Municipal Bond Market Monthly

Outlook 2016 and Puerto Rico Update

Janney Fixed Income Strategy

December 16, 2015

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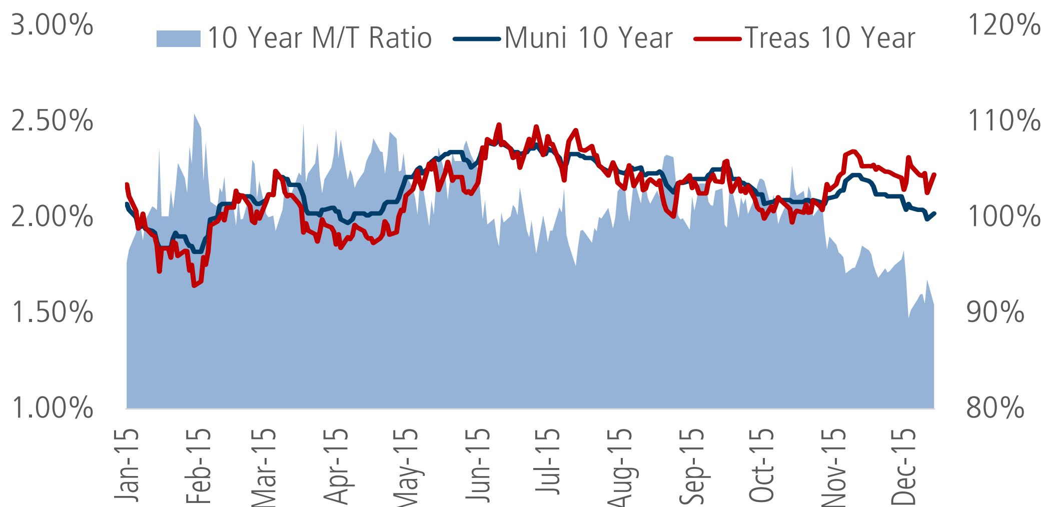
- Once again we recommend tax free bonds as the core component of fixed income allocation in 2016
- Based on past history, municipal bonds should outperform taxable alternatives as the Fed tightening cycle progresses
- Although there are exceptions, credit conditions for state and local governments are generally improving but …
- The pension funding cloud continues to cast a shadow on municipal credit
- We believe the toll road and airport sectors will enjoy continued prosperity in 2016
- New issue volume in 2016 will come in lower than 2015 based on fewer refunding issues
- We expect Puerto Rico to make the January 1 general obligation interest payment but…
- Implementation of the "clawback" feature may lead to defaults by other Puerto Rico issuers.
- There are increased signals that the US Congress may become more involved in seeking solutions to Puerto Rico's financial challenges in 2016
- We continue to recommend against individual investor ownership of noninsured Puerto Rico bonds

Municipal bond investors spent much of 2015 waiting for the Fed to raise rates – we are still waiting, but an increase in the Fed Funds rate emanating from this week's FOMC meeting is likely. Conversation around monetary policy in 2016 will be more about how high and how fast. Tax free yields remained relatively stable in 2015, with the 10 year MMA AAA benchmark staying within a 60 basis point range through the year. Muni to Treasury ratios, which averaged 101.5% (10 year) are at the lowest levels of the year as we approach 2016.

Muni to Treasury ratios, which averaged 101.5% (10 year) are at the lowest levels of the year as we approach 2016.

Janney recently published the Fixed Income & Macro Outlook for 2016, which noted "we continue to rely on tax-exempts as the core component of our fixed income allocation recommendations." Improving state and local credit conditions, favorable technical factors, the continuing benefit of the tax exemption, and our forecast for stable long term interest rates support our positive outlook for the municipal bond segment of the fixed income sector in 2016.

Yields Have Been Stable in 2016, With Ratios Lower Heading Into New Year



Source: Janney Fixed Income Strategy; Municipal Market Analytics

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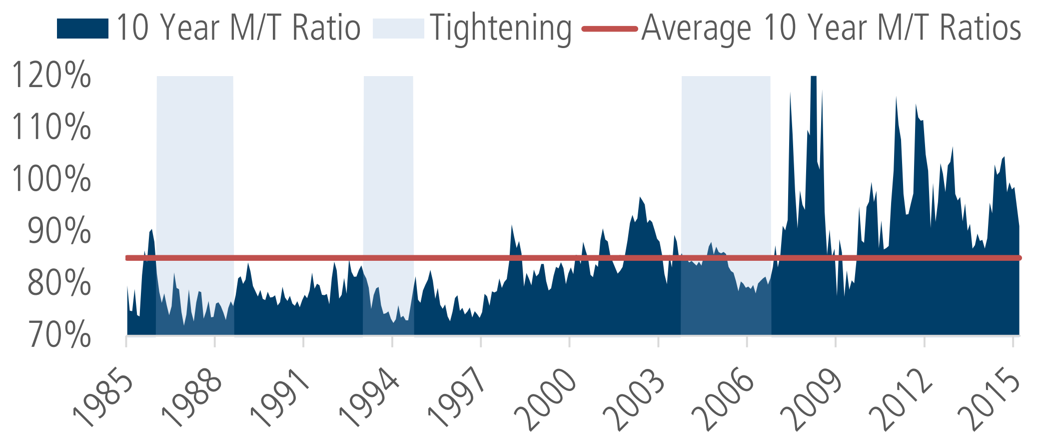
Fed Rate Hikes and Tax Free Bonds

In previous tightening cycles, tax free bonds outperformed Treasuries

Angst about a Fed rate hike was with us for much of 2015. Elevated municipal to Treasury ratios and bond fund outflows for much of the year may have reflected rate hike concerns, but in recent months fears of rising rates have diminished. Our forecast calls for a 2.22% 10 year Treasury yield at year end 2016 and a 2.86% 30 year yield, projecting little change and supporting increased confidence in duration extension (see page 11 for our thoughts on maturity). A look at how tax free bonds performed during past tightening cycles, using M/T ratios as a measure of relative value, shows that ratios fell (tax free yields fell more or rose less than taxable yields). In other words, in previous tightening cycles, tax free bonds outperformed Treasuries.

