Loop Capital

Municipal Strategy Report

A Monthly Analytical Services Division Publication — *January 2019*

Will Volatility and Uncertainty Add Up to ‘Unched’?

The new year finds the Fed uncomfortably perched near the end of their tightening cycle (or “removal of accommodation” cycle), but with enough forward momentum in the economy to remain at least a year away from any easing that may ultimately be required. The Fed is, in effect, in a transitional state, metaphorically on the beach with mountains to one side and sea on the other. While volatility is to be expected, substantive changes in the trend of the pricing of stocks or bonds may not occur, despite the froth.

By Chris Mier, CFA | Strategist

Last year was about trends. Trends in employment growth. Trends in confidence. And with it a steady quarterly increase in the funds rate. 2019 is about the reversal of trends, or perhaps the fracturing of trends. Employment growth is reaching its limits and will likely slow to a pace where the unemployment rate falls little or no farther. Confidence remains high, but has turned the corner, and while it may remain high, it will not likely establish new highs this year. The Fed started the year having professed “patience” with a re-emphasis on the critical importance of data-dependency in their monetary decision-making in 2019. It’s a new environment. Despite the dramatic changes, however, it is possible that despite all the potential volatility and the uncertainty, interest rates may not change much.

There appears to be a relative balance in the factors that are likely to push up interest rates and those that will hold them down. On the side of higher rates, we have rising federal budget deficits, increased Treasury financing, the slowly shrinking federal reserve balance sheet, and rising inflation. On the side of lower rates we have the waning impact of fiscal stimulus, the effect of tariffs on exports and growth, EU instability, and slowing growth in Europe and China. And commodity prices are falling as well.

Ferreting out the wheat from the chaff to determine what influences will dominate is alchemy, not science. The fact that many of these factors will occur concurrently is helpful in lending some support to the idea that pressure for rates to move higher will be met forcefully by simultaneously offsetting influences. The slowdown in the global economy and the delay in the reduction in ECB accommodation are undeniable factors restraining rising rates. Additional Treasury financing may be met by increased global demand for high quality assets, especially in an environment where investment in plant and equipment is curtailed out of risk aversion and liquidity is recycled into safer financial assets. Inflation has not reached a point in the US where it is rising on a sustained basis. Indeed, recent measurements show a softening in inflation. With the Fed having freed itself from the expectation of quarterly increases in the funds rate, there is

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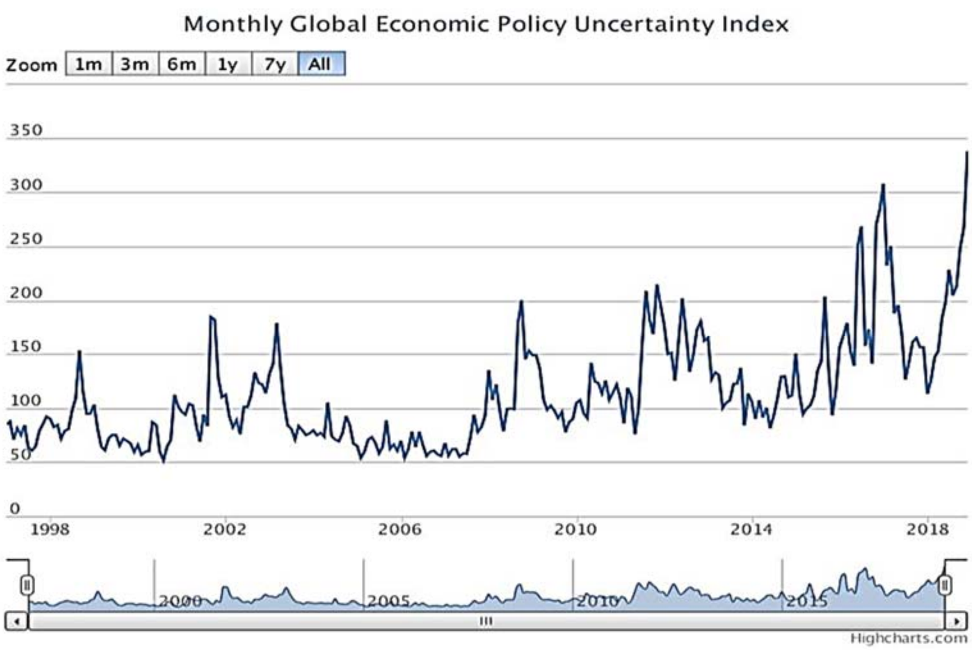
Will Volatility and Uncertainty Add Up to 'Unched'?

no longer an apparent certainty to rising short rates. The 2-year has fallen 40 basis points since early November.

Financial markets were tightening earlier in 2018. But even that is being reversed. Corporate credit spreads are wider and the St. Louis Fed Financial Stress Index is closing in on a 2-year high (although conditions reflect ample liquidity). But global policy uncertainty is on the rise. Growth is widely expected to decelerate from 2018. The confusing tangle of financial and economic circumstances don't likely add up to substantial changes in rates.

2019 is likely to be a trader's market, with small but disconcerting changes in financial asset pricing, but no sustained change in trend in any major category of assets. Our own forecast for the 10-year Treasury calls for the average rate for 2019 to rise from 2.91% in 2018 to 3.06%, far less than the average change from 2017 to 2018, which represented an increase of 58 basis points. For portfolio managers, the unfolding news will likely bring more excitement than the reaction to the news on their screens. Getting it right in 2019 may be more about setting a conservative position and watching while a tornado of confusion circles around you, rather than trying to catch the changing directions in markets.



Economic and Interest Rate Forecast — January 2019

Factors Supportive of Lower Rates

Existing home sales unexpectedly plunged 6.4% in December, resulting in a 3.4% decline in sales for 2018, as the housing sector experienced the headwinds of rising interest rates and high home prices.

The University of Michigan consumer sentiment index slumped 7.6 points in January amid government shutdown and volatile markets.

The longest government shutdown in U.S. history is starting to exact economic toll, as some activities by government agencies were put on hold and furloughed workers applied for unemployment benefits.

With China accounting for about one-third of global growth in recent years, the headwinds facing the nation’s economy and the loss of momentum in the Eurozone are negatives for U.S. economic growth.

Factors Supportive of Higher Rates

The U.S. added 312K jobs in December, the most in 10 months, vs. 184K forecast, confirming the robustness of the job market. With many employers struggling to find qualified employees, average hourly earnings rose 3.2% YoY, the fastest rate since 2009.

Industrial production jumped 0.3% last month amid broad-based gains in output from factories, while capacity utilization increased 0.2%. Philadelphia Fed manufacturing index rebounded in January as well.

U.S. vehicle sales rose 0.3% to 17.27 million units in 2018 despite rising interest rates and prices that pushed some buyers out of the new-vehicle market. Favorable economic fundamentals are expected to support vehicle sales in 2019.

