Municipal Bond Market Monthly
State Credit Edition–Focus on PA

JANNEY FIXED INCOME STRATEGY

August 27, 2015

Pennsylvania's budget gridlock continues. We hope to see meaningful pension reform emerge from the protracted process. Despite timing delays on state aid, we believe PA school district debt service payments will be paid on time.

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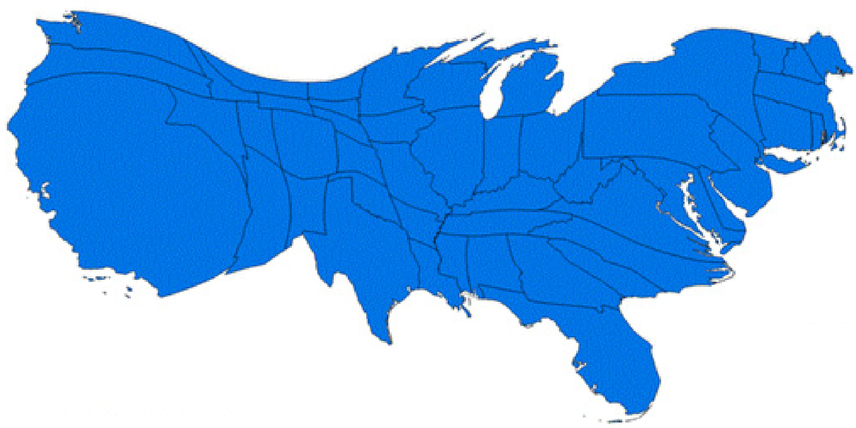
Based on Property Values, Texas is Not the Largest Lower 48 State



Source: Zillow via Vox.com

A Tale of Two States (and One Territory)

- New Jersey paid a price for poor pension funding and related rating downgrades with its $2.2 billion issue, the largest of the week.
- California, benefiting from an economic tailwind and recent upgrades, borrowed $1.9 billion, primarily to refund outstanding debt.
- Puerto Rico is stalled on its $750 million issue for the Aqueduct and Sewer Authority as we await the Commonwealth's restructuring plan.

Although we've seen hints of summer doldrums in August, the final week received a boost in the form of multi-billion dollar issues from New Jersey and California. The tales of these two states are divergent. New Jersey (A2/A/A) has been downgraded twice by each of the three rating agencies in the past 18 months, with deteriorating pension funding the underlying dynamic. The economy has not helped. New Jersey's post-recession recovery lagged the nation's. Missed revenue targets have forced mid-year spending cuts, including reductions to promised pension contributions. In contrast, California (Aa3/AA-/A+), has seen a robust post-recession recovery, with revenue typically exceeding estimates, which supported 4 rating upgrades (2 from S&P) in the last 18 months.

New Jersey paid the price for deteriorating credit with this week's $2.2 billion New Jersey EDA – School Building Construction Bond (A3/A-/A-) issue, which like most of the state's general fund debt is appropriation backed and so was rated a notch below the state's GO rating. The longest maturity bonds, 5.25% coupons maturing in 2040, were offered at a 5.10% yield to the call. The last state new issue we saw carrying a 5% yield was Illinois in early 2014. California's $1.9 billion issue had no 25 year maturity, but 5% coupon bonds in 2035 and 2045 carried yields of 3.26% and 3.47% respectively.

The other sizeable issue which was scheduled to sell in late August was $750 million Puerto Rico Aqueduct and Sewer Authority (Caa3/CCC-/CC). Marketing of the 30 year maturity last week with a reported 10% yield garnered insufficient interest from investors so the deal is listed as day to

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day as the month winds down. Investor caution is understandable given the August 1st default by Puerto Rico Public Finance Corp and the uncertainty in the run-up to release the Commonwealth's restructuring plan, which is promised by month end. Trading levels of the bellwether Puerto 8% of 2035 have been relatively stable (for Puerto Rico) in August with prices on block trades ranging from 67.87 to 72.93 which equates to a yield range of 11.47% to 12.38%.