During Past Tightening Periods, Munis Outperformed With Lower M/T Ratios



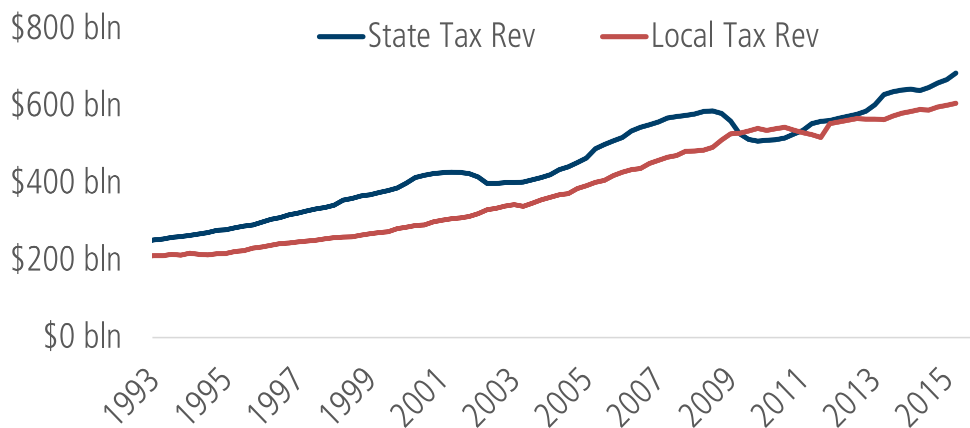
Source: Janney Fixed Income Strategy; Thomson MMD, Bloomberg

Improving Credit Conditions

Credit conditions for municipal issuers continue to improve, although spots of stress remain

Credit conditions for municipal issuers continue to improve, although spots of stress remain. Later in this publication we discuss some specific sector credit considerations, but the core state and local government sectors are stabilizing, with tax revenue trending higher. State tax collections, dominated by sales and income tax, dropped sharply during and after the Great Recession, but as unemployment dropped through the recovery, tax revenue recovered and is now ahead of pre-2008 levels. Notable exceptions are certain energy producing states, in particular Alaska and North Dakota, where energy severance taxes, which account for a major portion of state revenue, have dropped off significantly with falling energy prices.

State and Local Tax Revenues Have Recovered From Recession Induced Downturn



Source: Janney Fixed Income Strategy; US Census Bureau

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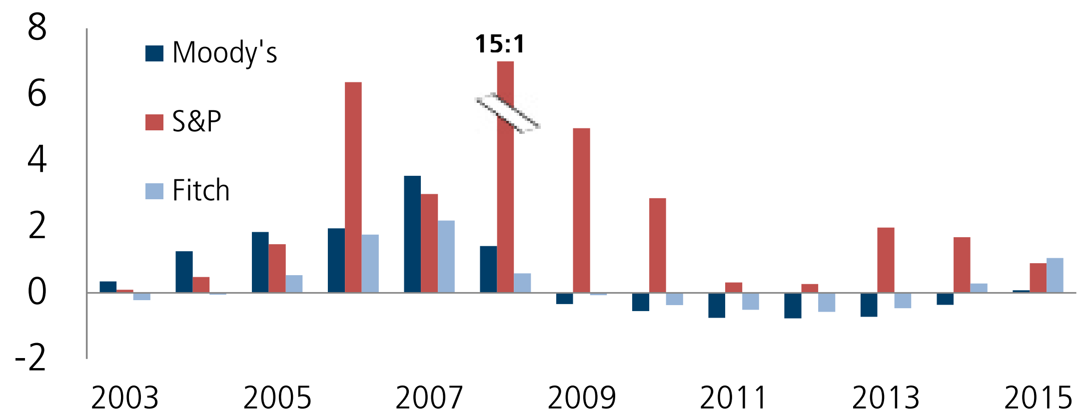
After six years when downgrades outnumbered upgrades, Moody's had slightly more upgrades in 2015. We expect this trend of improving ratings to continue through at least next year

The darkest cloud overhanging municipal market creditworthiness is the persistent challenge to state and local finances presented by poorly funded public pension plans.

Local governments are generally most dependent on property tax revenues. Due to the timing of the property value assessment process, the property tax revenue falloff occurred during the early stages of post-recession recovery. Property values did not fall uniformly across the country, with certain areas in states such as Florida, California and Nevada very hard hit, and now slowly recovering. Nevertheless, we have observed generally improving financial metrics. Many communities that ran deficits in the 2008-2010 time frame are now replenishing reserves.

Rating agency upgrade and downgrade data offers useful metrics for reflecting credit improvement. In each year of the past decade, S&P upgraded more municipal issuers than it downgraded, a result that is discordant with the fiscal realities of the economic cycle. S&P's positive trend may reflect its approach to recalibration. In a 2010 recalibration project (targeted to make municipal ratings more consistent with ratings of other sectors, such as corporate bonds), Moody's and Fitch raised ratings on most state and local government issuers (especially in lower rating categories) but these rating hikes are not included in published rating change data or in our graph. Moody's and Fitch rating changes more accurately reflect the impact of the recession and economic cycle. It's notable that after six years when downgrades outnumbered upgrades, Moody's had slightly more upgrades in 2015. We expect this trend of improving ratings to continue through at least next year.

Moody's - More Upgrades Than Downgrades in 2015 - First Positive Year Since 2008



Source: Janney Fixed Income Strategy; Moody's, S&P, Fitch - Net Ratio of Upgrades to Downgrades

Pension Funding Challenges Continue

The darkest cloud overhanging municipal market creditworthiness is the persistent challenge to state and local finances presented by poorly funded public pension plans. In 2010, Pew Charitable Trusts published the "The Trillion Dollar Gap", referencing the difference between the present value ($3.35 trillion 2010) of the 50 states' aggregate long term pension liability and the value of assets ($2.35 trillion) set aside in pension trust funds to pay these liabilities. The report was widely referenced and discussed, pushing the pension funding story to front pages (real and virtual) of general, financial and often local media. States including Illinois, New Jersey, and Kentucky were downgraded in 2015 due to poorly funded state pension plans and Chicago was hit with five downgrades from three agencies, culminating in a Ba1 junk rating from Moody's (guess which rating agency has not been requested to provide ratings for Chicago deals this year).

The graph of Chicago's pension history over the last decade well illustrates what happens when the can is kicked down the road. In 2004 the city, which had about $4.6 billion of revenue, contributed $345 million or 7.4% of its revenue to fund its four employee pension plans, even though the actuarially required amount (ARC) was $550 million or 11.7% of revenue. At that time pension assets of $13.1 billion were sufficient to cover 65% of the $20.3 billion in liabilities. Ten years later (2014) city revenues had grown by 23% to $5.7 billion, while the ARC had more than doubled to $1.8 billion representing 31% of revenue, yet the city's actual contribution of $443 million was only 7.8% of revenue. Pension plan assets had declined to $10.3 billion while liabilities had jumped to $30.1 billion leaving funding at only 34%.

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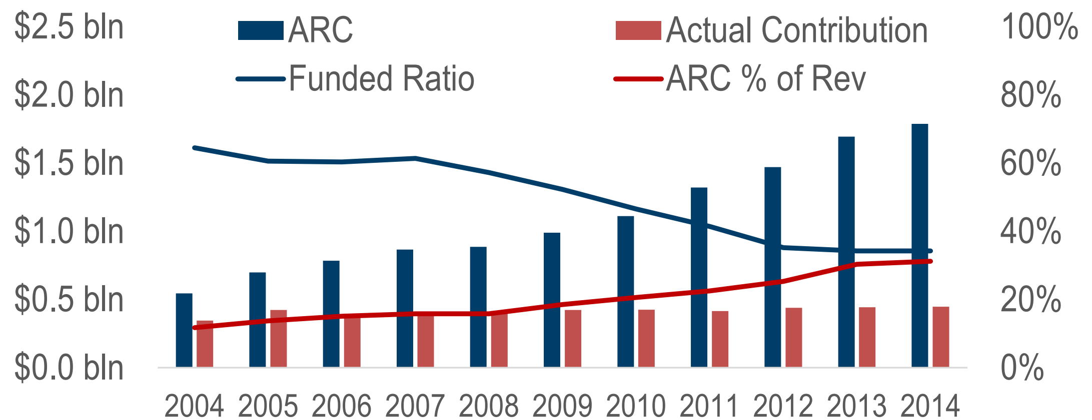
Rhode Island enacted legislation that restructured state pension plans, reducing the state's unfunded liability from $4.4 billion to $2.7 billion.

