Loop Capital Markets

Municipal Strategy Report

A Monthly Analytical Services Division Publication *June 2017*

Lack of Inflation Causing Fed Uneasiness

After rising to levels well in excess of 2% on a year-over-year basis late in the summer of 2016, both Average Hourly Earnings and Core CPI, as well as other barometers of inflation, have fallen steadily. This unwelcome development is causing some angst at the Fed, where FOMC members had been enjoying a brief sense of accomplishment over the appearance of having met the dual mandate. The labor market/inflation divergence problem is back on the front burner with potential for altering the anticipated course of monetary policy.

By Chris Mier, CFA | Strategist

The Fed is concerned about the increasing divergence between labor market conditions and inflation. The labor market is steadily and reliably improving quarter by quarter. The unemployment rate is falling. Broad unemployment is falling. Quit rates are up. Nonfarm payroll growth appears to be slowing, but is still well ahead of the required amount needed to sustain the current unemployment rate, given growth in population and the labor force. Unfortunately, inflation has not been cooperating. After a period of increasing inflation indicators, the data over the last year shows year over year inflation falling from 2.3% to 1.9%, using Core CPI.

> *"If the tension between the progress on employment and the lack of progress on inflation persists, it may lead me to reassess the expected path of the federal funds rate in the future, although it is premature to make that call today."*
>
> *Fed Governor Lael Brainard, May 30, 2017*

Inflation has been the Goofus of the twin mandates while the labor market has been his better-behaved brother, Gallant. As is the case in all unexpected economic calamities—major and minor—no one knows exactly why the slip in inflation has occurred since the year over year peak last summer. Possible explanations include the continued impact of low oil prices on the rest of the economy, the refusal of small business owners to grant wage increases and their willingness to cope with underproduction as a result, continued cost savings from supply chain advancements, and possibly sun spots (thinking out-of-the-box).

While Lael Brainard, and several other Fed Governors, have expressed concern and, in the case of Brainard, explicitly indicated that it could change her voting pattern at future FOMC meetings, there is no visible macroeconomic impact as of yet from the decline. It is what the decline represents — possible deflationary forces, some as of yet unidentified, that has caught the Fed's attention. The recovery is eight years old now, and the longevity is largely due to the monetary life support which has

Continued on Page 2

In this Issue

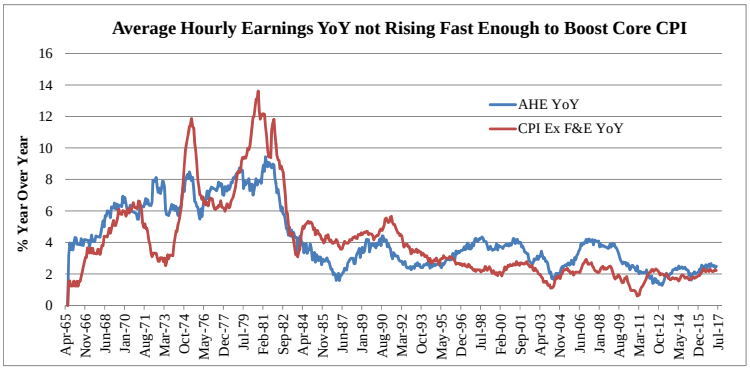
Lack of Inflation Causing Fed Uneasiness

overwhelmed any business cycle influences. Recoveries do not go on forever, however, regardless of the reasons for their demise.

The critical issue for monetary policy is to get the fed funds rate sufficiently high, so that if the declining inflation portends a downdraft in the economy—or if some other unforeseen event shocks the economy—the Fed has enough room to move to offset slowing growth through a reduction in fed funds. Brainard emphasized the elemental nature of the fed funds target in her recent speech on May 30th, referring to it as the Fed's "most proven tool" that "*must {reach} a level at which it can be cut if needed to buffer adverse shocks, thus helping to guard against the asymmetric risks associated with the effective lower bound*".

We are in the monetary version of The Amazing Race. The Fed must get the target funds rate moved to a level close to the neutral funds rate, an unobservable rate predicated in part upon the proximity of aggregate resource utilization to its full capacity, before conditions demand a subsequent easing of policy. A failure to move the funds rate higher limits the distance to the zero bound and necessitates less conventional approaches to monetary policy, like quantitative easing. The neutral funds rate neither stimulates nor inhibits economic growth, and is thought to be around 3% or less in the long run. With the target currently at 0.75% to 1.00%, and a presumed increase on the way at the June 13-14 FOMC meeting, the Fed is moving closer to their goal. At the current pace of activity, the fed funds rate could comfortably be at 2% or higher by the end of 2018.

While the uncoupling between labor conditions and inflation complicates the Fed's job considerably, there are some positive aspects to this current predicament. First, the softness of the inflation readings combined with the strength of the labor market gives the Fed considerably more latitude over the balance of this year as to how aggressively to remove accommodation. The softness in inflation and the strength of the labor market gives the Fed the luxury to slow the pace of tightening (after June's increase). As long as the market is well prepared, financial market instability can be held to a minimum. The second benefit is that a slowdown in Fed policy moves would keep the Trump Administration from issuing threatening tweets about the merits of Congressional control of the Federal Reserve, Fed audits, and who the Administration might place on the Board. Less harassment from the Administration could be calming to financial markets. Concerns about President Trump stacking the Fed with country bankers committed to keeping rates low can lie dormant for a while. The third reason is that postponing activity is an option that the Fed appears to have always enjoyed. More time to read the indicators and decipher unusual trends and unclear developments lowers the risk of monetary policy errors. As long as the labor market keeps chugging along at about 125,000 jobs per month or better, which it shows every sign of doing, the Fed can wait, if it chooses, to see inflation reverse itself and move towards the 2% target. While the Fed waits, they can selectively raise the fed funds target. The game is only over when wage inflation starts to increase fast enough to boost overall inflation, or if the labor market should start to slow dramatically.



While there may be many influences on inflation, the most likely reason it has failed to hold the higher ground established in the summer of 2016 is that businesses are refusing to accommodate demands for higher wages. Business owners would rather limit production than establish a new price for labor at higher levels. Relentless focus on reducing costs through supply chain management, new developments in inventorying, shipping, and delivering goods and low oil prices have enabled businesses to lower production costs, enabling continued profitability at lower output. Avoiding the practice of adding higher cost labor reduces firm risk, if profits can be sustained at current production and sales levels.

While the mismatch between available labor and jobs is partially due to the impact of long periods of unemployment, which has rendered the skillsets of some workers obsolete, as well as geographic mismatches between supply and demand, the penurious spirit of the American businessperson may be a significant factor. Construction jobs are not being filled. It is the lower cost workers who are finding jobs; frequently in retail, restaurants, and leisure establishments. In any case, wage inflation is not strong enough to find its way into broader measures. With inflation not likely to run away from the Fed, the Fed will find more flexibility in the timing of policy adjustment. With the 10-year Treasury note yield falling from 2.63% on March 13th to 2.14% on June 6th, the Fed has latitude to raise rates with current rates providing for an additional margin of error.

Economic and Interest Rate Forecast—June 2017

Factors Supportive of Lower Rates

The U.S. added 138K jobs in May vs. 182K consensus forecast, while April reading was revised downward by 37K. The unemployment rate unexpectedly declined to 4.3%, while average hourly earnings rose at a 2.5% annualized rate. May job numbers can be skewed due to the delay in recent college grads entering the workforce.

New home sales plunged 11.4% in April, after rising 5.8% in March, as shortage of affordable homes is keeping entry-level buyers out of the market. Sales of existing homes slipped 2.3%, as supply tightened to the point that existing homes were on the market for the fewest days on record in April.

Vehicle sales in May were 16.6 million (annualized), the third consecutive month of declines on a year-over-year basis. Automakers are expected to cut production in order to support declining used-car sales values.

Inflation has been showing weakness relative to year-over-year comparisons.

Factors Supportive of Higher Rates

Retail sales rebounded in April, as consumers increased spending on vehicles and online purchases, boosting Q2 GDP growth. Consumer spending and business investment are driving growth in the economy.

Industrial production jumped 1% in April, the largest gain in more than 3 years, while capacity utilization increased 0.6%, indicating that manufacturers are steadily recovering from a rough patch caused by lower energy prices and strong dollar that cut into demand for U.S. factory goods.