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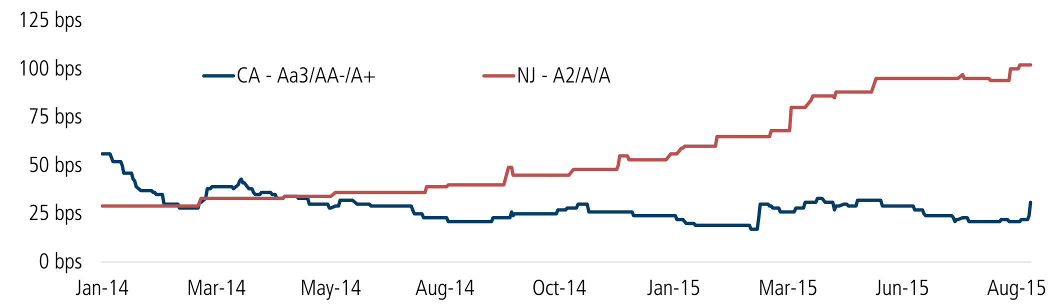
A Tale of Two States—Divergent Credit Spreads



Source: Janney Fixed Income Strategy; Thomson Reuters MMD - 10 year GO credit spreads

PENNSYLVANIA'S BUDGET IMPASSE

- Political gridlock has led to two months (and counting) of budgetary paralysis in Pennsylvania and Illinois.
- In Illinois, budget related failure to appropriate funds for debt service has been resolved, but only after a 7 notch downgrade of Met Piers from S&P and a similar rating cut from Fitch.
- Pennsylvania's plan to issue $3 billion of pension bonds doesn't address fiscal imbalance, but hopefully more meaningful pension reform will emerge from negotiations.
- Although the budget impasse stops aid payments to school districts, we believe school district debt service will be paid on time.

With last year's rating downgrades from Moody's, Fitch and S&P, Pennsylvania (Aa3/AA-/AA-) is often ranked with New Jersey (A2/A/A) and Illinois (A3/A-/A-), along with recently upgraded California (Aa3/AA-/A+), at the bottom of the state credit ladder. And like the state currently on the bottom rung, Illinois, Pennsylvania's situation is aggravated by a budget impasse. Although the fiscal year for both states began on July 1st, neither have an approved budget for the current fiscal year. Politically divided government underlies the problem in both cases. Governor Wolf of Pennsylvania, a Democrat, is dealing with a Republican legislature while Republican Governor Rauner of Illinois has to reach agreement with a Democratic legislative majority. As noted elsewhere in this publication, Illinois has already seen negative impact from the gridlock in the form of super downgrades to Metropolitan Pier and Exposition Authority (Baa1/BBB+/BBB+).

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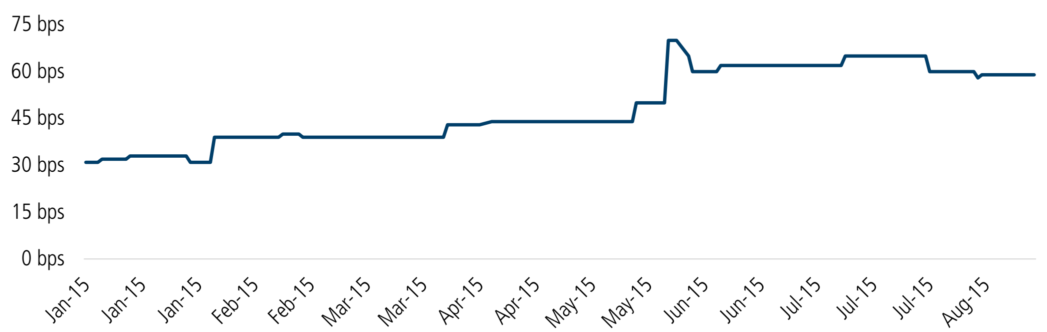
After Widening in the First Half of the Year, PA Credit Spreads Have Stabilized



Source: Janney Fixed Income Strategy; Thomson Reuters - 10 year maturity

Pension reform is critical to achieving structural balance going forward, and we hope meaningful reforms are included in any final package.