Chicago - Years of Kicking the Can Down the Road Have Eroded Funding Levels



Source: Janney Fixed Income Strategy; Chicago CAFRS

Chicago recently enacted a significant property tax hike which, when phased in over 4 years, will generate $543 million of additional estimated annual revenue, a significant step toward increasing pension funding, yet enough to only slow, not stop the growth of unfunded liabilities. The Illinois legislature passed legislation to restructure benefits in two of the city's four plans, but the Cook County Circuit Court ruled the changes unconstitutional, with the city's challenge to the ruling pending in the Illinois Supreme Court. It's worth noting that constitutional constraints have also placed roadblocks to badly needed reforms at the state level.

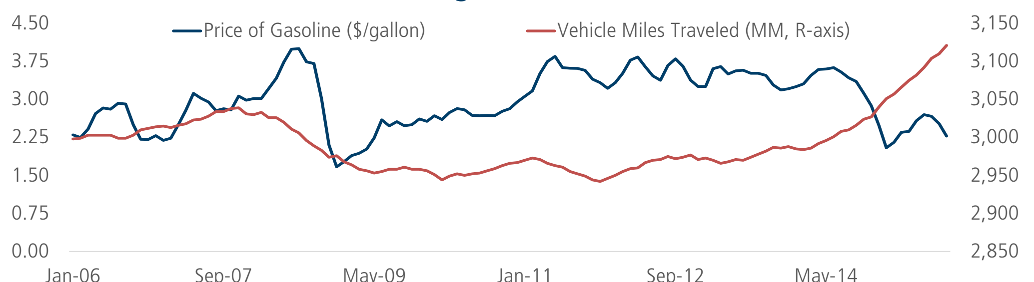
There have been positive developments on the pension funding front. In 2011, Rhode Island enacted legislation that restructured state pension plans, moving active employees into a hybrid plan with 401(k) type elements and reducing the state's unfunded liability from $4.4 billion to $2.7 billion, although a subsequent settlement of union and retiree lawsuits reduced the achieved savings somewhat. Cincinnati also enacted meaningful reforms while Kentucky was able to reform two of its three plans. Discussions to end Pennsylvania's 5 month budget impasse include proposed reforms to the state's plans. Generally speaking, reforms to stabilize or even reduce pension benefits may limit growth of unfunded liabilities and eventually reduce them, but it is also important that cities and states make the current actuarially required contribution. As seen in the example, underpaying contributions today leads to growing problems in the future. When the ARC totals more than 30% of revenues, as is the case with Chicago, other spending priorities such as infrastructure investment and constituent services are imperiled. See state data table on page 10 for information about individual states' funding situation.

At this point in the recovery, we particularly like the toll road and airport portions of the transportation sector.

Toll Road and Airport Sectors Will Benefit From Lower Energy Prices

As the recession and its impact have faded into the rearview mirror, most sectors of the municipal bond universe have stabilized. At this point in the recovery, we particularly like the toll road and airport portions of the transportation sector, which are benefitting from not only increased disposable income to be spent on trips (whether by car or plane) but also by lower gas and jet fuel prices, which make such trips more affordable.

Lower Gasoline Prices Are Contributing To Increases in Vehicle Miles Traveled



Source: Janney Fixed Income Strategy; Federal Highway Administration

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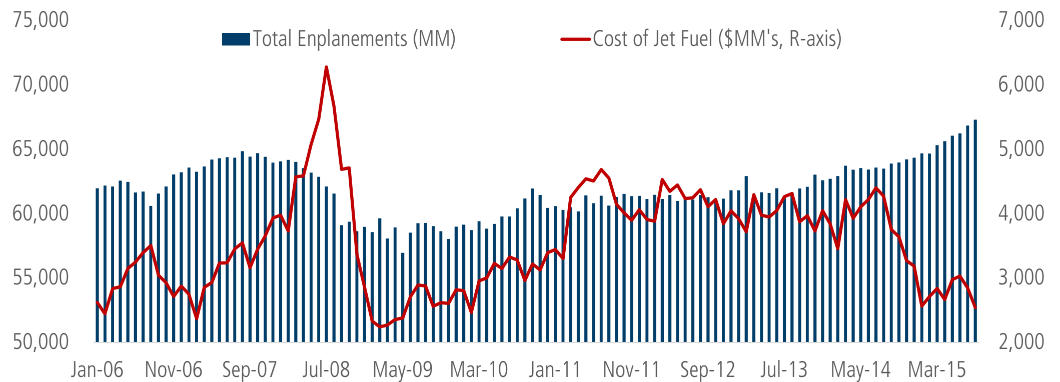
Miles traveled totals have risen steadily, surpassing pre-recession levels, with lower gasoline prices providing a tailwind.

Toll roads were hit by post-recession decreases in miles travelled, although toll hikes often kept total revenue on the rise. After bottoming out in 2011, miles travelled totals have risen steadily, surpassing pre-recession levels, with lower gasoline prices providing a tailwind. Moody's medians illustrate steady toll revenue growth registering 5.6% in 2014, 5.7% through June 2015 and projected to jump by 5% in 2016. Concerns are rising leverage and the tendency of some states, such as Pennsylvania, to raid the toll box to finance non turnpike transportation projects. Unless economic growth stalls or energy prices rebound, toll road revenues should continue their strong growth pattern through 2016.

Enplanements Are Rising While Falling Jet Fuel Costs Contribute to Airline Stability



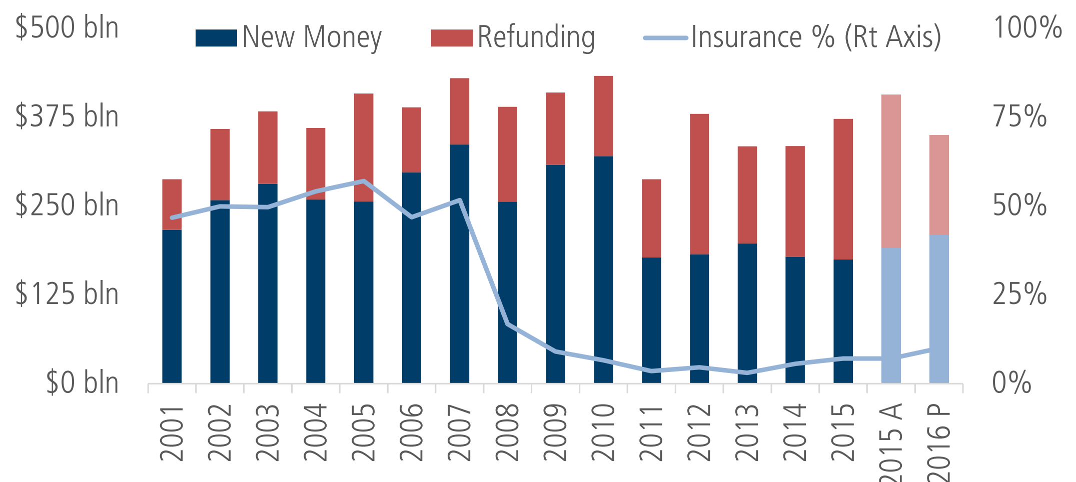
Source: Janney Fixed Income Strategy; US Department of Transportation