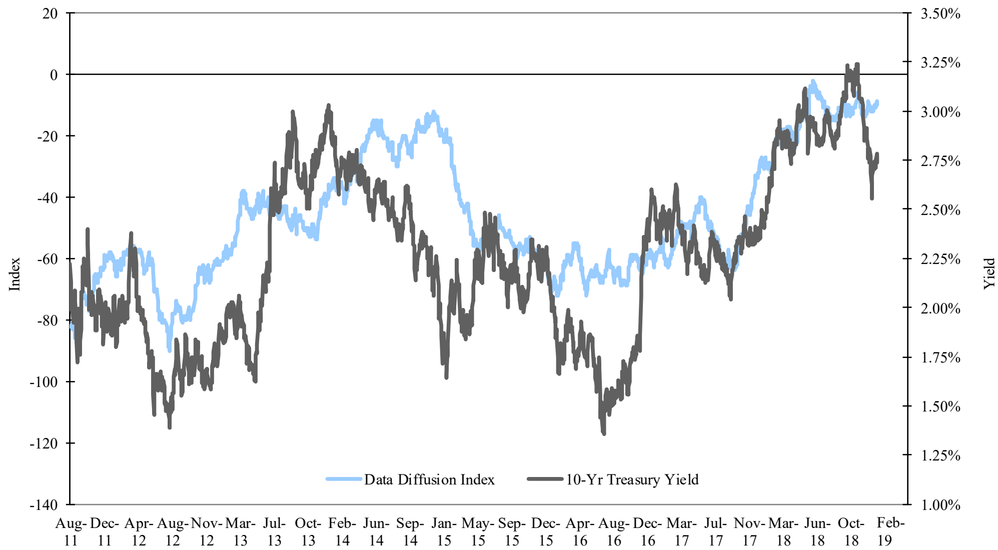
Figure 1 **Economic and Interest Rate Forecast — January 2019**

	3Q'17	4Q'17	1Q'18	2Q'18	3Q'18	4Q'18	1Q'19	2Q'19	3Q'19	4Q'19	1Q'20	2Q'20	3Q'20	4Q'20	Avg'17	Avg'18	Avg'19	Avg'20
Economic Forecasts																		
Real GDP	2.8	2.3	2.2	4.2	3.4	2.7	2.6	2.5	2.3	2.2	2.2	2.1	2.0	2.0	2.2	2.9	2.7	2.2
Core PCE Deflator	1.5	1.6	1.7	1.9	2.0	2.0	2.1	2.2	2.2	2.2	2.1	2.1	2.0	2.0	1.6	1.9	2.2	2.1
Unemployment Rate*	4.3	4.1	4.1	3.9	3.8	3.8	3.7	3.6	3.6	3.5	3.5	3.4	3.4	3.3	4.4	3.9	3.6	3.4
Nonfarm Payrolls (chg in 1000s)	425	662	655	651	570	762	525	475	450	480	420	400	390	350	2,188	2,638	1,930	1,560
S&P 500*	2,467	2,603	2,733	2,703	2,850	2,699	2,635	2,677	2,719	2,762	2,806	2,851	2,896	2,942	2,449	2,746	2,698	2,874
Short-Term Interest Rates*																		
Fed Funds Target (%)	1.16	1.20	1.44	1.74	1.92	2.18	2.38	2.41	2.63	2.63	2.63	2.63	2.63	2.63	1.00	1.82	2.51	2.63
3-Month LIBOR (%)	1.31	1.46	1.93	2.34	2.34	2.62	2.80	2.81	3.01	2.99	2.97	2.95	2.93	2.91	1.26	2.31	2.90	2.94
7-Day SIFMA (%)	0.82	1.05	1.21	1.46	1.35	1.63	1.55	1.65	1.70	1.80	1.80	1.90	1.90	1.90	0.85	1.41	1.68	1.88
Treasury Interest Rates*																		
2-Year Treasury (%)	1.36	1.69	2.15	2.47	2.66	2.80	2.58	2.65	2.92	2.96	3.00	3.05	3.09	3.13	1.39	2.52	2.78	3.07
3-Year Treasury (%)	1.51	1.81	2.30	2.61	2.74	2.84	2.59	2.74	2.98	2.99	3.04	3.08	3.13	3.16	1.57	2.62	2.83	3.10
5-Year Treasury (%)	1.81	2.06	2.53	2.77	2.81	2.88	2.61	2.88	3.08	3.04	3.11	3.13	3.19	3.22	1.91	2.75	2.90	3.16
7-Year Treasury (%)	2.06	2.25	2.68	2.88	2.88	2.97	2.67	2.98	3.16	3.08	3.16	3.17	3.28	3.26	2.16	2.85	2.97	3.22
10-Year Treasury (%)	2.24	2.37	2.76	2.92	2.92	3.04	2.78	3.09	3.23	3.14	3.22	3.30	3.28	3.31	2.33	2.91	3.06	3.28
30-Year Treasury (%)	2.82	2.82	3.03	3.09	3.06	3.27	3.09	3.30	3.37	3.32	3.36	3.40	3.39	3.41	2.89	3.11	3.27	3.39
Municipal Interest Rates*																		
30-Year MMD (%)	2.75	2.71	2.91	2.99	3.04	3.27	3.06	3.23	3.27	3.19	3.20	3.22	3.18	3.17	2.85	3.05	3.19	3.19
Muni Yield Curve Slope (%)	1.93	1.58	1.51	1.36	1.47	1.40	1.39	1.46	1.45	1.27	1.28	1.20	1.16	1.15	1.93	1.44	1.39	1.20

P: Preliminary Data
* 3-month average
Source: Loop Capital Markets’ Analytical Services Division and Short-Term Desk. Black Text: Actual Blue Text: Forecast as of January 11, 2019