The Pennsylvania governor's proposed budget closes an estimated $1.7 billion hole and funds increased expenditures with sales and income tax increases and a new severance tax on natural gas, although the corporate net income tax rate would be reduced under the plan. Education spending at both the K-12 and higher education levels would increase. Given the state's challenges with its underfunded pension plans (which underlie recent downgrades), pension reform is critical to achieving structural balance going forward, and we hope meaningful reforms are included in any final package. The governor's proposal includes issuance of $3 billion pension obligation bonds, with proceeds used to reduce the unfunded liability of the Public School Employees Retirement system (PSERS). Under the proposal, debt service would be paid with profits from the state's liquor store system (which many legislators believe should be privatized). As we noted in a recent report on Pension Obligation Bonds, we are skeptical of the benefits of such a strategy and do not consider it a reform. Replacing a pension liability with a hard debt liability, as this proposal would do, does not reduce the liability, but rather moves it from one line on the balance sheet (pension liability) to another (debt). Other proposals included in budget negotiations would use a defined contribution structure, such as 401(k), for future state employees and possibly move current employees into a hybrid of defined contribution and defined benefit plans. Such reforms would certainly be more meaningful, although the financial benefits would be significant only in the longer time frame.

School Districts and the State's Intercept Program

Like many states, Pennsylvania supports school district borrowing for capital expenses with an enhancement program designed to lower the borrowing costs of many districts. Pennsylvania's Public School Code provides that if a school district fails to make a scheduled debt service payment, the state Secretary of Education "shall withhold from any Commonwealth appropriation due such school district an amount equal to the sum of such principal amount maturing or subject to mandatory redemption and interest owing by such school district, and shall pay over such amount directly to the bank acting as sinking fund depositary for the bond issue." In most cases this intercept of state aid is a post-default feature, meaning that the state will redirect state aid after it learns of a default, which could result in a delay (probably a few days) in payments to bondholders. As a practical matter, a proactive approach by the Department of Education has recently led to pre-default intervention. Penn Hills School District, located outside of Pittsburgh, notified the state that it did not have the resources to pay an April 1, 2015 debt service payment, so the state made the payment and bondholders received principal and interest payments without interruption.

Since school aid is subject to annual appropriation, Pennsylvania's budget impasse could have an impact on school districts and the timing of state aid payments.

Eight School Districts Downgraded to Baa or Lower by Moody's Since March 2015

School District	Date of Action	Prior Rating	New Rating
Mid Valley School District	7/1/2015	A3 negative	Baa3 negative
McKeesport Area School District	6/29/2015	A3 negative	Ba1 negative
East Allegheny School District	6/22/2015	Baa3 negative	Ba3 negative
York City School District	6/17/2015	Baa2 negative	Baa3 negative
West Mifflin School District	5/13/2015	A3	Baa3 negative
Trinity Area School District	4/16/2015	A2 negative	Baa1 negative
Frazier School District	4/9/2015	Baa1 negative	Baa3 negative
Penn Hills District	4/2/2015	Baa1 negative	B3 negative

Source: Janney Fixed Income Strategy; Moody's

Several fiscally challenged school districts, including Philadelphia School District, issue bonds under a pre-default program whereby the state remits debt service payments directly to the paying agent before the due date. According to a recent Moody's report, Penn Hills plans to issue $20 million of bonds under the pre-default program in the near future. Ratings for school districts often become quite complicated when these intercept programs are considered. For example Penn Hills SD is rated B3 by Moody's based on its own creditworthiness, B1 based on the post default intercept program, which secures outstanding debt, and Baa1 for the expected new issue based on use of the pre-default program. To add to the confusion, S&P uses differing methodology which gives more weight to the state's intercept program, generating an A rating for Penn Hills based on the state intercept.

Since school aid is subject to annual appropriation, Pennsylvania's budget impasse could have an impact on school districts and the timing of state aid payments. We believe the Department of

Education will work with school districts to assure prompt payments to bondholders. A recent Fitch report notes that the first school district aid payment of the current fiscal year, typically paid on the last Thursday in August (today), will not be made since no budget has been approved, but the commonwealth has already engaged with participating at-risk school districts such as the Philadelphia School District and Chester Upland School District to ensure debt service payments on enhanced bonds will be made. Measures in support of schools include assisting school districts in securing lines of credit collateralized with future state aid payments." Based on Pennsylvania's strong intercept program and a history of proactivity on the part of the Department of Education, we expect no interruption of debt service payments for state school districts.