After falling off sharply, enplanements have recovered and now exceed pre-recession levels, with most large airports reporting enplanement growth exceeding 2% in 2015

Lower jet fuel costs impact consumers less directly than gasoline prices, but they do affect airline finances, an important consideration since much of the revenue generated by airports comes from the airlines. After falling off sharply, enplanements have recovered and now exceed pre-recession levels, with most large airports reporting enplanement growth exceeding 2% in 2015 according to Moody's. Growth is expected to be near 4% in 2016. Larger hub airports have been the primary beneficiaries of increased traffic. Another element of stability for airports is found in the post airline consolidation environment, the resultant reduction in competitive forces allowing for more pricing stability. International flights generate about 13% of total US enplanements, so soft economic conditions in Latin America, Europe and/or Asia may act as a drag on airport economics.

We See Lower New Issue Volume in 2016

New Money Issuance Will Rise in 2016, But Fewer Refundings Will Lower Total Volume



Source: Janney Fixed Income Strategy; Bond Buyer, 2015 A is annualized, 2016 P is projected

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Despite more new money issuance next year, total volume will be closer to $350 billion (about 10% lower) because refunding totals will diminish.

As year-end approaches, it appears that total new issuance in 2015 will come in just below $400 billion, about half of which will be generated by refinancing. A $400 billion total would make 2015 the fifth busiest year, but it's notable that even without including December data, 2015 will be the busiest year ever for refundings. In 2016, we believe new money borrowing will grow by about 10%. Improving municipal fiscal conditions will support increased financing of postponed infrastructure projects. Recent enactment of a federal highway bill provides states with certainty of 5 years of dependable funding rather than the many short term, often last minute, extensions of funding that have prevailed since 2005. We expect this to support increased financing of transportation infrastructure, which will lead to increased new money issuance.

Despite more new money issuance next year, total volume will be closer to $350 billion (about 10% lower) because refunding totals will diminish. Since most new issues feature 10 year redemption provisions, many of the issues refinanced in 2015 were of 2005 vintage. There will be fewer such issues to refund in 2016 because fewer bonds were issued in 2006 compared to 2005. Furthermore, the amount of refunding issues (more likely candidates for refunding after 10 years because they typically can't otherwise be refinanced or pre-refunded before the call date), were down by 40% in 2006 vs 2005.

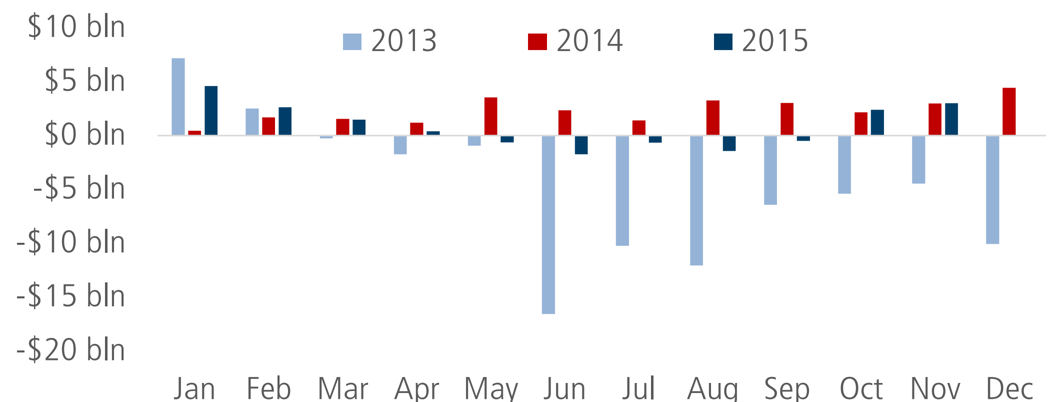
It is noteworthy that, although nowhere near the 50% share of new issuance experienced pre-recession, municipal bond insurers have seen gradually growing market share, with bond insurance on track to cover more than 6% of 2015 new issues.

Positive Fund Flows Will Continue Into 2016

Mutual funds hold about 25% of outstanding municipal bonds, and flows are a reasonable proxy for individual investor demand.

Since the direction and magnitude of fund flows is often event driven, it is difficult to project more than a few months out. Recent declines in muni to Treasury ratios, a key relative value measure, make us cautious about projecting a continuation of positive flows, but with municipal credit conditions improving, and with the tax exemption as valuable to top bracket investors as it has been in several decades, demand for tax free bonds should remain strong. We do not expect a repeat of 2013's dramatic shift to heavy outflows that were aggravated by the June 2013 "taper tantrum" reaction to Fed Chair Ben Bernanke's talk of winding down the Fed's asset purchase program (QE). Mutual funds hold about 25% of outstanding municipal bonds, and flows are a reasonable proxy for individual investor demand.

We Do Not Expect a Repeat of the 2013 "Taper Tantrum" Outflows



Source: Janney Fixed Income Strategy; Investment Company Institute - Monthly Municipal Mutual Fund Flows

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PUERTO RICO UPDATE

Next up is the January 1st payment, which includes $450 million GO's (General Obligation and Guaranteed Public Building Authority) along with other issuer payments, which add up to almost $1 billion

Puerto Rico dodged a major default with payment of PR Government Development Bank's December 1st debt service obligation, most of which was backed by Puerto Rico's general obligation guarantee. Next up is the January 1st payment, which includes $450 million GO's (General Obligation and Guaranteed Public Building Authority) along with other issuer payments, which add up to almost $1 billion. With limited disclosure available (the last audited financial statements for Puerto Rico are as of June 30, 2013 and liquidity updates are occasional and incomplete), it's difficult to ascertain whether funds are available for the January payment, and even if money is available, the government strategy might be to default anyway to avoid cutbacks in constituent service levels, but as noted below we think it likely that Puerto Rico will meets its January 1st GO debt service payment, although if recent history is an indication, we may not know with certainty the status of the payment until January 4th, upon returning from the New Year's Day holiday weekend.