A synchronous recovery in developed and emerging markets is underway. Economic growth in the U.S. and European Union is accelerating, Chinese economy has stabilized, while emerging markets are recovering from a period of macroeconomic adjustment.

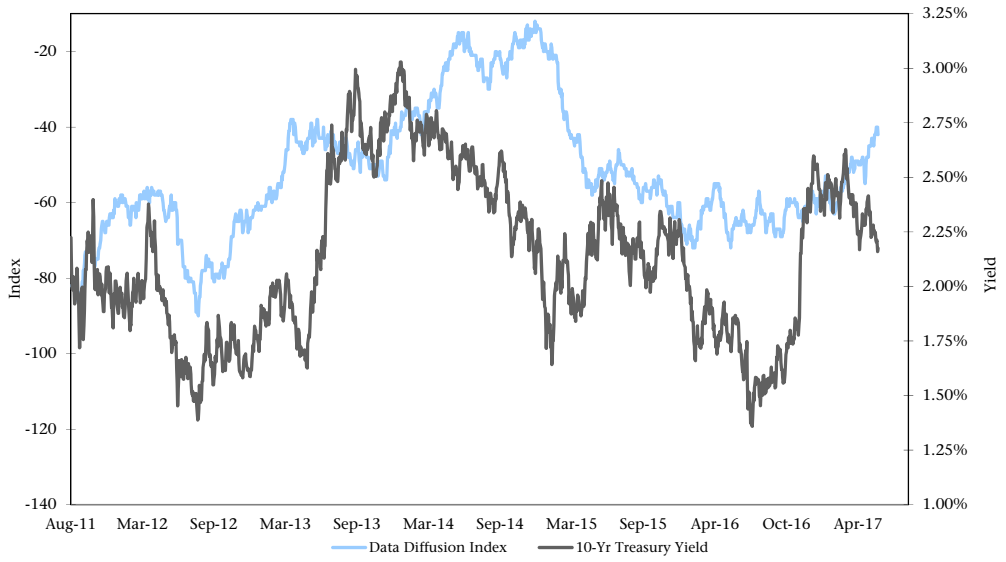
Figure 1 **Economic and Interest Rate Forecast—June 2017**

	1Q'16	2Q'16	3Q'16	4Q'16	1Q'17	2Q'17	3Q'17	4Q'17	1Q'18	2Q'18	3Q'18	4Q'18	Avg'16	Avg'17	Avg'18
Economic Forecasts															
Real GDP	0.8	1.4	3.5	2.1	1.2	2.8	2.6	2.9	2.7	2.5	2.3	2.1	1.6	2.3	2.6
Core PCE Deflator	1.6	1.6	1.7	1.7	1.7	1.8	1.9	1.9	2.1	2.3	2.4	2.4	1.7	1.8	2.3
Unemployment Rate*	4.9	4.9	4.9	4.7	4.7	4.4	4.5	4.5	4.4	4.3	4.3	4.2	4.9	4.5	4.3
Nonfarm Payrolls (chg in 1000s)	588	493	716	443	498	500	490	495	500	510	520	520	2,240	1,983	2,050
S&P 500	1,951	2,075	2,162	2,185	2,327	2,400	2,430	2,460	2,491	2,522	2,554	2,586	2,093	2,404	2,538
Short-Term Interest Rates*															
Fed Funds Target (%)	0.37	0.37	0.40	0.45	0.70	0.95	1.13	1.17	1.42	1.63	1.81	1.93	0.40	0.99	1.70
3-Month LIBOR (%)	0.62	0.64	0.79	0.92	1.07	1.18	1.36	1.41	1.61	1.78	1.92	2.00	0.74	1.25	1.83
7-Day SIFMA (%)	0.08	0.40	0.55	0.66	0.69	0.80	0.85	0.90	0.95	1.10	1.15	1.25	0.42	0.81	1.11
Treasury Interest Rates*															
2-Year Treasury (%)	0.83	0.77	0.72	1.00	1.24	1.27	1.41	1.43	1.66	1.84	1.99	2.08	0.83	1.34	1.89
3-Year Treasury (%)	1.02	0.91	0.84	1.23	1.51	1.45	1.62	1.65	1.88	2.06	2.21	2.30	1.00	1.56	2.11
5-Year Treasury (%)	1.36	1.24	1.12	1.61	1.94	1.81	1.99	2.03	2.25	2.43	2.58	2.67	1.33	1.94	2.48
7-Year Treasury (%)	1.68	1.53	1.39	1.93	2.25	2.08	2.19	2.22	2.45	2.63	2.79	2.89	1.63	2.19	2.69
10-Year Treasury (%)	1.91	1.74	1.56	2.13	2.44	2.27	2.42	2.45	2.68	2.86	3.02	3.12	1.84	2.39	2.92
30-Year Treasury (%)	2.72	2.57	2.28	2.83	3.05	2.93	3.08	3.10	3.30	3.45	3.58	3.64	2.60	3.04	3.49
Municipal Interest Rates*															
30-Year MMD (%)	2.76	2.42	2.15	2.86	3.08	2.90	3.03	3.04	3.21	3.35	3.45	3.49	2.55	3.01	3.38
Muni Yield Curve Slope (%)	2.31	1.85	1.60	2.02	2.21	2.05	2.11	2.07	2.19	2.18	2.23	2.17	1.95	2.11	2.19

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 June 2, 2017

Market Review *Data Diffusion | ADS Index*

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

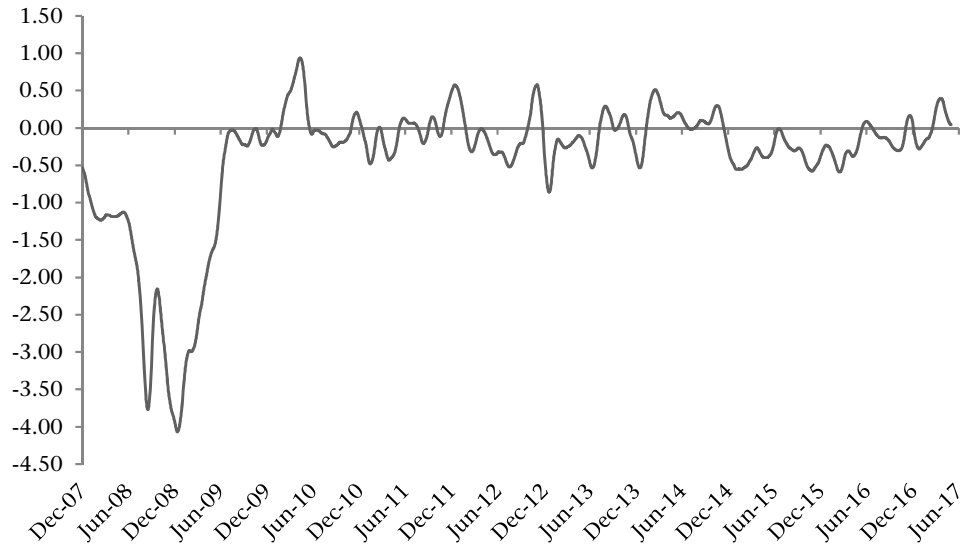


Source: FRED, Loop Capital Markets

The two metrics have decoupled over the last 3 months—even though economic releases were stronger than expected, Treasury yields fell.

Data Diffusion Index: We calculate the Data Diffusion Index based on 30 different weekly and monthly 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—5/31/2016)**



Source: Federal Reserve Bank of Philadelphia

The index peaked at 0.39 in mid-April, but subsequently returned to neutral position. The comparison is relative to trend growth of about 2%, represented by the flat line.

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.