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Recent Reports from Janney's Fixed Income Strategy Group

- Pennsylvania Higher Education – Enrollment declines at Pennsylvania's State System of Higher Education underlie eroding operating margins, while healthcare exposure is a growing credit for Penn State and Temple. This Janney report also reviews systemic risk from the Puerto Rico saga.
- 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.
- Public Pension Funding Cloud - Public pension plan funding is a growing issue for state and local governments. This Janney report considers the cloud overhanging the municipal bond market, with discussion of new GASB reporting standards, as well as funding shortfalls in New Jersey and Chicago.
- 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 mutual fund flows and M/T ratios (Aug 24), the evolving investor base of tax-free bonds (Aug 17), and municipal rating action trends (Aug 10).
- Interest Rate Forecast 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.
- Second Quarter Bank Earnings Results – Report from Jody Lurie, Janney's Corporate Credit Analyst, examines bank earnings results for 15 largest US banks.

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Rating Action Updates

Date	Issuer	Agency		Rating		Outlook	Current Ratings	Comments
7/27/2015	Cincinnati, OH	Moody's		Aa2	↑	S	Aa2/AA-/NR	Economic recovery and retirement system agreement
7/30/2015	Detroit, MI	Moody's		B3 to B2	↑	P	B2/B/NR	Improved financial position post bankruptcy
7/30/2015	New Haven, CT	S&P	↑	BBB+ to A-		S	A3/A-/A-	Balanced budget and strong operations
7/30/2015	New Haven, CT	Fitch		A-	↑	S	A3/A-/A-	Balanced budget and strong operations
8/3/2015	Atlantic City, NJ	S&P	↓	BB to B		N (W)	Caa1/B/NR	Uncertainty regarding the long-term fiscal stability
8/5/2015	Minnesota	S&P		AA+	↑	P	Aa1/AA+/AA+	Deferred liabilities paid, structural balance
8/5/2015	Metro Pier and Expo, IL	S&P	↓	AAA to BBB+	↓	N (W)	Baa1/BBB+/BBB+	IL budget impasse delays appropriation
8/5/2015	Metro Pier and Expo, IL	Fitch	↓	AA- to BBB+	↓	N	Baa1/BBB+/BBB+	IL budget impasse delays appropriation
8/6/2015	Detroit, MI Dist State Aid	Moody's	↑	Aa3 to Aa2		S	Aa2/AA/NR	Direct state aid intercept, MI rating upgraded Jul 2015
8/7/2015	Greenville, NC Util Comm	Moody's	↑	Aa3 to Aa2		S	Aa2/A+/AA-	Improved financial operations, sale of generation assets
8/10/2015	Philadelphia, PA Airport	S&P	↓	A+ to A		S	A2/A/A	Borrowing plans, carrier concentration
8/14/2015	St Louis, MO	Moody's	↓	Aa3 to A1		S	A1/A+/AA-	Weak socioeconomic profile, reliance on income tax
8/14/2015	Chicago, IL Bd of Ed	S&P	↓	BBB to BB		N	Ba3/BB/BB+	Structural imbalance, low liquidity
8/14/2015	Rider College, NJ	S&P	↓	BBB+ to BBB		S	Baa2/BBB/NR	Weaker operating rev on declining enrollment
8/18/2015	Alaska	S&P		AAA	↓	N	Aaa/AAA/AAA	Large structural deficit in general fund
8/18/2015	New Jersey	Fitch		A	↑	P	A2/A/A	Lower near term budget risks, improved revenue
8/18/2015	PR Aqu and Sewer Auth	S&P		CCC-	↓	N (W)	Caa3/CCC-/CC	Exposure to potential restructuring efforts
8/18/2015	St Lucie FL Sch Bd COPs	Moody's	↓	Aa3 to A1		S	A1/A/A+	Low general fund reserves