Nearly $1 Billion Due Jan 1st

January Debt Service	
General Obligation	$371 mln
PR Elec Pwr Auth	$184 mln
PR Hwy & Bridge	$106 mln
Public Building (GO Gtd)	$85 mln
PR Aqu & Sew	$82 mln
Other	$116 mln
Total	$944 mln

Source: JFIS, PR Financials

THE CLAWBACK IS NO LONGER THEORETICAL

Puerto Rico's General Obligation debt enjoys strong constitutional protections. The Official Statement for a 2012 General Obligation bond issue says "Section 8 of Article VI of the Constitution of Puerto Rico provides that public debt of the Commonwealth will constitute a first claim on available Commonwealth resources." It goes on to say that the Commonwealth has allocated and/or pledged certain taxes (motor vehicle fuel taxes, crude oil, excise tax on rum exported to mainland, etc.) to support certain revenue bonds but that amounts allocated or pledged to support such bonds "are subject to first being applied to payment of the principal and interest on the Commonwealth public debt [GO and GO guaranteed], but only if and to the extent that all other available revenues of the Commonwealth are insufficient for that purpose." That is the language that municipal bond professionals have distilled down to the word "clawback".

The clawback scenario, at least in theory, increases the likelihood that the Commonwealth will make its $450 million (GO and GO guaranteed) debt service payment on January 1,

Revenue "Clawback" will Primarily Impact Three Issuers

Issuer	Bonds Outstanding	Revenue Source	2016 Debt Service	Notes
Infrastructure Financing Authority	$1.9 bln	Federal Excise Tax on Rum	$112 mln	No debt service reserve fund.
Highway and Trans Authority	$4.6 bln	Petroleum Tax, Gasoline Tax, Tolls	$359 mln	January 1 interest likely to be paid made from reserve funds.
Convention Center District Authority	$0.4 bln	Hotel Room Taxes	$30 mln	January 1 interest likely to be paid from debt service reserve

Source: JFIS, PR Financials and Disclosure

On December 1, 2015, Puerto Rico's governor issued an executive order setting the mechanics of clawback in motion, instructing the Treasury Secretary to retain revenues assigned to the PR Highway and Transportation Authority and the Infrastructure Financing Authority (along with two smaller authorities with no public bond debt). The order also instructed the Puerto Rico Tourism Company to transfer to the Treasury money collected from hotel room tax collections, which would otherwise be used to pay debt service on bonds issued by the Convention Center District Authority.

The clawback scenario, at least in theory, increases the likelihood that the Commonwealth will make its $450 million (GO and GO guaranteed) debt service payment on January 1, but potentially at the expense of revenue streams that support PR Highway and Transportation Authority, PR Convention Center Authority and PR Infrastructure Financing Authority. Subsequent disclosure indicates that both the Highway and Transportation Authority and the Convention Center Authority will likely make January 1 payment from reserve funds, but PR Infrastructure Financing Authority has no reserve fund, so likelihood of a PRIFA default on January 1 is high.

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THE FEDS

Introduction of the two bills signals heightened Congressional interest in seeking solutions to Puerto Rico's fiscal challenges.

Although a few hearings have been held, and the Obama administration has said it supports Congressional action, which among other things would allow Puerto Rico to qualify for federal bankruptcy protection, there had been little real progress in Congress towards meaningful federal help for Puerto Rico. This may have changed last week with introduction of two Republican sponsored bills. Senate Finance Committee Chair, Orrin Hatch, along with two other Senate Committee Chairs, filed a bill which would provide as much as $3 billion of liquidity support to Puerto Rico and establish a federal control board with limited powers. Over in the House, a separate bill was introduced that would allow extension of federal bankruptcy laws to Puerto Rico's public corporations in exchange for PR acceptance of a federally appointed board. It's not clear that either bill will have sufficient Congressional support, but introduction of the two bills signals heightened Congressional interest in seeking solutions to Puerto Rico's fiscal challenges.

In other federal happenings, the US Supreme Court agreed to hear an appeal from Puerto Rico of a lower court ruling that struck down a June 2014 restructuring law passed by the PR legislature and signed by the Governor. The law established a bankruptcy-like process for Puerto Rico's Public Corporations. This could be particularly meaningful for PR Electric Power Authority, which has reached agreement with some of its larger bondholders for a debt exchange that on the face would provide new securities in amounts equal to 85% of the par value of outstanding debt. Bond insurers, a key part of negotiations, have yet to agree to restructuring terms with PREPA, and there are multiple other uncertainties. If the Supremes reverse the lower court ruling (decision expected in June) and uphold the restructuring law, PREPA would have less incentive to go along with the recently negotiated exchange. In a recent report, Moody's writes that it appears PREPA has the resources to make its nearly $200 million interest payment due on January 1.

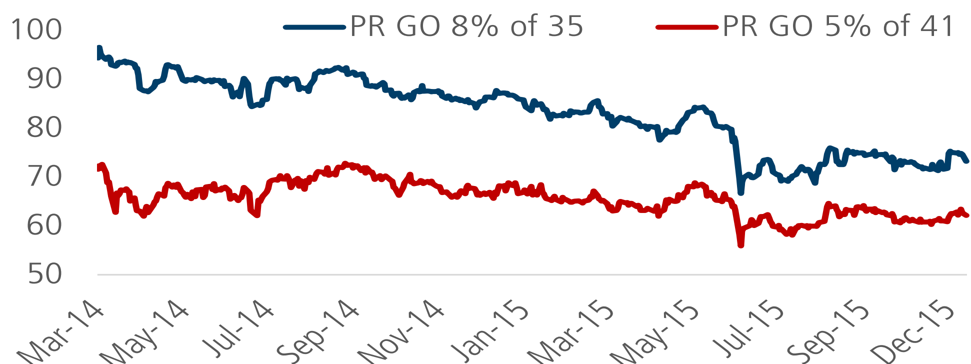
PUERTO RICO IN 2016

We do not recommend that individual investors own uninsured Puerto Rico bonds.

It appears increasingly likely that Puerto Rico will meet its general obligation debt service payment of January 1, allowing the government to continue restructuring discussions with bondholders. Were the Commonwealth to default on general obligation payments, litigation would be a likely next step, an outcome the Commonwealth seeks to avoid or at least delay. The July 1st payment, which is larger since it has a large principal component, is more problematic. We do not expect a grand deal or definitive resolution of the Commonwealth's debt crisis in 2016. To further complicate the situation, election season has arrived in both the mainland and in Puerto Rico.

Prices of uninsured Puerto Rico securities will continue to be volatile. We do not recommend that individual investors own uninsured Puerto Rico bonds. An outside influence on Puerto Rico bonds prices is the larger high yield market, which has seen significant price weakness in recent days. Puerto Rico bonds are mainstays of the municipal high yield universe. Outflows from high yield corporate mutual funds, for example, have been growing, while yields spreads between investment grade and high yield corporates are moving wider. This pressure has recently seeped into Puerto Rico bonds, with prices of the bellwether PR GO 8% of 2035 slipping by about 2 points over the past five trading days.

PR GO Bond Prices Have Been Falling



Source: Janney Fixed Income Strategy; MSRB EMMA, Bloomberg

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Hopefully the state's political leadership will reach agreement on a budget before further damage is done.