Market Review *Data Diffusion | ADS Index*

Figure 2 **Data Diffusion Index vs. 10-Yr Treasury Yield**

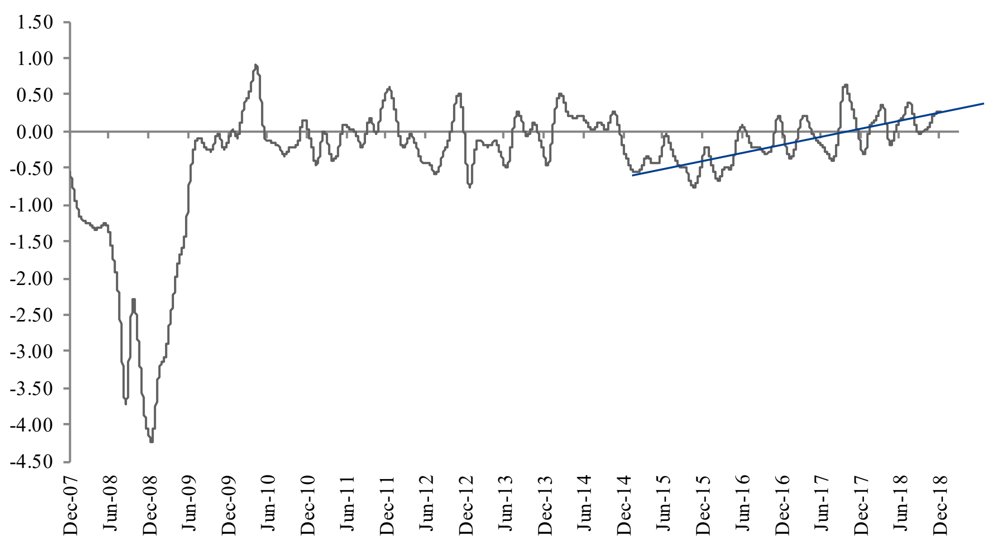


Sources: FRED, Loop Capital Markets

The decline in 10-yr Treasury yield over the last several weeks was not driven by economic fundamentals but the flight to quality amid stock market volatility.

Data Diffusion Index: We calculate the Data Diffusion Index based on 30 different weekly, monthly and quarterly economic releases, such as construction spending, capacity utilization and new home sales. If the number came above the consensus estimate (which is positive for economic growth) the index would increase by one, and vice versa. The Treasury yield is expected to track the data diffusion index (the yields would increase as the economy exceeds expectations and vice versa).

Figure 3 **Aruoba-Diebold-Scotti Business Conditions Index (12/31/2007 — 1/12/2019)**



Source: Federal Reserve Bank of Philadelphia

ADS index has been trending up over the last 4 years amid high degree of volatility. It is currently above trend growth rate of about 2%.

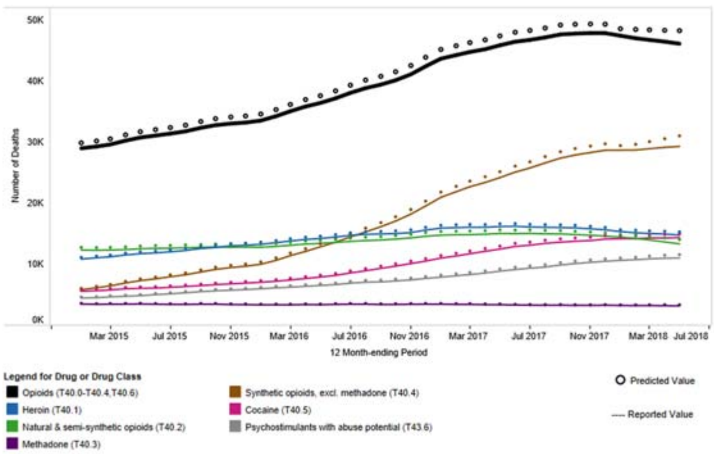
Reading the ADS Index: The index is designed to track real business conditions at high frequency. Its underlying (seasonally adjusted) economic indicators (weekly initial jobless claims; monthly payroll employment, industrial production, personal income less transfer payments, manufacturing and trade sales; and quarterly real GDP) blend high and low-frequency information and stock and flow data.

The Opioid Epidemic and Its Impact on Munis

By Rachel Barkley | Vice President

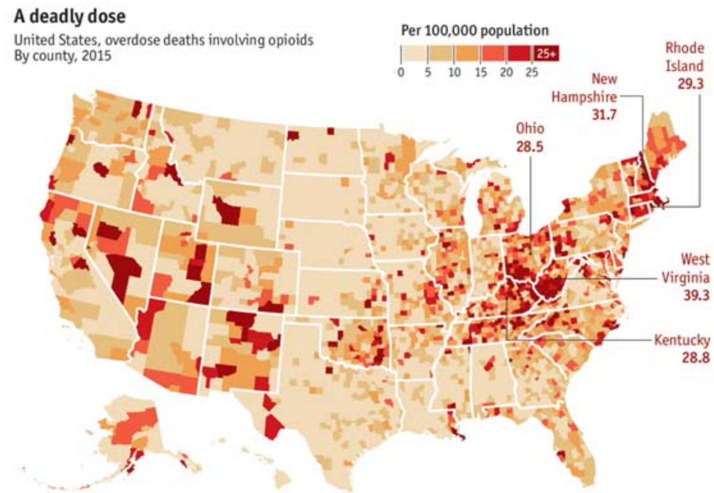
Opioids now account for more than two-thirds of all drug overdose deaths, with synthetic opioids now being the main driver for overall overdose deaths. According to data from the U.S. Centers for Disease Control and Prevention (CDC), 47,600 Americans died from opioid overdoses in 2017, a 12% increase from the year prior[1]. Opioid-related deaths last year were higher than H.I.V. and gun-related deaths at their respective peaks.[2] In October 2017, President Trump declared the opioid epidemic a national public health crisis.

U.S. 12-Month Ending Drug Overdose Totals by Drug or Drug Class



Source: CDC

Opioid use is widespread with urban, suburban, and rural areas impacted. However, certain areas are currently more severely affected. County data, presented in the map below based on 2015 data, is particularly compelling as it shows that affluent Cape Cod, Massachusetts and areas of Connecticut have similar opioid-related overdose rates as significantly less affluent areas of West Virginia and Tennessee. On the state level, opioid-related overdose death rates for 2017 were highest in West Virginia (17.2 per 100,000), Maryland (11.5), and Utah (10.8).[3]



Source: CDC

State and local governments are increasingly prioritizing opioid treatment as a growing need as they grapple with economic loss and financial costs related to opioid use. Last year, nine governors specifically mentioned opioid abuse in their State of the State addresses. We expect this to increase this year.

Economic and Fiscal Impact

The annual economic burden from the opioid crisis on the national economy has been estimated at $78.5B, including lost productivity as well as increased health care, substance abuse treatment, and public safety costs.[4] Roughly a quarter of these costs are directly born by the public sector, including states and local governments. According to research by the Federal Reserve Bank of Boston, the states in aggregate spend approximately $16.2B from additional public safety and health care costs associated with opioid abuse.[5] Lost productivity and other economic costs indirectly affect governments, slowing economic growth.