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

Notable Downgrade

Metropolitan Pier and Exposition Authority, Illinois was downgraded with about $3.3 billion outstanding received 2 super downgrades. Revenues securing these bonds, comprised primarily of tourism related taxes (with state sales tax available as a back-up revenue source), are more than sufficient to make debt service payments, but the revenues, which are held in the authority's expansion project fund, can be transferred to the bond trustee only if appropriated by the Illinois State legislature. The state's budget impasse prevented this appropriation, so a $20.8 million transfer to the trustee scheduled for July was not made. There was no payment default since the debt service payment is not due until December, but the technical default further tarnished the state's spotty fiscal reputation. In light of non-appropriation, both S&P and Fitch downgraded ratings (S&P AAA to BBB+ and Fitch AA- to BBB+), now treating the bonds as state appropriation debt (with rating a notch below state GO rating) rather than as special tax bonds. Moody's, with a Baa1 rating, has historically rated Met Pier's as appropriation bonds, linking its rating to that of IL. Late last week the governor signed legislation allowing the Authority to make its upcoming debt payment, but the damage has been done on the rating side.

Notes (State Ratings Table, page 6)

- * denotes Issuer Credit Rating, which is theoretical since the state issues no general obligation debt. These states borrow through appropriation backed and revenue debt.
- Source for ratings is Moody's, S&P and 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 is from US Census Bureau American Community Survey as of 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 the beginning of 2015. Green (-) means spread has tightened and perceived value has improved.
- Predicted Growth Rate is from Federal Reserve of Philadelphia. This projects states' six month economic growth rate based on economic indicators including employment data, housing data and manufacturing survey data.

State Ratings (Aug 27, 2015)