Rating Actions

Date	Issuer	Action	Current Ratings	Comments
11/3	Los Angeles Co MTA Sales Tax 1st Tier Sr.	Moody's Aa2 to Aa1	Aa1/AAA/NR	Strong debt service coverage, large and diverse economic base
11/4	Dallas	S&P AA+ to AA	Aa2/AA/NR	Rising pension liabilities, lack of plan to address. Follows Oct Moody's downgrade
11/4	PA School Dist State enhancement program	Moody's A2 to A3		Pre-default downgrade for 13 SDs and post default downgrade for 11.
11/6	San Diego Unified Sch Dist	Moody's Aa3 to Aa2	Aa2/AA-/NR	Improved financial position, large and diverse tax base, strong economic activity
11/9	Detroit Water and Sewer Sr Lien	S&P BBB+ to A-	Baa3/A-/BBB	Great Lakes Wtr Auth takeover, stabilized financial profile, up from CCC Aug 2014
11/12	NYC Muni Water	Moody's Aa2 to Aa1	Aa1/AA+/AA+	Strong legal structure, increasingly strong debt service coverage
11/20	Boston University	S&P A to A+	A1/A+/NR	Consistently good operating performance, competitive profile, growing resources
11/23	Massachusetts	S&P negative outlook	Aa1/AA+/AA+	Decline in financial reserves, suspension of transfers to budget stabilization fund
11/24	Luzerne County, PA	S&P BBB to BB+	NR/BB+/NR	Narrow liquidity aggravated by non-receipt of aid due to PA budget impasse
11/24	Oberlin College, OH	Moody's Aa2 to Aa3	Aa3/AA/NR	Diminished cash and investmnets, elevated debt burden
12/3	Hempstead Town NY	Moody's Aa1 to Aa2	Aa2/A+/NR	Structurally imbalanced operations, fund balance deterioration
12/8	Jefferson County, AL	Moody's Ba3 to Baa3	Baa3/NR/NR	Post bankruptcy recovery, very strong fund balances, improving & diversified economy

Source: Janney Fixed Income Strategy; Moody's, S&P, Fitch

PENNSYLVANIA BUDGET IMPASSE HURTS PENNSYLVANIA SCHOOL DISTRICT CREDITS

Pennsylvania's budget gridlock is having a particularly negative impact on school districts in the state, which to varying degrees rely on state aid for part of their revenue stream. Many districts have achieved lower borrowing costs over the years by using a credit rating based on Pennsylvania's state aid intercept mechanism. Although this may not be important for a AA rated district, it can be very meaningful to a district rated BBB based on its own underlying credit fundamentals. Typically S&P assigned an A rating to such a school district based on Pennsylvania's state aide intercept program whereby when a school district defaults on a debt service payment, the state thereafter remits appropriated state aid to the bond paying agent, rather than the district. This allows the district to borrow at a lower interest cost, commensurate with an A rating, rather than the higher rate charged for BBB rated bonds.

These state aid payments have stopped since the state has no budget (5 ½ months late and counting), and has therefore appropriated no state aid. Less wealthy districts are seeing liquidity dry up and several have discussed whether they can afford to reopen after the holidays. In early November, Moody's lowered multiple school district intercept based ratings and late last week S&P withdrew its intercept based ratings completely for 59 school districts and community colleges. Ironically, one of the discussions points of budget negotiations between the Democratic governor's administration and the majority Republican legislature has been the amount of aid for schools, although the list of contentious issues also includes pension reform and potential tax increases. Hopefully the state's political leadership will reach agreement on a budget before further damage is done.

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Notes

- In State column, *denotes Issuer Credit Rating, theoretical since states issues no GO debt. These states borrow through appropriation backed and revenue debt.
- Source: Moody's, S&P, Fitch.
- Rating Outlook is Positive, Stable or Negative. W indicates on watch for potential rating change.
- Debt and Pension as % of GSP is from S&P based on 2013 data and is the states' debt per capita and unfunded pension liability per capita divided by gross state product per capita. This is indicator of the state's liabilities relative to its economic strength.
- Median Household Income from US Census Bureau Community Survey (Dec 2013)
- Unemployment Rate is from Bureau of Labor Statistics.
- Spread to MMD is Municipal Market Data benchmark yield for states' 10 year general obligation bond minus MMD AAA generic benchmark yield. This is an indication of states' relative trading value. Higher spread (higher yield) is indicative of lower perceived value.
- Change indicates how much spread has changed since Jan 2015. Green (-) means spread has tightened and perceived value has improved.
- Days of General Funds in Reserve are from Pew Trusts. Reserves include rainy day funds.

State Ratings (December 14, 2015)