State Transportation Funding Update

By Ivan Gulich | Senior Vice President

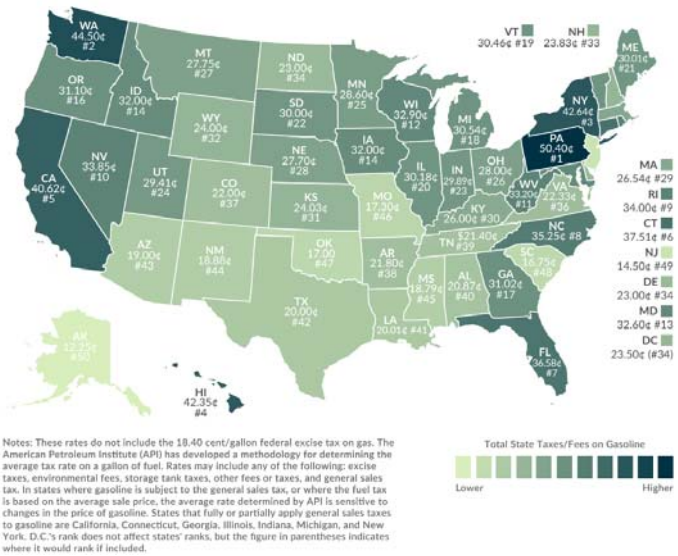
Fuel taxes have been the primary source of revenue for construction and repair of highways and local roads for decades. However, existing gasoline and diesel tax collections have been insufficient to cover the costs in recent years for the following reasons:

1. As vehicle fuel efficiency increased, tax revenue declined on a per-mile basis.
2. An increasing number of electric vehicles utilize transportation infrastructure without contributing funds to maintain it.
3. Lawmakers have been reluctant to raise taxes, which are assessed on a cent-per-gallon basis, to keep up with inflation.

As a result of this dynamic, along with flat federal spending on transportation, we have seen an increase in deferred road maintenance in many states, which necessitates legislative action at the state level. According to the U.S Department of Transportation, the U.S. has a backlog of highway and bridge work of $836 billion.[1]

Potholes rank high on voters' list of concerns, which may be the reason why transportation funding packages that include fuel tax hikes often sail through legislatures even in states with conservative GOP majorities. These initiatives often enjoy strong support from business groups, who view transportation infrastructure as critical factor to maintain economic competitiveness.

Total State Taxes/Fees on Gasoline (Jan 2016, per gallon)



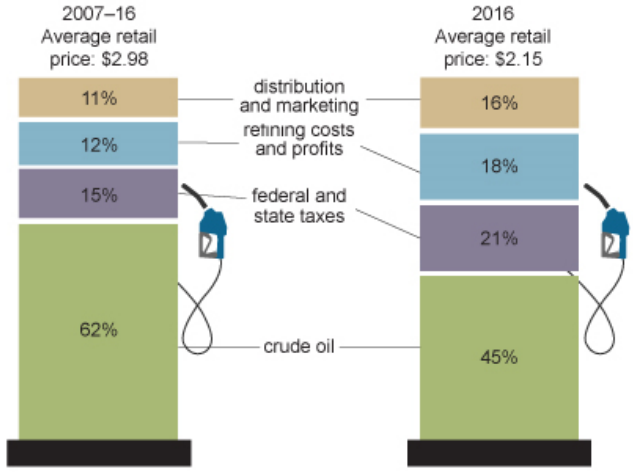
Source: American Petroleum Institute

[1] Zank: *Report shows $836 billion national backlog for highway and bridge work*, Daily Reporter, January 13, 2017

In the past 5 years, legislation imposing higher fuel taxes passed in 22 states,[2] while two-thirds of all states have increased highway funding.[3]

Federal and state gasoline taxes comprise approximately one-fifth of the price motorists pay at the pump.

Gasoline Price Components



Source: U.S. Energy Information Administration

Voters have approved about 75% transportation funding measures placed on the ballot by states, counties, cities, township and districts in 2016. So far this year, 9 states have passed highway funding plans, compared to 8 states over the course of 2016.[4]

Voters demand that gas taxes are used for infrastructure improvements, especially road repair. For example, last November Illinois voters approved constitutional amendment that would place transportation funds in a "lockbox", thus preventing elected officials from using transportation dollars for other purposes.

2017 Transportation Funding Measures

California

The Road Repair and Accountability Act of 2017 provides $52.4 billion over 10 years for roads, bridges, public transit and biking and walking trails.

[2] Vock: *Raising the Gas Tax Is No Longer Taboo In Many States*, Governing.com, May 8, 2017
[3] Lieb: *Crumbling roads and bridges bring higher taxes and fees*, Associated Press, May 6, 2017
[4] Ibid.

Gasoline taxes will rise by 12 cents per gallon in November 2017 and by 19.5 cents by 2020. Diesel taxes will rise by a corresponding amount. The measure imposes new fees on vehicles, from $25 to $175 depending on the vehicle's value, including a $100 annual fee on electric vehicles. All revenue raising measures will rise with inflation.[5]

The law is designed to alleviate a backlog in road repairs estimated at $59 billion for state highways and $78 billion for local roads. It also repays $706 million diverted from transportation funds to general purposes in previous years.

The tax-raising legislation required a two-thirds majority in legislative chambers. To get the required number of votes, Governor Brown made a total of $1 billion in side deals.

The passage of this legislation has prompted a backlash. After this increase, California will have the second highest tax in the nation, 73.2 cent per gallon, second only to Pennsylvania's 77.7 cents.[6] The critics point out that gas taxes in California currently go into a general fund, which means that gas tax dollars could be used for purposes other than repair of roads and bridges. In the past, legislators have backed controversial transportation projects, such as troubled bullet train project, which could syphon off additional funds.

Idaho

Governor Otter reluctantly allowed a roughly $320 million transportation plan to become law despite concerns over key aspects of the measure.[7] The legislation authorized $300 million in bonds to pay for new road projects that will be repaid with future federal highway payments. It also redirects 1% of sales tax revenues or about $15 million annually, from the general revenue to roads.

Indiana

Road funding plan is projected to raise $1.2 billion annually by 2024. It raises the gas tax from 18 to 28 cents a gallon starting in July, with an inflationary adjustment for the next seven years. It increases tax on diesel fuel and imposes a $15 annual vehicle fee, $50 hybrid vehicle fee and $150 electric vehicle fee. The measure authorizes governor to seek federal approval for an expansion of toll roads with an approval from the budget committee. The measure will gradually shift all sales tax money collected at the pump from the general fund to highways by 2025.[8]

Montana

The state legislature raised the gas tax by 4.5 cents per gallon to pay for highway construction and maintenance, from 27 cents per gallon, where it stayed for the past 24 years. The tax increase on gasoline will cap at 6.5 cents a gallon in 2023. The diesel tax will increase by 1.5 cents in 2018 and cap at 2 cents in 2023.[9]

The tax hikes are projected to raise $27 million next year. For every $1 in state highway fund, Montana receives $7 in federal dollars. The hike will allow the state to meet its federal highway funding match, averting plans to delay numerous projects costing nearly $200 million next year. Montana has relatively large number of highway fatalities, which are partially blamed on roads in need of repair.

Tennessee

The legislature raised gas tax from 21.4 cents per gallon to 27.4 cents and diesel from 18.4 cents to 28.4 cents per gallon, over a three-year period, and increased vehicle fees, generating a projected $350 million annually for roads. The state has a backlog of about $10.5 billion of road and bridge projects.[10]

Utah

Lawmakers increased gas tax by 4.5% and readjusted formulas to allow automatic tax increases as gas prices rise. Tax increase is estimated at 0.6 cents per gallon beginning in 2019 and 1.2 cents a gallon in 2020. Governor Herbert also signed a separate measure authorizing a $1 billion transportation bond, the second largest such bond in state history, to accelerate previously approved highway projects.[11]

West Virginia

The legislature referred a $1.6 billion highway bonding measure to the ballot later this year.[12]

Wyoming

State fees for registering a passenger vehicle doubled from $15 to $30. Corresponding fees were assessed on motorcycles and larger vehicles. Fee hikes, which will come into effect in July, are expected to raise more than $39.8 million over the two-year budget.

[5] Murphy: *Pothole relief? California deal includes 12-cent gas tax hike, electric car fee*, The Mercury News, March 29, 2017
[6] Richards: *California gas tax prompts fierce backlash from the right, Fox News*, April 27, 2017
[7] Associated Press: *Idaho board approves $150 million in bonds to address I-84*, April 24, 2017
[8] Lange, Cook: *Lawmakers poised to pass gas tax increase,* Indy Star, April 20, 2017
[9] Loranger: *House approves final version of gas tax increase*, Missoulian, April 21, 2017
[10] Sher: *Gas Tax to Increase, as Others Get Cut, in Tennessee*, Tribune News Service, April 27, 2017
[11] McKellar: *Legislature passes bill for automatic gas tax increases*, Deseret News, March 8, 2017
[12] Lieb: *Crumbling roads and bridges bring higher taxes and fees*, Associated Press, May 6, 2017

The fees for obtaining a state driver's license doubled from $20 to $40, while the cost of renewal increased from $15 to $30. These changes are expected to generate extra $5.2 million in fees over the coming two years.[13]

Developments is Other States

Fuel taxes in 7 states rose on January 1, 2027. Pennsylvania and Michigan increased their gasoline taxes by 7.9 and 7.3 cents per gallon, respectively, while Nebraska, Georgia, North Carolina, Indiana and Florida increased it by smaller amounts.[14]

South Carolinian legislators, notoriously averse to tax hikes, have passed separate tax proposals to fund transportation in two chambers despite Gov. McMaster's threatened veto. Bill to increase Louisiana's gas tax by 17 cents, which would raise $510 million, cleared house committee on May 16.