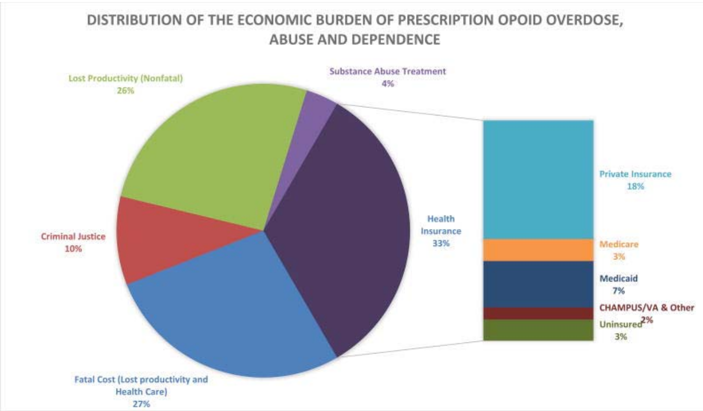
[1] Scholl L, Seth P, Kariisa M, Wilson N, Baldwin G. Drug and Opioid-Involved Overdose Deaths — United States, 2013–2017. MMWR Morb Mortal Wkly Rep. ePub: 21 December 2018.

[2] The Numbers Are So Staggering. Overdose Deaths Set a Record Last Year. New York Times. Nov. 29, 2018.

[3] Scholl, Lawrence PhD et al. Drug and Opioid-Involved Overdose Deaths-United States 2013-2017. Morbidity and Mortality Weekly Report. U.S. Centers for Disease Control and Prevention. Jan. 4, 2019.

[4] Florence, CS et al. The Economic Burden of Prescription Opioid Overdose, Abuse, and Dependence in the United States, 2013. Medical Care, 54(10), 901-906. 2016. https://www.ncbi.nlm.nih.gov/pubmed/27623005

[5] Sullivan, Riley. Federal Reserve Bank of Boston, The Fiscal Impact of the Opioid Epidemic in the New England States. May 2018.



Source: NIH.gov

State Actions

A total of 46 states debated 859 pieces of legislation targeting the opioid epidemic in 2018.[6] Of those, 135 were enacted. Actions have included enacted prescription policies, opioid prescription monitoring programs, increasing access to naloxone which can reverse overdoses, and enhancing health care provider education.

States have had mixed results imposing additional taxes and fees on opioid producers. In 2018, New York passed the Opioid Stewardship Act, which imposed a surcharge on pharmaceutical companies that manufacture or distribute opioids within the state beginning January 1, 2019. Applicable companies will be responsible for contributing an aggregate of $100MM annually to the Opioid Stewardship Fund. The state determines the ratable share for each company based on sales. Fund revenues are available for the state to use for opioid treatment, recovery, prevention, and education services.[7] However, a federal judge granted an injunction on the charge in December.[8] Also, two Minnesota initiatives to raise $20MM annually from opioid companies, one from a penny-a-pill tax and one from registration fees, failed in the legislature. [9]

Minnesota will likely take another shot at passing an opioid tax or fee this year, which the new governor, Tim Walz (D), has indicated he would support.[10] California, Delaware, Iowa, Kentucky, Maine, Massachusetts, Montana, New Jersey, Tennessee, and Vermont also have all indicated they plan to debate potential opioid tax legislation this year.[11] If some of these states are successful, this trend of opioid taxes is likely to spread as states seek additional revenues to address the mounting costs related to the issue.

[6] National Conference of State Legislatures.
[7] New York State Senate Bill S. 7507-C. 2018.
[8] Opioid Tax Legal Defeat Puts $600M of New York State Funds at Risk. The Bond Buyer. Jan. 3, 2019.
[9] Will Minnesota Lawmakers Pass an Opioid Bill in 2019? Some Say It's Practically a 'Done Deal'. Twin Cities Business. Nov. 20, 2018.
[10] Will Minnesota Lawmakers Pass an Opioid Bill in 2019? Some Say It's Practically a 'Done Deal'. Twin Cities Business. Nov. 20, 2018.
[11] Issues to Watch: 18 of the Biggest Policies and Problems Legislatures Will Confront in 2019.

Lawsuits

More than 1,500 local governments and states have sued the opioid distributors, manufacturers, and retailers.[12] Several significant cases have been fast-tracked and are set to go to trial this year, making this a pivotal year for opioid lawsuits. Likely the first major trial will be Oklahoma's lawsuit against opioid manufacturers, which has a set trial date May 28, 2019 in front of the Cleveland County District Court.[13]

Perhaps most important will be MDL 2804, a multi-district litigation of over 400 federal lawsuits being overseen by Judge Dan Polster in the United States District Court Northern District of Ohio Eastern Division. More than 40 states are currently involved in the lawsuit, along with hundreds of local governments, several Native American tribes, hospital districts, and health plans.[14] The first bellwether trial for the MDL is currently set for September. Some level of settlement is highly likely, with Judge Polster stating his support for a settlement related to MDL 2804 cases.[15] Lawyers for the governments have indicated a multi-state settlement from the opioid industry could reach $100B. [16]

It is unclear whether an opioid settlement would be structured similarly to the Tobacco MSA by agreeing to accept payment from the defendants in perpetuity in exchange for a shield from future litigation.

Opioid use is expected to be a meaningful credit issue for state and local governments for the foreseeable future.

[12] Opioid Crisis: The lawsuits that could bankrupt manufacturers and distributors. CBS News. Dec. 17, 2018
[13] Trial date set for Oklahoma's lawsuit against opioid manufacturers. News OK. Jan. 12, 2018.
[14] Can a Judge Solve the Opioid Crisis? New York Times. May 7, 2018.
[15] Can a Judge Solve the Opioid Crisis? New York Times. May 7, 2018.
[16] CBS News. Dec. 17, 2018

2019 Residential Real Estate Outlook

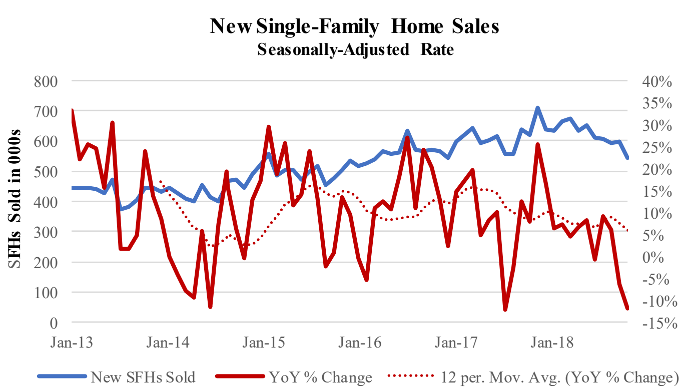
By Rachel Barkley | Vice President

Following up on Loop's annual Municipal Outlook call held earlier this month, below is Loop's 2019 outlook on the residential market.

A combination of rising mortgage rates, the new federal tax reform limiting the deductibility of SALT taxes, and economic uncertainty have driven a slowdown in the single-family housing market in 2018. A total of 544,000 new single-family homes (SFHs) were sold in October, the most recent month of data.[17] This is the lowest seasonally-adjusted level of sales since March 2016 and down 12% from the year prior. The 12-month moving average for YoY % change in sales has been drifting downward early 2017.