State	Ratings & Outlooks Moodys/ S&P/Fitch		Debt and Pension as % of GSP	Median Household Income	UE Rate Oct 15	Spread to MMD 10 Year 12-14-15	Change since Jan 2015	Days of General Fund Reserves	Federal Share of State Rev in 2013
Alabama	Aa1/AA/AA+	S/S/S	10.0%	$42,849	5.9%	9	3 bps	22.8	36.1%
Alaska	Aaa/AAA/AAA	N/N/S	17.0%	$72,237	6.4%	9	4 bps	298.6	22.4%
Arizona*	Aa2/AA/NR	S/S/-	7.4%	$48,510	6.1%	25	-5 bps	13.0	34.8%
Arkansas	Aa1/AA/NR	S/S/-	6.4%	$40,511	5.1%	8	1 bps	0.0	32.9%
California	Aa3/AA-/A+	S/S/S	9.2%	$60,190	5.8%	20	-4 bps	4.6	25.0%
Colorado *	Aa1/AA/NR	S/S/-	9.5%	$58,823	3.8%	18	-1 bps	20.9	27.8%
Connecticut	Aa3/AA/AA	S/N/S	17.5%	$67,098	5.1%	45	16 bps	8.0	23.4%
Delaware	Aaa/AAA/AAA	S/S/S	5.3%	$57,846	5.1%	-1	-1 bps	51.3	24.8%
Florida	Aa1/AAA/AAA	S/S/S	5.7%	$46,036	5.1%	14	2 bps	37.9	31.5%
Georgia	Aaa/AAA/AAA	S/S/S	6.2%	$47,829	5.7%	0	1 bps	19.5	37.3%
Hawaii	Aa2/AA/AA	P/S/S	19.3%	$68,020	3.3%	17	-2 bps	38.1	21.5%
Idaho*	Aa1/AA+/AA+	S/S/S	4.0%	$46,783	4.0%	18	-2 bps	27.8	34.4%
Illinois	Baa1/A-/BBB+	N/NW/S	18.8%	$56,210	5.4%	170	30 bps	4.1	25.9%
Indiana*	Aaa/AAA/AAA	S/S/S	5.4%	$47,529	4.4%	12	0 bps	48.0	33.4%
Iowa*	Aaa/AAA/AAA	S/S/S	4.3%	$52,229	3.5%	12	0 bps	57.8	31.9%
Kansas*	Aa2/AA/NR	S/N/-	9.1%	$50,972	4.1%	18	1 bps	4.2	24.9%
Kentucky*	Aa2/A+/AA-	S/N/S	20.0%	$43,399	4.9%	20	-1 bps	5.7	35.1%
Louisiana	Aa2/AA/AA	N/N/S	10.2%	$44,164	6.2%	41	22 bps	20.2	41.9%
Maine	Aa2/AA/AA	S/S/S	7.0%	$46,974	4.3%	9	1 bps	8.4	35.3%
Maryland	Aaa/AAA/AAA	S/S/S	8.9%	$72,483	5.1%	3	3 bps	18.8	28.6%
Massachusetts	Aa1/AA+/AA+	S/S/N	13.6%	$66,768	4.6%	12	-3 bps	11.8	28.7%
Michigan	Aa1/AA-/AA	S/P/S	9.9%	$48,273	5.0%	23	-6 bps	19.0	32.8%
Minnesota	Aa1/AA+/AA+	S/P/S	7.7%	$60,702	3.7%	5	-1 bps	33.9	26.4%
Mississippi	Aa2/AA/AA+	S/S/N	19.5%	$37,963	5.9%	25	6 bps	26.5	42.9%
Missouri	Aaa/AAA/AAA	S/S/S	6.5%	$46,931	5.0%	1	-2 bps	16.2	38.2%
Montana	Aa1/AA/AA+	S/S/S	7.3%	$46,972	4.1%	19	0 bps	56.2	37.4%
Nebraska*	NR/AAA/NR	-/S/-	2.3%	$51,440	2.9%	17	-2 bps	86.8	32.1%
Nevada	Aa2/AA/AA+	S/S/S	11.2%	$51,230	6.6%	24	1 bps	16.6	25.0%
New Hampshire	Aa1/AA/AA+	S/S/S	8.1%	$64,230	3.3%	8	-4 bps	7.1	27.1%
New Jersey	A2/A/A	N/S/S	15.8%	$70,165	5.4%	95	42 bps	4.4	25.5%
New Mexico	Aaa/AA+/NR	S/N/-	14.4%	$43,872	6.8%	9	-4 bps	28.3	36.6%
New York	Aa1/AA+/AA+	S/S/S	6.4%	$57,369	4.8%	5	-2 bps	44.9	28.0%
North Carolina	Aaa/AAA/AAA	S/S/S	2.3%	$45,906	5.7%	0	1 bps	11.8	32.5%
North Dakota*	Aa1/AAA/NR	S/S/-	4.5%	$55,759	2.8%	20	1 bps	141.3	19.0%
Ohio	Aa1/AA+/AA+	S/S/S	11.8%	$48,081	4.4%	16	-3 bps	21.0	33.6%
Oklahoma	Aa2/AA+/AA+	S/S/S	7.3%	$45,690	4.3%	20	0 bps	10.1	33.8%
Oregon	Aa1/AA+/AA+	S/S/S	3.0%	$50,251	6.0%	8	-2 bps	28.9	35.0%
Pennsylvania	Aa3/AA-/AA-	N/S/S	10.5%	$52,007	5.1%	47	16 bps	0.2	30.4%
Rhode Island	Aa2/AA/AA	S/S/S	11.8%	$55,902	5.3%	35	4 bps	19.1	33.6%
South Carolina	Aaa/AA+/AAA	S/S/S	10.8%	$44,163	5.6%	3	0 bps	55.2	30.2%
South Dakota*	NR/AAA/AA+	-/S/S	0.7%	$48,947	3.2%	20	-2 bps	38.9	39.0%
Tennessee	Aaa/AA+/AAA	S/P/S	1.7%	$44,297	5.6%	2	-1 bps	18.6	39.5%
Texas	Aaa/AAA/AAA	S/S/S	3.1%	$51,704	4.4%	15	6 bps	119.4	32.6%
Utah	Aaa/AAA/AAA	S/S/S	7.0%	$59,770	3.6%	-1	-1 bps	45.3	29.0%
Vermont	Aaa/AA+/AAA	S/S/S	6.9%	$52,578	3.7%	2	0 bps	19.7	33.2%
Virginia	Aaa/AAA/AAA	S/S/S	8.5%	$62,666	4.2%	-1	1 bps	11.9	22.9%
Washington	Aa1/AA+/AA+	S/S/S	6.4%	$58,405	5.2%	20	1 bps	27.8	27.3%
West Virginia	Aa1/AA/AA+	S/S/S	10.0%	$41,253	6.9%	13	-7 bps	105.3	34.1%
Wisconsin	Aa2/AA/AA	P/S/S	4.5%	$51,467	4.3%	17	-2 bps	0.0	27.7%
Wyoming*	NR/AAA/NR	-/S/-	3.8%	$58,752	4.0%	10	0 bps	197.8	35.2%
US Overall, Median or Average			7.50%	$52,250	5.0%	NA	NA	20.5	30.0%

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A lower acceptable rating on state debt, compared to many other sectors, reflects states' sovereign powers to adjust to fiscal challenges.

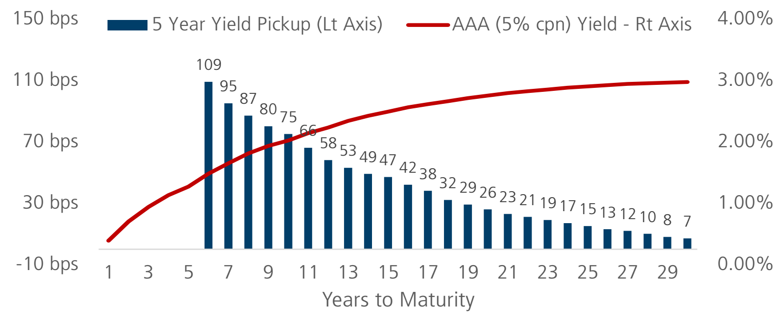
Our outlook for interest rates projects relatively stable 10 year yields and slightly lower 30 year yields over the next two years.

Municipal Portfolio Strategy and Data

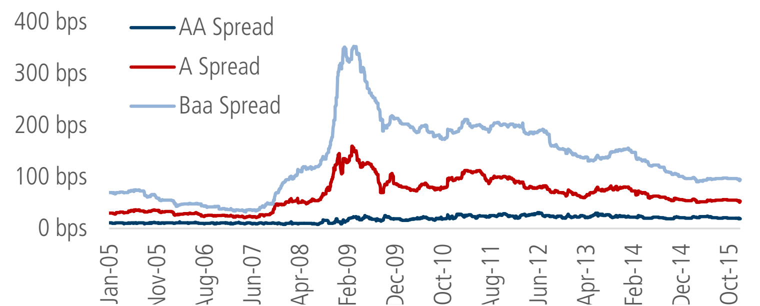
Sector Diversification is Important Strategy Component

Sector	Minimum Rating	Comments and Considerations	Target Allocation
State Government	Baa1/BBB+	Sovereign power to raise revenue or reduce expense, PA, IL budget impasse, pension challenges	15%
Special Tax	A1/A+	State and local. Sensitive to economic swings. Is there appropriation risk?	10%
Local Government	A2/A	Recovering post-recession. Property values/taxes stabilizing, consider management track record	10%
School District	A2/A	Essential function, state support and bond enhancement programs, charter risk	8%
Water and Sewer	Baa2/BBB	Essential function, consumers prioritize utility bills, future debt to finance mandated improvements	8%
Transportation	A2/A	Lower fuel costs a plus, favor international gateway airports, toll roads with less elastic demand	16%
Healthcare	Aa3/AA-	ACA uncertainty receding, consolidation continues, bigger better, favor Medicaid accepting states	8%
Higher Education	A1/A+	Enrollment challenges NE states, cautious re small less selective schools, revenue diversity a plus	8%
Public Power	A2/A	Revenue stability, low energy prices, regulatory challenges (carbon),	6%
Escrowed	Aa1/AA+	Treasury escrow best	5%