The legislators are working on transportation funding proposals in Minnesota, Oklahoma and Oregon. Missouri House defeated a gas tax hike, while New Mexican Gov. Martinez vetoed a 10 cent per gallon gas tax increase.[15]

[13] Baker: *Cost of Wyoming vehicle registrations, licenses going up*, Powell Tribune, March 28, 2017
[14] *Some States Consider Raining Gasoline Taxes*, Institute for Energy Research, March 13, 2017
[15] *States Across The Nation Raising Gas Taxes To Shore Up Roads, But New Mexico Governor Says No*, KRWG NPR, May 6, 2017

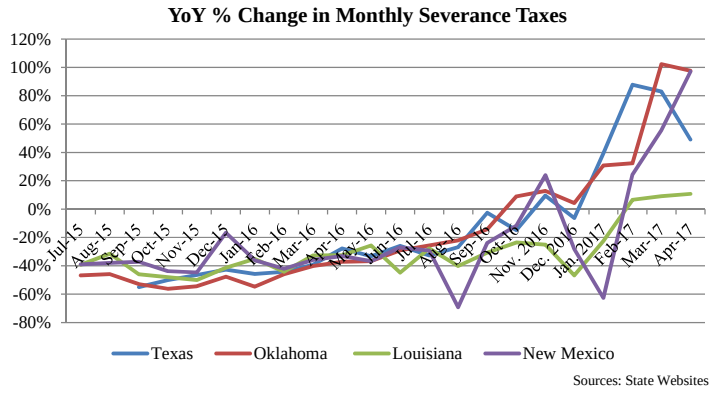
Technology Advances Hinder Oil Industry's Job Recovery

By Rachel Barkley | Vice President

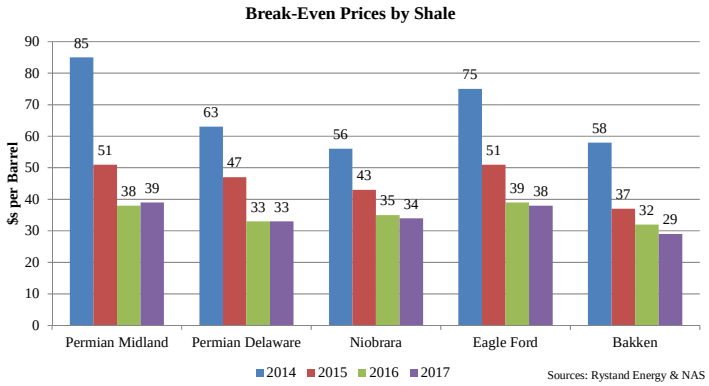
Technology is having a notable impact on the oil industry, affecting everything from break-even prices on drilling to optimal staffing levels.

Aggregate extraction and support personnel declined by roughly 152,500 from the peak in September 2014 to its low in November 2016. Employment fell 28.6%, considerably more than the 15.5% peak-to-valley decline in crude production. From a municipal perspective, this combined decrease in employment and production has led to declines in employment-related tax revenues, severances tax receipts, and CITs in oil-producing states.

There have been recent signs of an upturn in the industry. West Texas Intermediate (WTI) crude prices have rebounded from a low of $26.20 per barrel in February 2016 to between $45 and $55 per in 2017. All four of the top oil-producing states that report monthly severance tax receipts (Louisiana, Oklahoma, New Mexico and Texas) have realized year-over-year severance tax increases for the past three months of reported collections (February-April).



Technological innovations have lowered break-even prices for shales, allowing wells across the country to be profitable at current oil prices, leading to companies to continue to invest in development, with a 125% increase in rig counts since May 2016.[16][17]



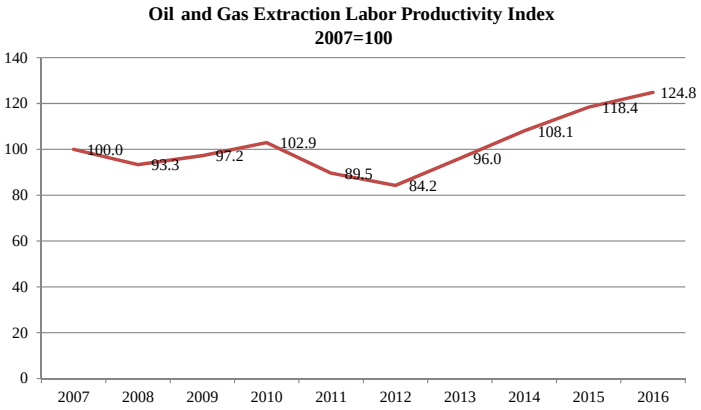
However, the increase in rig counts has yet to lead to a rebound in jobs, which have risen 1.6% from the November low. It is easier for employers to idle rigs than reduce staffing levels, which has historically led to rig count increases to precede, and often outpace, gains in industry employment. Nevertheless, there is reason to believe industry employment may not return to 2014 levels due to technological advances.

Technological innovation has allowed drilling and extraction efforts to be shortened and, in some cases, automated. Schlumberger's newer automated rigs have been able to reduce the number of work hours needed to finish a well by 30%, while Pioneer Natural Resources has increased its well count without increasing its staffing.[18][19]After wells are finished, cloud technology and mobile devices are allowing operations to be managed remotely, lowering the number of employees needed to staff a working well. EOG Resources, Inc. currently uses 65 apps it designed to aid operations, allowing the company to produce the same amount of oil in 2016 than it did in 2014, despite a 67% smaller budget.[20]

Gains in efficiency can be seen in the Bureau of Labor Statistics' industry productivity index, shown below, which measures output per hour. Industry productivity for 2016 increased 48% from a low in 2012, including a 5.4% YoY increase for 2016.

[16] Future U.S. tight oil and shale gas production depends on resources, technology, markets. EIA. August 22, 2016.
[17] Baker Hughes.

[18] Energy companies look to tech to make oil production easier and cheaper. NPR Milwaukee. May 26, 2017.
[19] Texas Oil Fields Rebound From Price Lull, but Jobs Are Left Behind. New York Times. Feb. 19, 2017.
[20] Fracking 2.0: Shale Drillers Pioneer New Ways to Profit in Era of Cheap Oil. Wall Street Journal. March 30, 2017.



The U.S. Energy Information Administration (EIA) currently projects WTI prices to average $50.68 per barrel in 2017, rising to $55.10 for 2018.[21] However, even a return to pre-downturn prices can no longer be assumed to lead to corresponding job levels. Additional movement to automate and increase efficiencies in the industry is likely, with some energy analysts indicating the workforce may decrease further.[22] ABB, a Swiss technology company, is among the companies looking to develop technology to further innovate the industry, having recently opened a robotics support center and two automation and integration offices in Houston.

Despite a likely uptick in energy-related technology jobs, the overall lack of an industry employment recovery could lead to lasting impacts on personal income taxes, sales taxes, property taxes and other revenues influenced by industry employment trends all else equal, although this may be offset by growth in other sectors. States and local governments with a high-reliance on the oil sector may be pressured, as output returns to previous levels without a commensurate increase in employment. Oil producing states may have to restructure their tax systems, relying on extraction, production and refining revenue sources to replace lost income and sales tax revenues.

States are more likely to succeed in recovering lost revenue than local governments.

[21] Short-Term Energy Outlook. EIA. May 2017.
[22] Fewer jobs in oil patch as automation picks up. Houston Chronicle. December 21, 2016.