State	Ratings Moodys/S&P/ Fitch	Rating Outlook	Debt and Pension as % of GSP	Median Household Income	UE Rate Jul 15	Spread to MMD 10Y 8-26-15	Change since Jan 2015	Predicted Growth Rate
Kentucky*	Aa2/AA-/AA-	S/N/S	20.0%	$43,399	5.2%	20 bps	-1 bps	2.6%
Mississippi	Aa2/AA/AA+	S/S/N	19.5%	$37,963	6.5%	22 bps	3 bps	2.4%
Hawaii	Aa2/AA/AA	S/S/S	19.3%	$68,020	3.7%	20 bps	1 bps	1.8%
Illinois	A3/A-/A-	N/NW/N	18.8%	$56,210	5.8%	195 bps	55 bps	1.8%
Connecticut	Aa3/AA/AA	S/N/S	17.5%	$67,098	5.4%	49 bps	20 bps	3.7%
Alaska	Aaa/AAA/AAA	N/N/S	17.0%	$72,237	6.7%	10 bps	5 bps	-1.1%
New Jersey	A2/A/A	N/S/S	15.8%	$70,165	5.9%	102 bps	49 bps	4.3%
New Mexico	Aaa/AA+/NR	S/N/-	14.4%	$43,872	6.5%	9 bps	-4 bps	-0.1%
Massachusetts	Aa1/AA+/AA+	S/S/S	13.6%	$66,768	4.7%	16 bps	1 bps	2.4%
Ohio	Aa1/AA+/AA+	S/S/S	11.8%	$48,081	5.0%	18 bps	-1 bps	1.3%
Rhode Island	Aa2/AA/AA	S/S/S	11.8%	$55,902	5.8%	45 bps	14 bps	2.2%
Nevada	Aa2/AA/AA+	S/S/S	11.2%	$51,230	6.8%	24 bps	1 bps	2.8%
South Carolina	Aaa/AA+/AAA	S/S/S	10.8%	$44,163	6.4%	3 bps	0 bps	NA
Pennsylvania	Aa3/AA-/AA-	S/S/S	10.5%	$52,007	5.4%	59 bps	28 bps	1.3%
Louisiana	Aa2/AA/AA	N/N/S	10.2%	$44,164	6.2%	47 bps	28 bps	1.6%
West Virginia	Aa1/AA/AA+	S/S/S	10.0%	$41,253	7.5%	13 bps	-7 bps	1.6%
Alabama	Aa1/AA/AA+	S/S/S	10.0%	$42,849	6.2%	8 bps	2 bps	0.9%
Michigan	Aa1/AA-/AA	S/P/S	9.9%	$48,273	5.3%	25 bps	-4 bps	1.6%
Colorado *	Aa1/AA/NR	S/S/-	9.5%	$58,823	4.3%	18 bps	-1 bps	1.1%
California	Aa3/AA-/A+	S/S/S	9.2%	$60,190	6.2%	31 bps	7 bps	2.2%
Kansas*	Aa2/AA/NR	S/N/-	9.1%	$50,972	4.6%	18 bps	1 bps	0.1%
Maryland	Aaa/AAA/AAA	S/S/S	8.9%	$72,483	5.2%	5 bps	5 bps	2.7%
Virginia	Aaa/AAA/AAA	S/S/S	8.5%	$62,666	4.8%	-1 bps	1 bps	2.1%
New Hampshire	Aa1/AA/AA+	S/S/S	8.1%	$64,230	3.7%	9 bps	-3 bps	1.9%
Minnesota	Aa1/AA+/AA+	S/P/S	7.7%	$60,702	4.0%	6 bps	0 bps	1.2%
Arizona*	Aa2/AA/NR	S/S/-	7.4%	$48,510	6.1%	30 bps	0 bps	1.3%
Oklahoma	Aa2/AA+/AA+	S/S/S	7.3%	$45,690	4.5%	20 bps	0 bps	-0.5%
Montana	Aa1/AA/AA+	S/S/S	7.3%	$46,972	4.0%	19 bps	0 bps	0.9%
Utah	Aaa/AAA/AAA	S/S/S	7.0%	$59,770	3.6%	0 bps	0 bps	2.4%
Maine	Aa2/AA/AA	S/S/S	7.0%	$46,974	4.6%	9 bps	1 bps	1.5%
Vermont	Aaa/AA+/AAA	S/S/S	6.9%	$52,578	3.6%	5 bps	3 bps	1.2%
Missouri	Aaa/AAA/AAA	S/S/S	6.5%	$46,931	5.8%	3 bps	0 bps	0.9%
Arkansas	Aa1/AA/NR	S/S/-	6.4%	$40,511	5.6%	11 bps	4 bps	1.6%
New York	Aa1/AA+/AA+	S/S/S	6.4%	$57,369	5.4%	5 bps	-2 bps	2.8%
Washington	Aa1/AA+/AA+	S/S/S	6.4%	$58,405	5.3%	23 bps	4 bps	1.6%
Georgia	Aaa/AAA/AAA	S/S/S	6.2%	$47,829	6.0%	0 bps	1 bps	2.2%
Florida	Aa1/AAA/AAA	S/S/S	5.7%	$46,036	5.4%	13 bps	1 bps	2.8%
Indiana*	Aaa/AAA/AAA	S/S/S	5.4%	$47,529	4.7%	12 bps	0 bps	2.6%
Delaware	Aaa/AAA/AAA	S/S/S	5.3%	$57,846	4.7%	-1 bps	-1 bps	0.3%
North Dakota*	Aa1/AAA/NR	S/S/-	4.5%	$55,759	3.0%	20 bps	1 bps	-1.0%
Wisconsin	Aa2/AA/AA	P/S/S	4.5%	$51,467	4.6%	17 bps	-2 bps	-0.9%
Iowa*	Aaa/AAA/AAA	S/S/S	4.3%	$52,229	3.8%	12 bps	0 bps	1.4%
Idaho*	Aa1/AA+/AA+	S/S/S	4.0%	$46,783	4.1%	18 bps	-2 bps	2.2%
Wyoming*	NR/AAA/NR	-/S/-	3.8%	$58,752	4.1%	10 bps	0 bps	-0.3%
Texas	Aaa/AAA/AAA	S/S/S	3.1%	$51,704	4.2%	18 bps	7 bps	1.4%
Oregon	Aa1/AA+/AA+	S/S/S	3.0%	$50,251	5.9%	9 bps	-1 bps	0.0%
North Carolina	Aaa/AAA/AAA	S/S/S	2.3%	$45,906	5.9%	0 bps	1 bps	1.9%
Nebraska*	NR/AAA/NR	-/S/-	2.3%	$51,440	2.7%	17 bps	-2 bps	0.5%
Tennessee	Aaa/AA+/AAA	S/S/S	1.7%	$44,297	5.7%	3 bps	0 bps	1.9%
South Dakota*	NR/AAA/AA+	-/S/S	0.7%	$48,947	3.8%	20 bps	-2 bps	3.0%
US Overall, Median or Average			**7.50%**	**$52,250**	**5.3%**	**NA**	**NA**	**1.4%**