We Favor the 6 to 20 Year Section of the Yield Curve



Credit Spreads Are Near Post Recession Lows



Janney Rate Forecast (Treasuries) as of December 7, 2015

Rate	Current	2Q 2016	4Q 2016	4Q 2017
Fed Funds	0-.25%	.75%-1.00%	1.00%	1.50%
3m Bill	0.20%	0.52%	0.90%	1.16%
2yr Note	0.93%	1.09%	1.31%	1.44%
5yr Note	1.57%	1.84%	1.98%	1.81%
10yr Note	2.29%	2.24%	2.22%	2.14%
30yr Bond	3.03%	2.91%	2.86%	2.76%

Benchmark AAA Yields

Maturity	5% Coupon	Par
1Y	0.39%	0.45%
2Y	0.70%	0.73%
3Y	0.94%	1.01%
4Y	1.13%	1.20%
5Y	1.27%	1.41%
6Y	1.48%	1.62%
7Y	1.65%	1.83%
8Y	1.81%	2.04%
9Y	1.93%	2.20%
10Y	2.02%	2.30%
11Y	2.14%	2.51%
12Y	2.23%	2.64%
13Y	2.34%	2.80%
14Y	2.42%	2.95%
15Y	2.49%	3.08%
16Y	2.56%	3.32%
17Y	2.61%	3.49%
18Y	2.66%	3.58%
19Y	2.71%	3.65%
20Y	2.75%	3.74%
21Y	2.79%	3.85%
22Y	2.82%	4.02%
23Y	2.85%	4.10%
24Y	2.88%	4.15%
25Y	2.90%	4.20%
26Y	2.92%	4.28%
27Y	2.94%	4.34%
28Y	2.95%	4.36%
29Y	2.96%	4.37%
30Y	2.97%	4.42%

Source: Janney Fixed Income Strategy; Municipal Market Analytics, Thomson MMD

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Recent Reports from Janney's Fixed Income Strategy Group

- Munis in a Tightening Cycle – Historically, tax free bonds have outperformed taxable during periods of Fed Tightening.
- Our recent reports on Puerto Rico include commentary about restructuring of both the Electric Power Authority and other PR debt.
- State Credit Review – Political gridlock has led to budgetary paralysis in Pennsylvania and Illinois, resulting in a budget impasse and ensuing negotiations from which we hope to see meaningful pension reform.
- Connecticut Bond Review – This Janney report looks at various Connecticut bond issuers ranging from the state's GO and Transportation issues to higher education and healthcare borrowers including Yale University and Hartford Healthcare.
- Pension Obligation Bonds – Are pension obligation bonds as bad as some critics say? (hint – the answer begins with a Y)
- Fixed Income Weekly – Published on [most] Mondays, the Weekly includes market and economic commentary on Treasury, Corporate and Municipal Bond markets. Recent municipal topics include municipal tobacco bonds (Nov 2) and mutual fund flows (Oct 26).
- Interest Rate Forecast and FOMC Commentary – Interest Rate Forecasts and FOMC Commentary- Janney's Chief Fixed Income Strategist, Guy LeBas, publishes periodic forecasts of both short and long term interest rates as well as commentary analyzing results and communications from Federal Reserve FOMC meetings.
- Weekly Data Preview – Each week, Janney publishes a preview of the next week's economic data releases with projections and commentary.
- Janney's Issuance and Ratings Monitor – A weekly publication recapping the prior week's corporate new issue pricings as well as rating changes in both investment grade and high yield corporate bonds.

Municipal Bond Web Resources

As with most topics, there is a wealth of information available through internet sources that may be helpful to municipal bond investors. Many of these websites allow sign up so that email notification is sent when new reports are published.

- Pew Charitable Trusts – Pew produces reports and white papers on a variety of topics, many related to public finance. A 2010 report titled The Trillion Dollar Gap, (since updated) focused national attention on states' huge unfunded public pension liabilities. A recent report discusses Ways Governors Can Strengthen States' Long Term Fiscal and Economic Health.
- Rockefeller Institute of Government – In addition to regular reports on state tax revenue, information about municipal finance topics, particularly in New York State, are accessible through the website.
- National League of Cities – Each year NLC publishes its State of the Cities report which, through annual surveys of city leadership, identifies and comments upon the most important contemporary issues facing cities. Another report, City Fiscal Conditions 2015, analyzes elements and trends of city general funds
- National Association of State Budget Officers – NASBO site has information about state fiscal conditions and budget practices, including Fiscal Survey of States.
- Center for Retirement Research at Boston College – The CRR at BC produces working papers and other reports on state and local pension funding. Their public plans database has plan level data from over 150 state and local plans going back to 2001.
- The Volker Alliance – Led by former Fed Chair Paul Volker, this group produces reports on multiple topics including cities and states. A recent report titled Truth and Integrity in State Budgeting examines the process in California, New Jersey and Virginia.

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Definition of Outlooks

Positive: Janney FIS believes there are apparent factors which point towards improving issuer or sector credit quality which may result in potential credit ratings upgrades

Stable: Janney FIS believes there are factors which point towards stable issuer or sector credit quality which are unlikely to result in either potential credit ratings upgrades or downgrades.

Cautious: Janney FIS believes there are factors which introduce the potential for declines in issuer or sector credit quality that may result in potential credit ratings downgrades.

Negative: Janney FIS believes there are factors which point towards weakening in issuer credit quality that will likely result in credit ratings downgrades.

Definition of Ratings

Overweight: Janney FIS expects the target asset class or sector to outperform the comparable benchmark (below) in its asset class in terms of total return

Marketweight: Janney FIS expects the target asset class or sector to perform in line with the comparable benchmark (below) in its asset class in terms of total return

Underweight: Janney FIS expects the target asset class or sector to underperform the comparable benchmark (below) in its asset class in terms of total return

Benchmarks

Asset Classes: Janney FIS ratings for domestic fixed income asset classes including Treasuries, Agencies, Mortgages, Investment Grade Credit, High Yield Credit, and Municipals employ the "Barclay's U.S. Aggregate Bond Market Index" as a benchmark.

Treasuries: Janney FIS ratings employ the "Barclay's U.S. Treasury Index" as a benchmark.

Agencies: Janney FIS ratings employ the "Barclay's U.S. Agency Index" as a benchmark.

Mortgages: Janney FIS ratings employ the "Barclay's U.S. MBS Index" as a benchmark.

Investment Grade Credit: Janney FIS ratings employ the "Barclay's U.S. Credit Index" as a benchmark.

High Yield Credit: Janney FIS ratings for employ "Barclay's U.S. Corporate High Yield Index" as a benchmark.

Municipals: Janney FIS ratings employ the "Barclay's Municipal Bond Index" as a benchmark.

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