Commercial Office Real Estate Update

By Rachel Barkley | Vice President

Nationally, the metropolitan-area office vacancy rate remained roughly stable on both a YoY and QoQ basis for Q12017, with a Q1 2017 national vacancy rate of 13%, compared to 13.1% in Q1 2016 and 12.9% for Q4 2016.[23] Q4 2016 had marked the first quarter since 2008 with a vacancy rate below 13%. Cushman & Wakefield, the commercial real estate company, attributes the slight uptick in vacancy rates to new supply outpacing absorption.[24] Suburban vacancy rates decreased on a YoY basis from 14.6% to 14.2%. Downtown vacancy rates remain lower than metropolitan and suburban levels at 10.7%, although this is an increase from Q1 2016's rate of 10.4%.

Looking regionally, the West continues to have the lowest vacancy rates, followed by the East. The West also continues to break further away from the pack with a 0.5% reduction in vacancies from a year prior, the largest YoY change among the regions. The Midwest also reduced its vacancy rate, with a 0.3% decline from the year prior. It remains the region with the highest vacancy rate, but is closing the gap on the South, which increased its vacancies over the same period.

While the South has an above average vacancy rate and realized a YoY increase in vacancies, some southern cities are going against regional trends. The three metro areas with the largest YoY decrease in vacancy rates are all located in **Florida**, **Orlando** (-3.4%), **Ft. Lauderdale** (-2.8%) and **Palm Beach County** (-2.6%).

Regional Metropolitan Office Vacancy Rates

	Q1 2017	Q1 2016	YoY % Change
East	13.2%	13.2%	0.0%
Midwest	15.7%	16.0%	-0.3%
South	15.5%	15.2%	0.3%
West	12.1%	12.6%	-0.5%

Source: CBRE

Four out of the five metro areas with the lowest vacancy rates are in the **San Francisco Bay** area, with **Manhattan** rounding out the top five. Of the Bay Area regions, three realized a YoY decline in vacancies. The technology sector continues to be a driving force for the area, accounting for 70% of leases for the quarter.[25]

Lowest Metropolitan Office Vacancy Rates

	Q1 2017	Q1 2016	YoY % Change
San Francisco	6.5%	6.7%	-0.2%
Oakland	6.7%	7.5%	-0.8%
San Jose	7.5%	6.5%	1.0%
Manhattan	7.7%	7.3%	0.4%
Walnut Creek/I-680 Corridor	7.9%	10.1%	-2.2%

Source: CBRE

Highest Metropolitan Office Vacancy Rates

	Q1 2017	Q1 2016	YoY % Change
Albuquerque	22.0%	22.5%	-0.5%
Stamford	20.5%	18.3%	2.2%
Dallas/Ft. Worth	19.1%	18.1%	1.0%
Cincinnati	18.8%	19.9%	-1.1%
Westchester County	18.7%	20.1%	-1.4%

Source: CBRE

Despite Manhattan's lowest vacancy rate, two of the metro regions with the highest vacancy rates, **Stamford, CT** and **Westchester County, NY** are located just outside of New York City. Amongst the 57 metro regions, Stamford also had the second largest YoY increase in vacancies at 2.2%.

Houston realized the largest YoY increase in vacancy rate amongst all regions at 2.5%, bringing the Q1 2017 rate to 16.8%. This marks the area's highest vacancy rate in 22 years. Comparatively, the area's 25-year average vacancy rate is 14.8%. Houston continues to be impacted by the downturn in the energy sector, which accounted for 62% of lease activity in the last quarter.[26] CBRE projects the metro's vacancy rate could continue to climb into 2018, peaking at roughly 17.5%, as shadow inventory and sublets add to overall inventory.

Nashville had the fifth largest YoY increase among metro areas, with a 1.6% rise from 6.5% to 8.1%. Nashville's vacancy rate has now increased for two consecutive quarters, after hitting a record low of 5.5% in Q3 2016.[27] Office absorption was negative in Q1 2017, marking the first quarter of negative net absorption for the area in more than two years. Recently completed construction has led several major occupants to relocate, with their former offices entering back into available supply. Hospital Corporation of

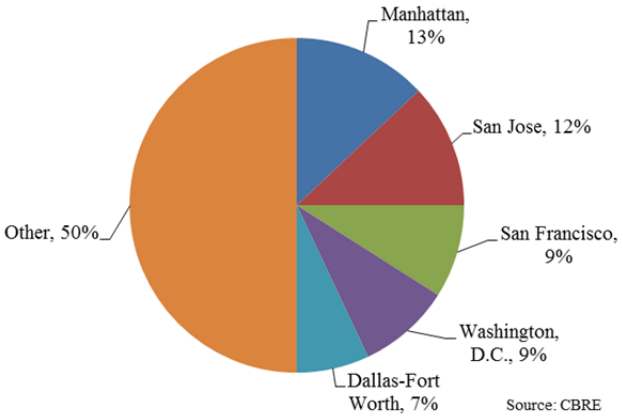
[23] New Supply Drives Increase in Vacancy Rate. U.S. Office, Q12017. CBRE Research. 2017.
[24] U.S. MarketBeat Office Report, Q1 2017. Cushman & Wakefield. 2017.
[25] San Francisco Bay Area Office Marketview, Q1 2017. CBRE Reseach 2017.
[26] Houston Office Marketview, Q1 2017. CBRE Research 2017.
[27] Nashville Office Marketview, Q1 2017. CBRE Research 2017.

America (HCA), the nation's largest for-profit health care provider, was one of the main movers in recent months, as it moved into its newly constructed headquarters.

Market Drivers

Major market drivers for future vacancy rates include office job growth and construction. Office job growth continues to be concentrated in the southeast and west. **Orlando** and **Tampa** lead the nation in percentage job growth, followed by **Dallas-Fort Worth**, **Raleigh** and **Atlanta**. **California** and **Texas** both have three cities among the top 20 in job growth. The financial activities sector, which is a major factor for job growth in **New York**, **Chicago**, **San Francisco**, **Charlotte**, among others, reported its largest quarterly job growth since 2005.

Leaders in construction activity have remained stable over the past year, with **Manhattan**, **San Jose**, **San Francisco**, **Washington, D.C.** and **Dallas-Fort Worth** in the top five for square feet under construction.[28] In total, these five areas account for 50% of total U.S. metro area construction. **San Jose** and **San Francisco** are also among the top markets for current construction as a percentage of existing inventory.



On the other end of the spectrum, **Houston** has had the largest decrease in construction from the year prior. This is largely due to the completion of projects that were begun before the energy industry downturn, which have not been replaced in the pipeline by new projects. A large segment of new construction is also coming on line unoccupied, with roughly two million square feet of vacant new construction completed in the last quarter.

Going forward, analysts should keep an eye on commercial real estate trends. Commercial real estate loan growth has outpaced national economic growth for the past three years. While the annual rate of commercial real estate growth declined to 7.6% for Q1 2017 from 11.6% the year prior, it remains robust, indicating commercial construction, including office space, is likely to continue at a rapid pace nationally for the foreseeable future.

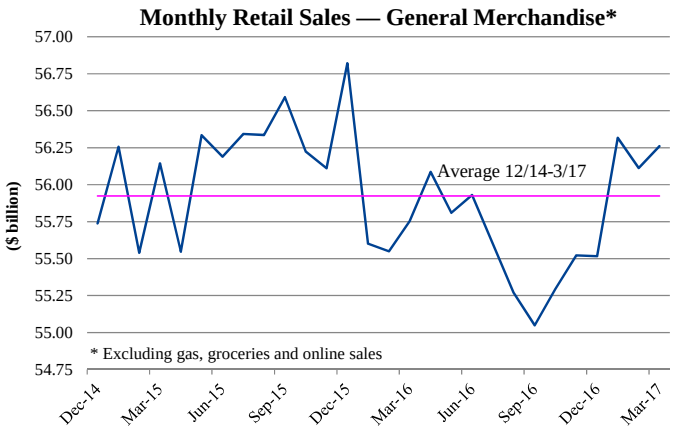
[28] CBRE Research. 2017.