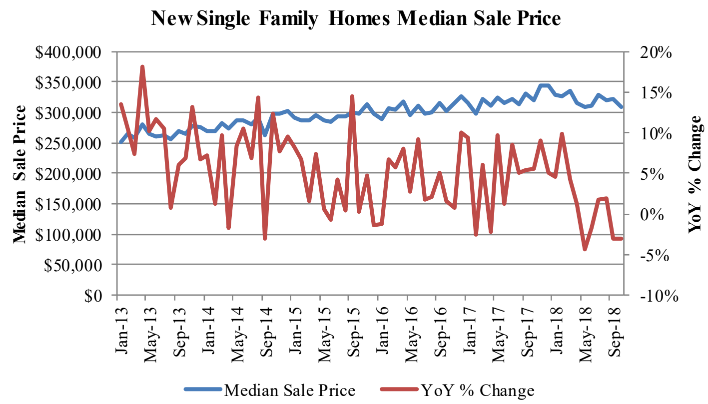
Sales of existing SFHs have also been softening with December sales down 10.3% YoY on a seasonally-adjusted basis. December existing SFH sales were the lowest since November 2015. For the year, existing SFH sales were down 3.5%.

The slowdown in sales has not been offset so far by a slowdown in new construction, leading to a buildup of inventory. Homes for sale now equal 7.4 months of supply. This is the highest level since February 2011 and is above the market equilibrium level of six months.



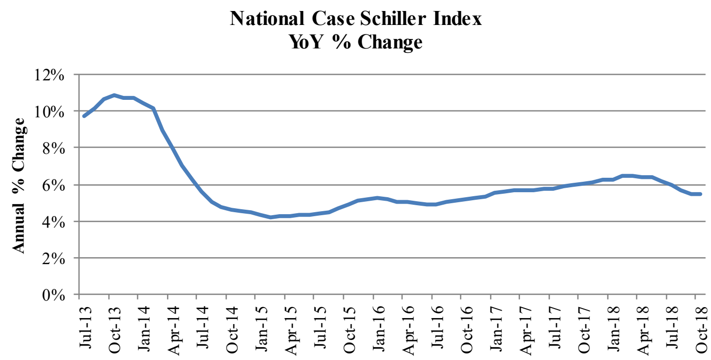
Source: FRED

The combination of slowing sales and increasing supply has led to a weakening of sale prices, especially among new construction. The median sale price of new homes was down 3.1% YoY for October and has fallen on a YoY basis for four of the past six months.[18]



Source: FRED

The Case-Schiller Index, which measures the price level of existing SFHs, shows annual gains in sale prices of existing homes also softening. The 5.5% YoY increase in the national index for October was the slowest annual growth rate since December 2016.

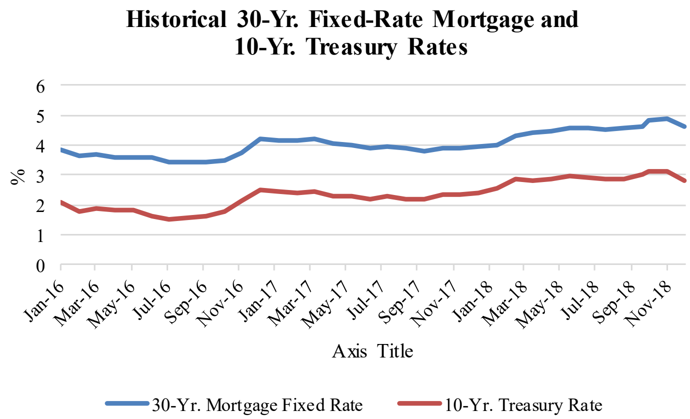


Sources: Bloomberg/S&P Core Logic

The slowdown is expected to continue through 2019, with home prices expected to increase by roughly 2% YoY on average for the year.[19] Housing starts since July have been up 2.7% YoY, which is expected to lead to a further increase in inventory.[20] Loop's current economic forecast shows real GDP growth slowing slightly from 2.9% in 2018 to 2.7% in 2019. Mortgage rates, which had been increasing in recent months to a peak of 4.94% (fixed rate, 30-year) in early November, have fallen since fallen to 4.45% at the beginning of January, their lowest level in over seven months.[21] Mortgage rates have historically been tied closely to the 10-year

[17] FRED
[18] FRED
[19] Realtor.com
[20] FRED
[21] FRED

Treasury. We expect this to continue in 2019, leading to 30-year fixed rate mortgage rates of roughly 4.6% to 5.0% over the course of 2019.



Source: FRED

The real wildcard for housing in 2019 will be how potential buyers react to their 2018 tax filings. With the new federal tax changes, home ownership may appear less desirable, although current renters and lower-income earners may receive increased refunds, which could make putting together a down payment easier.

Muni Impact

The anticipated slowdown in the residential housing market in 2019 is expected to have negative effects on construction and real estate employment, overall economic activity, and sales tax collections in the short-term. Assessed value and property tax revenue growth will also be limited, although the impact of this is impacted by the assessment cycle and millage rate flexibility of each jurisdiction.

Federal Shutdown Creates Risk for Municipalities

By Chris Mier, CFA | Strategist

There has been disagreement between the rating agencies as to the impact of the federal shutdown on states and cities. What impacts there are will cover a wide range in different states and cities depending upon their local labor markets and the share of federal jobs represented. One thing is certain: the shutdown is categorically bad, regardless of how much impact one assumes it may have.

There are several different estimates as to the economic impact of the federal government closure. The Trump Administration has doubled the anticipated impact from the federal shutdown to 0.1% per week. For 1Q19, roughly 13 weeks, that would amount to a -1.3% impact. While GDP forecasts have been drifting lower recently, a 2.6% expectation prior to a downward adjustment due to the shutdown would be cut in half.

The consensus expectation is for a reduction of about 0.05% per week. As the shutdown drags on, estimates are growing, approaching the Trump Administration weekly estimate, due to the increasingly adverse impact on business and consumer confidence.

At the low end of the scale is Mark Zandi of Moody's Economics, who estimates that the first quarter impact, if the shutdown lasts the entire quarter, would be -0.5%.

The municipal sector most affected initially is transportation bonds, where grants provide 20% of operating revenue, and where some authorities face impacts on debt supported by federal grants.

