification benefits. The five sub-indexes are: Production, New orders, Supplier deliveries, Inventories and Employment level. An Index value over 50 indicates expansion; below 50 indicates contraction.

The Institute for Supply Management (ISM) Non-manufacturing Index (NMI): The NMI is a composite index of four "sub-indicators", which are extracted through surveys to purchasing managers from around the country, chosen for their geographic and industry diversification benefits. The four sub-indexes: Business activity, New orders, Employment, Supplier deliveries. An Index value over 50 indicates expansion; below 50 indicates contraction.

Consumer Confidence Index (CCI): The Consumer Confidence Index is a well-known proxy for the attitudes of U.S. consumer towards topics such as the business climate, personal finances and spending. In essence, this index attempts to measure the confidence that consumers have in the overall economy. This is important because consumer spending accounts for a large portion of U.S. GDP.

Unemployment Rate: Calculated monthly by the Bureau of Labor Statistics, the unemployment rate is a gauge of the health of the U.S. labor market. High unemployment can stifle the growth of the economy.

Domestic Equity Benchmark Descriptions

Investment Style: Performance of different types of stocks will vary over time. A common way to characterize a stock is by market capitalization (e.g., large cap or small cap) or style (e.g., value or growth).

Large Cap vs. Small Cap: Large companies tend to be more established companies and therefore exhibit lower volatility. Over an extended period of time, expected returns of small cap companies are often higher due to the risks associated with smaller, less established companies.

Mega Cap: The Russell Top 50 Index measures the performance of the 50 largest companies in the Russell 1000 Index, which represents approximately 40% of the total market capitalization of the of the Russell 1000 Index.

Large Cap: The Russell Top 200 Index measures the performance of the 200 largest companies in the Russell 1000 Index, which represents approximately 68% of the total market capitalization of the of the Russell 1000 Index.

Mid Cap: The Russell Midcap Index measures the performance of the 800 smallest companies in the Russell 1000 Index, which represent approximately 36% of the total market capitalization of the Russell 1000 Index.

Small Cap: The Russell 2000 Index measures the performance of the 2,000 smallest companies in the Russell 3000 Index, which represents approximately 10% of the total market capitalization of the Russell 3000 Index.

Value vs. Growth: Value companies typically trade at discount valuations and may pay a dividend. Growth companies are those that are experiencing greater earnings growth prospects.

Growth: The Russell 3000 Growth Index measures the performance of those Russell 3000 index companies with higher price-to-book ratios and higher forecasted growth values.

Value: The Russell 3000 Value Index measures the performance of those Russell 3000 companies with lower price-to-book ratios and lower forecasted growth values.

Domestic Fixed Income Benchmark Descriptions

U.S. Aggregate Bond: The Barclays U.S. Aggregate Bond Index measures the performance of USD-denominated, SEC-registered, investment-grade, fixed-rate or step up, taxable bonds. The index includes bonds from the Treasury, Government-Related, Corporate and MBS (agency fixed-rate and hybrid ARM pass-through), ABS, and CMBS sectors. Securities included in the index must have at least 1 year until final maturity.

U.S. Treasury: The Barclays Capital U.S. Treasury Index measures the performance of public obligations of the U.S. Treasury with a remaining maturity of one year or more.

U.S. Agency: The Barclays Capital U.S. Agency Bond Index measures the performance of the agency sector of the U.S. government bond market and is comprised of investment-grade U.S. dollar-denominated debentures issued by government and government-related agencies, including FNMA. The index includes both callable and non-callable securities that are publicly issued by U.S. government agencies, quasi-federal corporations, and corporate and foreign debt guaranteed by the U.S. government.

U.S. Corporate: The Barclays Capital U.S. Corporate Bond Index measures the performance of publicly issued USD-denominated corporate and Yankee debentures and secured notes that meet specified maturity, liquidity, and quality requirements.

U.S. MBS: The Barclays Capital U.S. Mortgage Backed Securities Index measures the performance of mortgage-backed pass-through securities of Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

U.S. Municipal Bond: The Barclays Capital Municipal Bond Index measures the performance of the USD-denominated, investment grade, fixed-rate tax exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds and pre-refunded bonds. Securities included in the index must have at least 1 year until final maturity.

General Obligation Bond Index: The Barclays General Obligation Bond Index measures the average market-weighted performance of general obligations securities that have been issued in the last five years with maturities greater than one year.

Revenue Bond Index: The Barclays Revenue Bond Index measures the average market-weighted performance of revenue backed securities that have been issued in the last five years with maturities greater than one year.