Retail Property Market

By Ivan Gulich | Senior Vice President

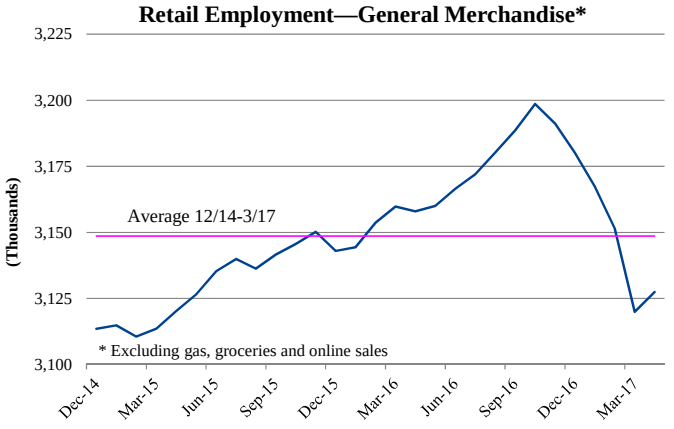
Challenging Environment for Retail Stores

Retail sales in the U.S. have stagnated in nominal terms over the last 9 quarters:



Source: Bureau of Labor Statistics

The decline in sales in the first 3 quarters of 2016 resulted in widespread layoffs:



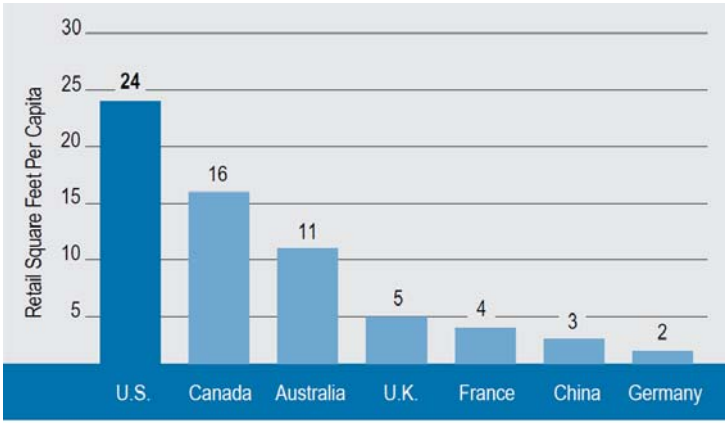
Source: Bureau of Labor Statistics

Since peaking in October 2016, U.S. retail employment fell by 2.2%. Department stores are shedding jobs faster than other types of retailers, having cut payrolls by 17.2% between December 2011 and April 2017.[29]

The slump in retail sales is caused by several factors:

1) There are too many retail outlets in the U.S., with retail square footage per person vastly exceeding the same metric for other developed economies.

Retail Space per Capita



Sources: ICSC Country Fact Sheets, Cohen & Steers

2) The shift in consumer behavior, especially among the millennials, has reduced traffic in department stores. Consumers have increased their spending on services such as travel, restaurants and entertainment and reduced spending on general merchandise, including apparel. Instead of buying products, the new generation puts a premium on "building memories". Some consumers have embraced frugal ways learned during the last recession.

Younger consumers, who used to go to shopping malls to socialize, nowadays spend a lot of time on social networks, further reducing foot traffic.

Mall traffic declined 10% during 2016 holiday season compared to year prior.[30]

3) Brick-and-mortar stores are losing sales to online stores. Even though online sales accounted for relatively modest 11.7% of U.S. retail sales in 2016, they absorbed 42% of total sales growth. Amazon alone accounts for 43% of online sales and 53% of online sales growth.[31] Traditional retailers have difficulty competing with the electronic commerce giant, while their online sales generally cannibalize sales at their retail stores.

Online shopping has introduced price transparency, which resulted in thinner margins, as retailers cut their prices to remain competitive.

[29] Bureau of Labor Statistics

[30] Halkias: *Neiman Marcus' troubles run deeper than Amazon or other retail trends*, The Dallas Morning News, April 20, 2017

[31] Ausick: *Retailers on record Bankruptcy Pace: S&P*, 24/7 Wall Street, April 24, 2017

It should be noted that retail weakness is occurring during an economic expansion characterized by a very strong job market and rising disposable income.

More than a dozen national retailers have announced mass store closures this year. There have been more than 3,200 store closures so far in 2017.[32] Fourteen retail chains have filed for bankruptcy protection and liquidation through April 6, compared to 18 in entire 2016, which reflects elevated credit risk across most of the sector. The S&P identified Sears Holdings Corp., rated CCC+ with a negative outlook, as most vulnerable public retail company, with a 23.8% probability of default on their obligations over a 1 to 5-yr horizon.[33]

Bankruptcies have become much more common as out-of-court restructuring has become difficult.

As department stores anchoring shopping mall struggled to attract the shoppers, the foot traffic in inline stores also declined. Store openings have slowed down. All aspects of opening a new store are scrutinized much more than in the past. Occupancy expenses, such as lease renewals, are given extra attention, which lengthened the time to close the deal on the new lease from 6 to 12 months.[34]

Impact on Landlords

Store closings are putting pressure on retail space owners to find new tenants.

There are 1,200 enclosed shopping malls in the U.S., the most ever.[35] Class A malls, which account for roughly a third of the total[36], are most prestigious and profitable, and will continue to attract shoppers. The owners of these properties should be able to replace tenants at vacated anchor stores and inline stores. Class B and C malls will have a much more difficult time replacing departed tenants. Fierce competition to attract tenants by lowering rents and refurbishing retail space will erode mall profitability. Many shopping malls will not survive in their current form, but will be redeveloped into mixed-use real estate properties with office, medical, governmental and educational spaces, call centers, gyms, grocery stores etc.[37] Some malls will have to be demolished.

High-end luxury malls and discount malls are faring better than malls in the middle of the range, which are anchored by Sears, Macy's, J.C. Penney and other undifferentiated department stores that are losing traffic to specialty retailers and their targeted demographics.

The owners of strip malls are also pressured by vacancies, especially at marginal properties.

Outlet centers, on the other hand, are expected to weather the downturn in the retail sector much better. These are highly profitable distribution channels that continue to attract shoppers. The centers don't have large anchor stores and enjoy generally high occupancy rates.

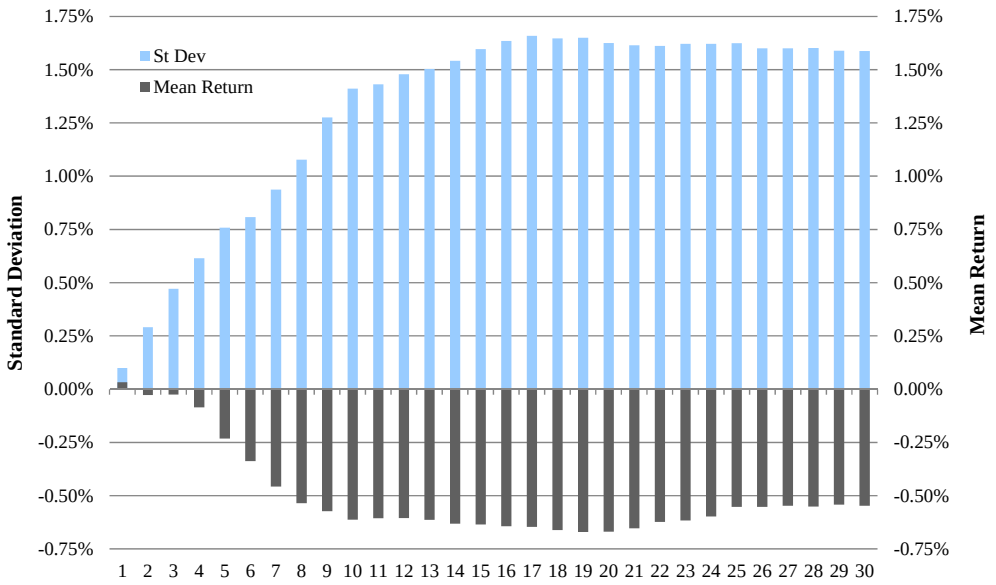
Amid turmoil in the retail sector, loan originators are backing off retail lending, with retail property loans down 23% in Q1 2017. Banks are limiting lending to top-level enclosed malls and strip malls anchored by grocery stores, which sell necessity products.

So far, there has been no uptick in retail-related loan defaults.[38]

[32] Peterson: *A $59 billion investor just issued a dire warning about the retail apocalypse*, Business Insider, May 3, 2017
[33] Jim Elder: *Risk Insight: 2017 Retail Bankruptcies Set Record Pace—Which Companies Are Most at Risk?*, S&P Global Market Intelligence, April 20, 2017
[34] Heschmeyer: *Gordon Brothers Real Estate Executive Weighs in on Challenging Retail Real Estate Landscape*, CoStar, May 4, 2017
[35] International Council of Shopping Centers
[36] Noguchi: *Retailers Scrambling To Adjust To Changing Consumer Habits*, NPR, May 2, 2017
[37] Sinovic, Hood: *Retail in the doldrums*, Albuquerque Journal, May 8, 2017
[38] Heschmeyer: *Banks Dial Back CRE Lending as Loan Growth Slows to Two-Year Low*, CoStar, April 20, 2017

Market Review *Historical Monthly Bond Price Changes*

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



Sources: Loop Capital Markets

We show historical bond price changes for each point on the muni benchmark callable curve during the month of June for the last 16 years.