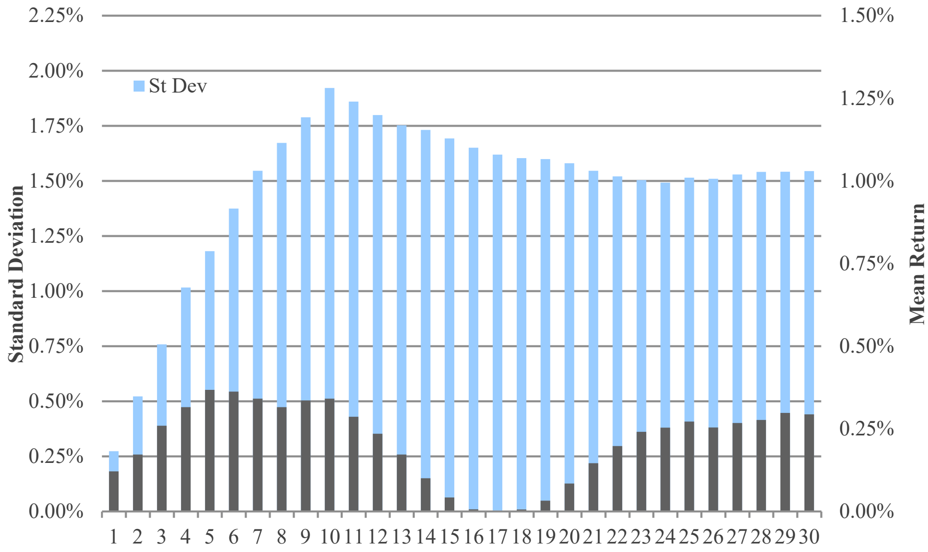
In Loop's view, the shutdown is unlikely to extend beyond February. The enormous cost of the shutdown will cause both political parties to move towards an agreement.

	State	Federal Government Employees (000s)	Total Employment (000s)	Gov't Employees as % of Total Employment
1	District of Columbia	193.9	797.4	24.3%
2	Maryland	144.9	2,784.1	5.2%
3	Hawaii	33.6	673.4	5.0%
4	Alaska	14.5	312.8	4.6%
5	Virginia	177.1	4,059.3	4.4%
6	New Mexico	28.8	860.9	3.3%
7	West Virginia	23.4	765.9	3.1%
8	Oklahoma	48.8	1,722.2	2.8%
9	Montana	12.7	480.1	2.6%
10	Alabama	53.2	2,069.8	2.6%
11	South Dakota	11.3	446.4	2.5%
12	Maine	15.6	628.8	2.5%
13	Wyoming	7.1	288.3	2.5%
14	Utah	36.7	1,542.6	2.4%
15	Vermont	7.1	315.7	2.2%

Source: Bureau of Labor Statistics. Preliminary employment numbers as of November 2018 in thousands. Federal government employment includes postal service. Total employment is nonfarm.

Market Review *Historical Monthly Bond Price Changes*

Figure 4 **Muni Benchmark Callable Scale — Average Bond Price Changes (January)**



Sources: Loop Capital Markets, TM3

We show historical bond price changes for each point on the muni benchmark callable curve during the month of January for the last 18 years.

The returns in January were positive about ½ of the time, with bond prices rising, on average, 0.20% across the curve.

The gains were distributed unevenly across maturities.

Figure 5 **Muni Benchmark Callable Scale — Average Bond Price Changes (January)**

AAA MMD - MONTHLY PRICE CHANGE

Maturity	5	10	15	20	25	30
Jan-01	1.36%	0.39%	-0.08%	-0.23%	-0.15%	-0.08%
Jan-02	0.04%	1.09%	0.70%	0.85%	1.00%	1.00%
Jan-03	-1.29%	-2.52%	-1.72%	-0.94%	-0.70%	-0.70%
Jan-04	-0.40%	-1.11%	-0.87%	-0.63%	0.16%	0.24%
Jan-05	-0.62%	0.32%	0.72%	0.95%	1.35%	1.42%
Jan-06	-0.18%	-0.16%	-0.32%	-0.39%	-0.63%	-0.47%
Jan-07	-0.66%	-1.42%	-0.95%	-0.95%	-0.87%	-0.79%
Jan-08	2.20%	2.18%	0.24%	-0.47%	-0.47%	-0.31%
Jan-09	3.09%	4.76%	1.99%	0.71%	0.47%	0.31%
Jan-10	-0.27%	0.08%	-0.88%	-0.95%	-0.55%	-0.63%
Jan-11	-0.98%	-1.20%	-1.96%	-1.33%	-0.62%	-0.78%
Jan-12	0.64%	1.24%	3.89%	3.94%	3.42%	3.34%
Jan-13	0.09%	-0.82%	-0.81%	-0.49%	0.00%	-0.24%
Jan-14	0.63%	1.96%	2.02%	2.34%	2.65%	2.73%
Jan-15	1.73%	2.65%	1.64%	1.88%	2.63%	2.95%
Jan-16	1.18%	1.74%	1.15%	0.90%	0.49%	0.57%
Jan-17	0.72%	-0.08%	-0.89%	-0.64%	-0.32%	-0.32%
Jan-18	-0.67%	-2.97%	-3.12%	-3.03%	-2.95%	-2.95%
Mean	0.37%	0.34%	0.04%	0.08%	0.27%	0.29%
St Dev	1.18%	1.92%	1.69%	1.58%	1.51%	1.54%

Sources: Loop Capital Markets, TM3

The 10-yr point had highest volatility of monthly returns.

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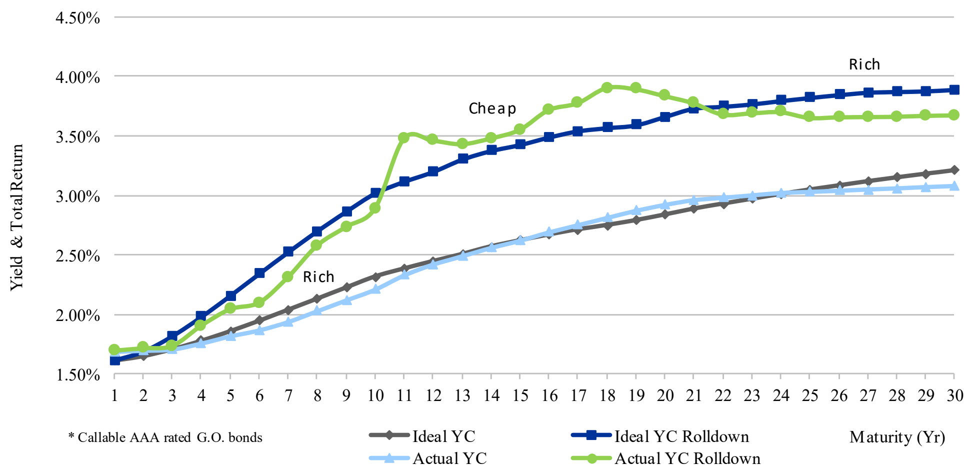
Market Review *The Yield Curve*