The returns in June were negative about 75% of the time, falling by 0.50%, on average, across the curve.

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

AAA MMD - MONTHLY PRICE CHANGE

Maturity	5	10	15	20	25	30
Jun-01	0.22%	0.16%	0.39%	0.38%	0.38%	0.38%
Jun-02	0.97%	1.18%	0.93%	0.38%	0.15%	0.15%
Jun-03	-0.40%	-1.04%	-1.58%	-1.41%	-0.86%	-0.86%
Jun-04	0.00%	-0.16%	0.08%	-0.08%	-0.16%	-0.23%
Jun-05	0.18%	0.32%	0.32%	-0.08%	0.00%	0.00%
Jun-06	-0.79%	-0.94%	-0.79%	-0.86%	-0.78%	-0.78%
Jun-07	-0.53%	-1.26%	-1.10%	-1.25%	-1.33%	-1.49%
Jun-08	-1.41%	-1.81%	-1.41%	-1.41%	-1.63%	-1.63%
Jun-09	-0.45%	-2.07%	-1.58%	-1.02%	-0.94%	-0.86%
Jun-10	0.13%	0.08%	-0.48%	-0.71%	-0.16%	-0.16%
Jun-11	-0.23%	-0.81%	-0.64%	-0.32%	-0.32%	-0.39%
Jun-12	-0.18%	-0.57%	-0.89%	-0.96%	-0.64%	-0.64%
Jun-13	-2.05%	-3.75%	-4.95%	-5.31%	-4.84%	-4.60%
Jun-14	-0.23%	-0.97%	-0.73%	-0.40%	-0.40%	-0.24%
Jun-15	0.14%	-0.73%	-0.56%	-0.64%	-0.88%	-0.96%
Jun-16	0.91%	2.59%	2.83%	2.98%	3.57%	3.56%
Mean	-0.23%	-0.61%	-0.63%	-0.67%	-0.55%	-0.55%
St Dev	0.76%	1.41%	1.60%	1.63%	1.62%	1.59%

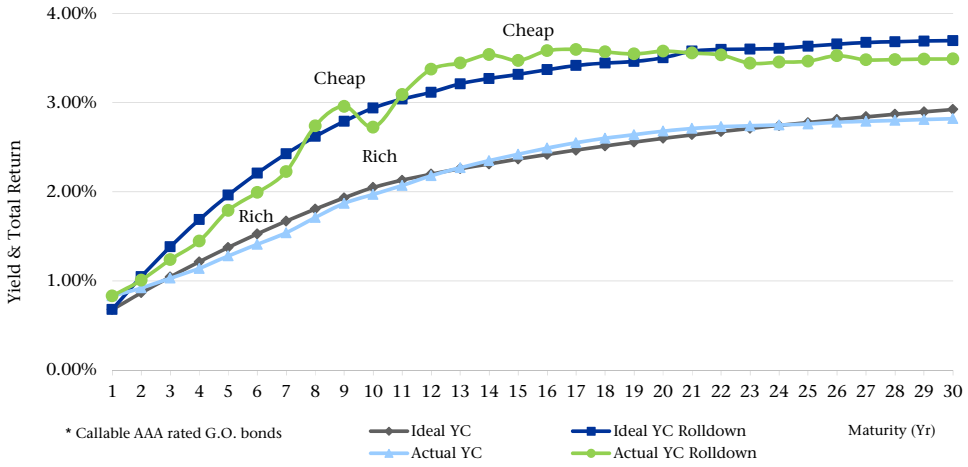
Source: Loop Capital Markets

The 20-yr point has the lowest expected return.

The long end of the curve was the most volatile, with standard deviation of monthly bond price changes of about 1.60%.

Market Review *The Yield Curve*

Figure 6 **1-Year Forward Roll-down—Muni Benchmark Curve* (May 24, 2017)**

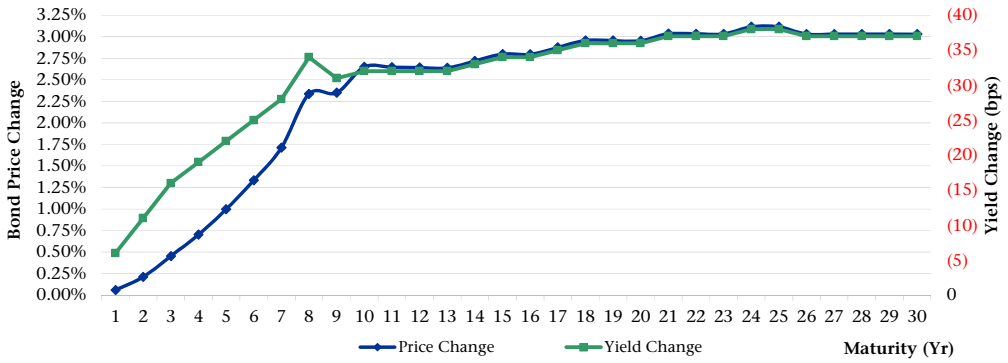


Source: Loop Capital Markets | *Callable AAA-rated G.O. bonds

The yield curve shows rich (3 to 7-yr, 10-yr, 23+ yr) and cheap (9-yr, 12 to 18-yr) points on the AAA MMD curve, based on one year holding period returns and assuming no change in the yield curve. 17-yr maturity offers the highest expected total return.

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

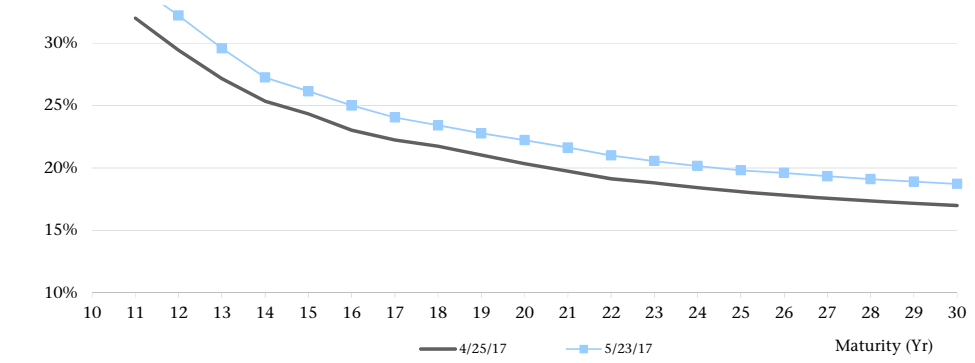
Figure 7 **Monthly Price Change — AAA GO Bonds* (5/2/17 — 6/2/17)**



Source: Loop Capital Markets | *Price Change Only

Yields fell sharply across the curve, especially in the 15 to 30 year range, in May.