Figure 6 **1-Year Forward Roll-down—Muni Benchmark Curve* (January 22, 2019)**

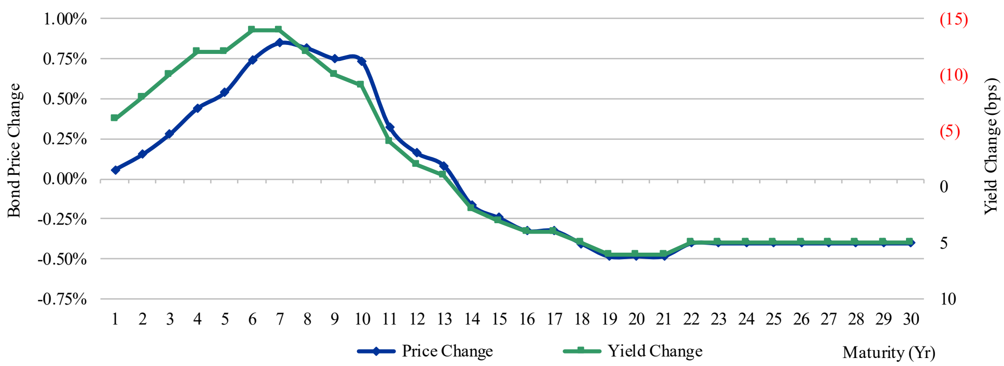


Sources: Loop Capital Markets, TM3 | *Callable AAA-rated G.O. bonds

The yield curve shows rich (5 to 10-yr and 24+ yr) and cheap (11 to 20-yr) points on the AAA MMD curve, based on one year holding period returns and assuming no change in the yield curve. 11-yr maturity currently offers 59 bps higher expected 1-yr holding period return than the 10-yr maturity.

Actual returns will depend on the level and shape of the yield curve a year from now.

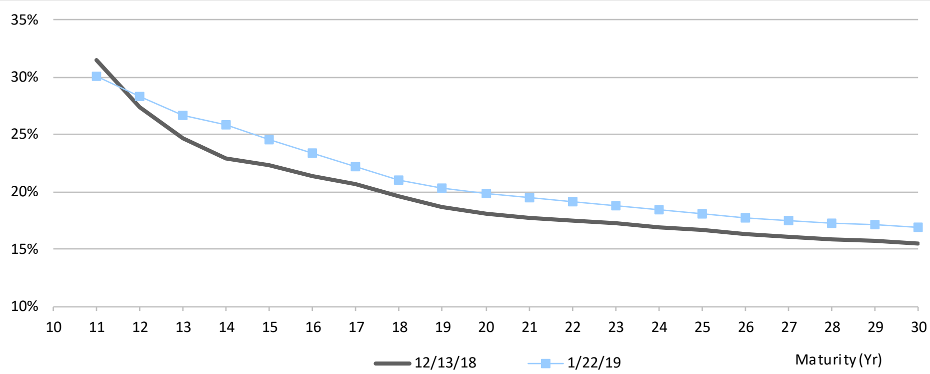
Figure 7 **Monthly Price Change — AAA GO Bonds* (12/21/18 — 1/22/19)**



Sources: Loop Capital Markets, TM3 | *Price Change Only

Yields declined on the front end of the curve and rose on the back end last month, resulting in a somewhat unusual shape of the graph.

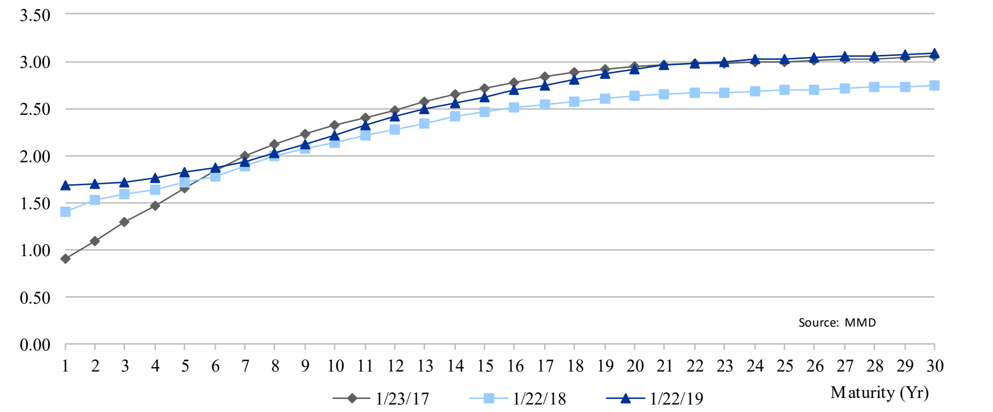
Figure 8 **Implied Municipal Volatilities**



Sources: Loop Capital Markets, TM3 | *10-year call

Implied volatilities rose since mid-December as volatility curve flattened.

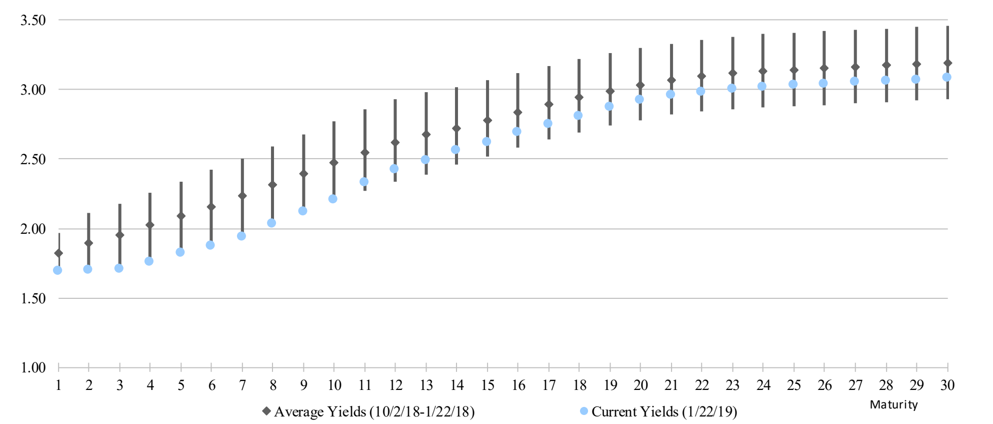
Figure 9 **Current vs. Historical Municipal Yield Curves (%)**



Source: TM3

Yields in the 6 to 30-yr range are close to their levels in January 2017. On the front end of the curve yields are moderately higher than they were a year ago.

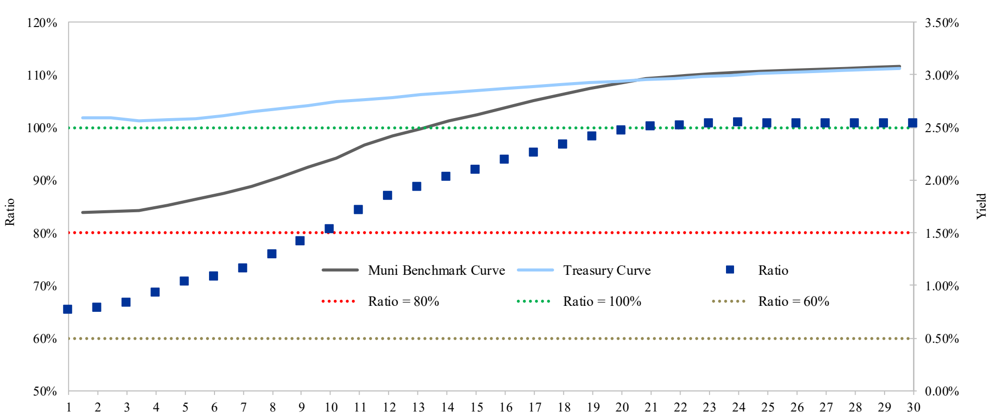
Figure 10 **3-Month Average Benchmark Muni Curve Yield**



Source: TM3

The yields are at their lowest points in 3 months in the 1 to 10-yr range and below 3-month averages across the rest of the curve.

Figure 11 **Muni and Treasury Yield Curves and Ratios**

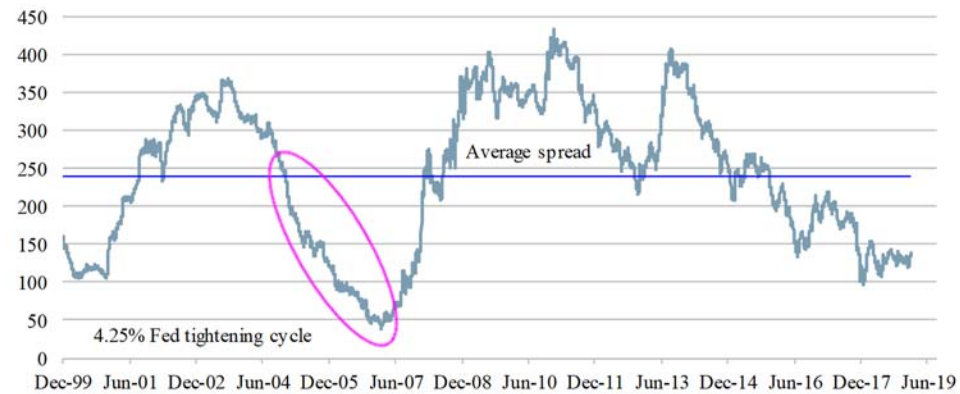


Sources: Eikon, TM3

The ratio curve is upward sloping and fairly steep by historical standards, with M/T ratios around 100% on the long end of the curve.

Market Conditions

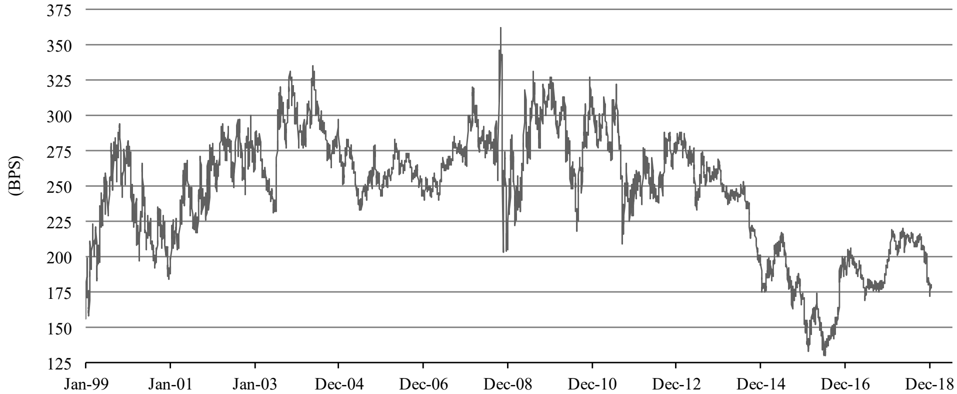
Figure 12 **2 to 30-Yr Muni Spread (bps)**



Source: TM3

The slope of the curve has fluctuated in a relatively tight range over the last several months.

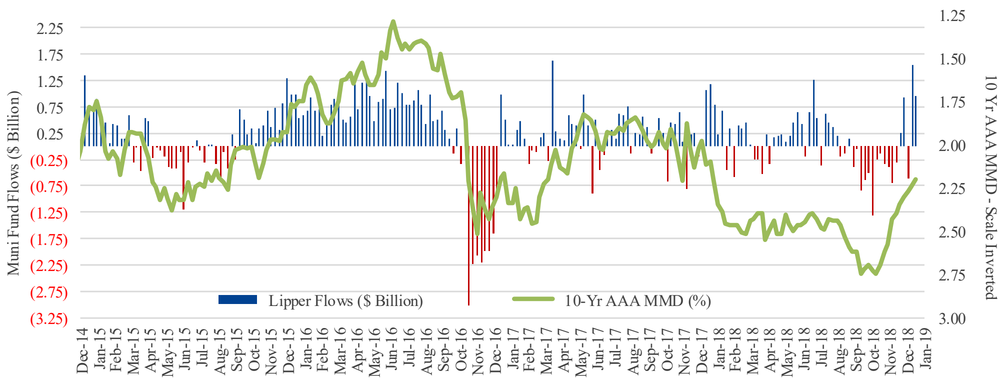
Figure 13 **Inflation Expectations**



Source: FRED

Fed's five-year forward breakeven inflation rate, derived from TIPS and regular Treasury yields, fell 20 bps since November to 1.81% currently.

Figure 14 **Lipper Weekly Municipal Mutual Fund Flows ($ Billion)**



Source: Lipper

Lipper reported net inflow of $946 million last week, following $1.55 billion inflow in the previous week, the highest weekly volume since April 2017. The 4-week Lipper average is $708 million.

Loop Capital Markets Upcoming Negotiated Calendar

Date	Par Amount ($ mil)	Issue	Loop Capital's Role
1/29/19	185.2	California Pollution Control Financing Authority Water Revenue Bonds, Series 2019 (San Diego County Water Authority Desalination Pipeline)	Co-Manager
2/5/19	TBD	City and County of San Francisco Taxable General Obligation Bonds, Series 2019A	Co-Manager

Forget about the State of the Union speech!

You are grounded!

Note: Ms. Marla Bleavins, Deputy Executive Director & Chief Financial Officer, Port of Los Angeles, was the winner of our contest last month.

Analytical Services Division

Loop Capital Markets' Analytical Services Division (ASD), established in 2002, publishes a variety of reports that provide clients with relevant and timely information about the bond market and investor demand.

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