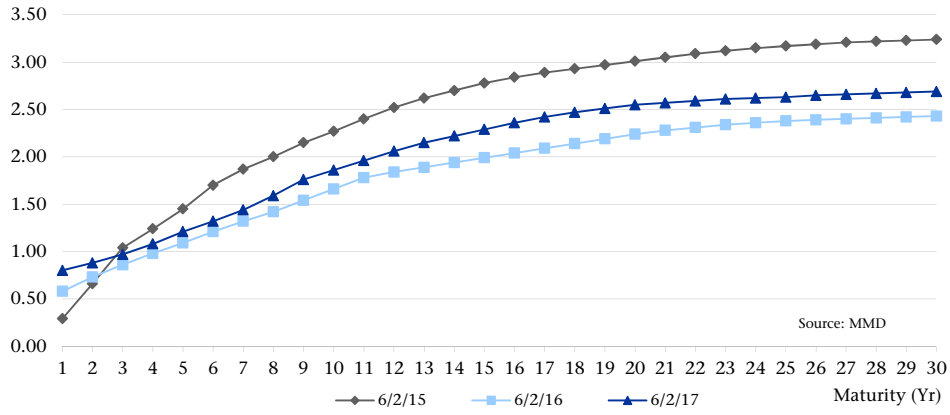
Figure 8 **Implied Municipal Volatilities**



Source: Loop Capital Markets | *10-year call

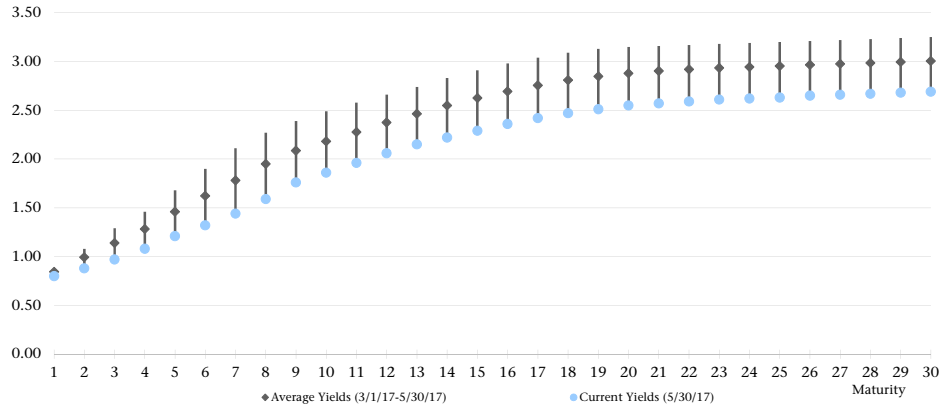
Implied volatilities rose last month as yields declined across the curve. Since non-callable bonds appreciate faster in falling interest rate environment than their callable counterparts, the price differential between the two, and the respective implied volatilities, rose as a result.

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



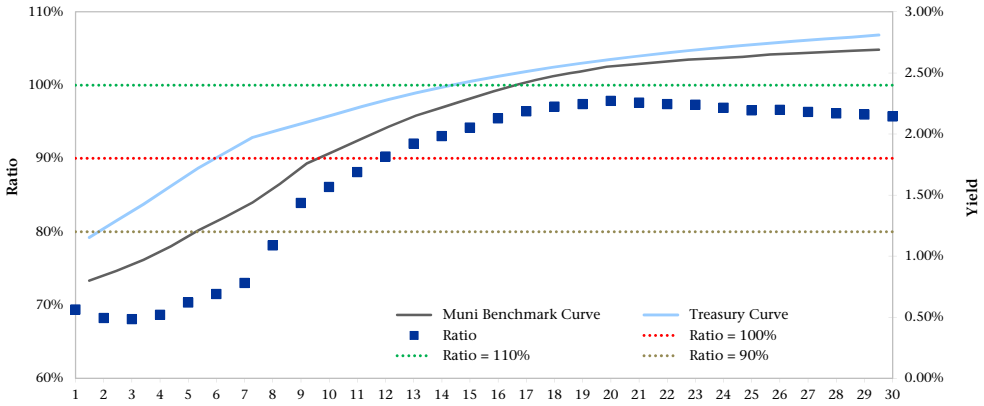
Yields are 55 bps lower on the long end of the curve today than they were in June 2015, but remain higher than 12 months ago.

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



The yields are at their lowest points in 3 months across the curve.

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



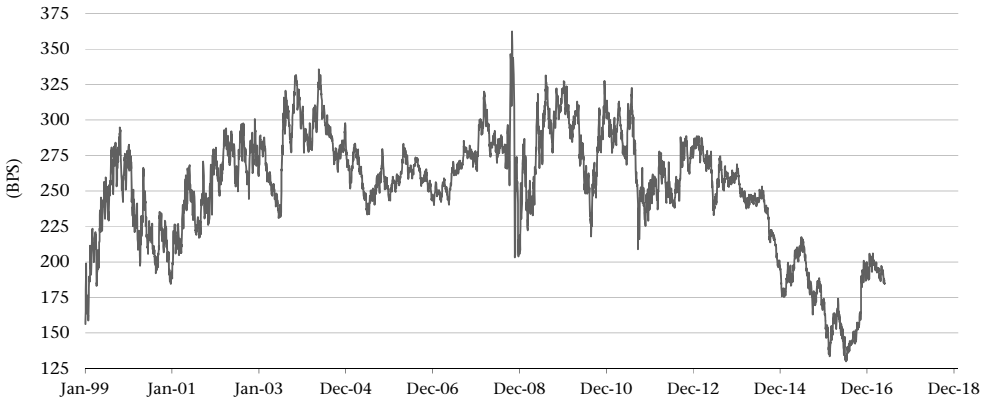
The ratio curve, exhibiting both convex and concave areas, is gradually assuming a familiar upward sloping shape.

Market Conditions

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

The slope of the curve flattened by about 30 bps since mid-March.

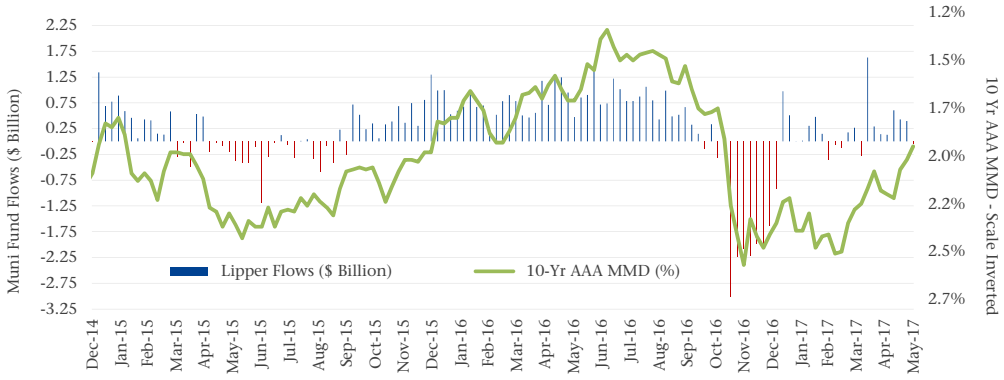
Figure 13 **Declining Inflation Expectations**



Source: FRED

Fed's five-year forward breakeven inflation rate, derived from TIPS and regular Treasury yields, peaked in mid-February, but subsequently declined.

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



Source: Lipper

Muni funds experienced $51 million net outflow last week, after 7 consecutive weeks of inflows.

Loop Capital Markets Upcoming Negotiated Calendar

Date	Par Amount ($ mil)	Issue	Loop Capital's Role
6/6/17	533.8	Metropolitan Washington Airport Authority Airport System Revenue Bonds (AMT)	Co-Manager
6/6/17	122.5	Regional Transportation District Sales Tax Revenue Bonds (FasTracks Project)	Co-Manager
6/8/17	263.2	City of St. Louis Airport Revenue Bonds, Series 2017 A,B,C & D (AMT and Non-AMT)	Co-Manager
6/13/17	150.3	City of Tallahassee Energy System Refunding Bonds	Co-Manager
6/13/17	265.0	New Jersey Health Care Facilities Financing Authority (Inspira Health) Series 2017A	Co-Manager
6/15/17	TBD	Houston Independent School District Lease Revenue Refunding Bonds Series 2017	Co-Manager

First Draft of the State of the Union Tweet:

"US to be huge in 2018. Phenomenal progress everywhere. Wall, budget, tax cuts, expenditure cuts—awesome! Still willing to send troops to Chicago, too." #POTUS

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. The ASD is one of the largest analytics groups dedicated to investment banking, providing analytics and commentary on the economy, monetary policy, and a variety of public finance issues.

Chris Mier, CFA, Managing Director
312.356.5840 | christopher.mier@loopcapital.com

Ivan Gulich, CFA, Senior Vice President
312.913.2204 | ivan.gulich@loopcapital.com

Rachel Barkley, Vice President
312.913.2297 | rachel.barkley@loopcapital.com

Vania Petkova, Vice President
312.913.2229 | vania.petkova@loopcapital.com

Loop Capital, founded in 1997, is a highly client-focused investment bank, brokerage and advisory firm that provides capital solutions for corporate, governmental and institutional entities across the globe.

Loop Capital Markets and its affiliates serve clients in corporate and public finance, financial advisory services, taxable, tax-exempt and global equity sales and trading, analytical services, and financial consulting services.

Headquartered in Chicago, the firm has over 170 professionals in 21 offices across the country. Find more information at www.loopcapital.com.