Source: Janney Fixed Income Strategy; See Note, page 5

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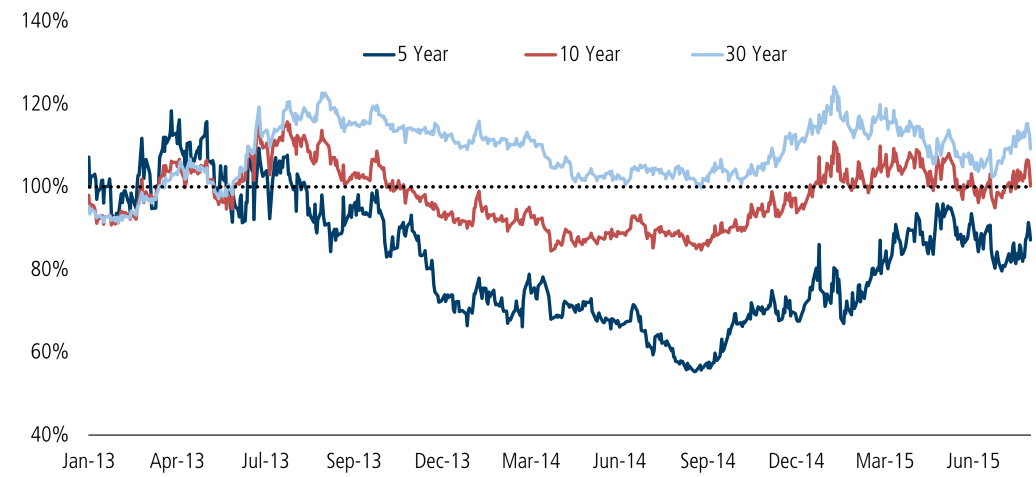
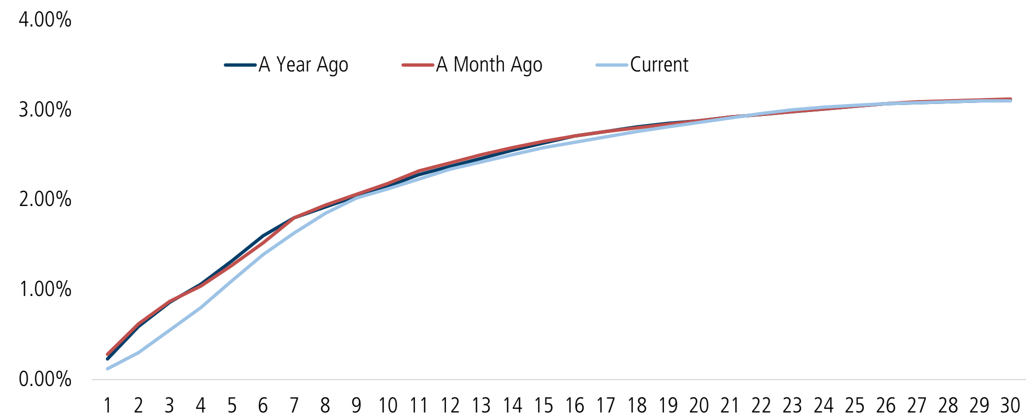
10 year M/T ratios above 100% represent an attractive proposition for high bracekt investors.

After narrowing in the spring, credit spreads have been stable through the summer.

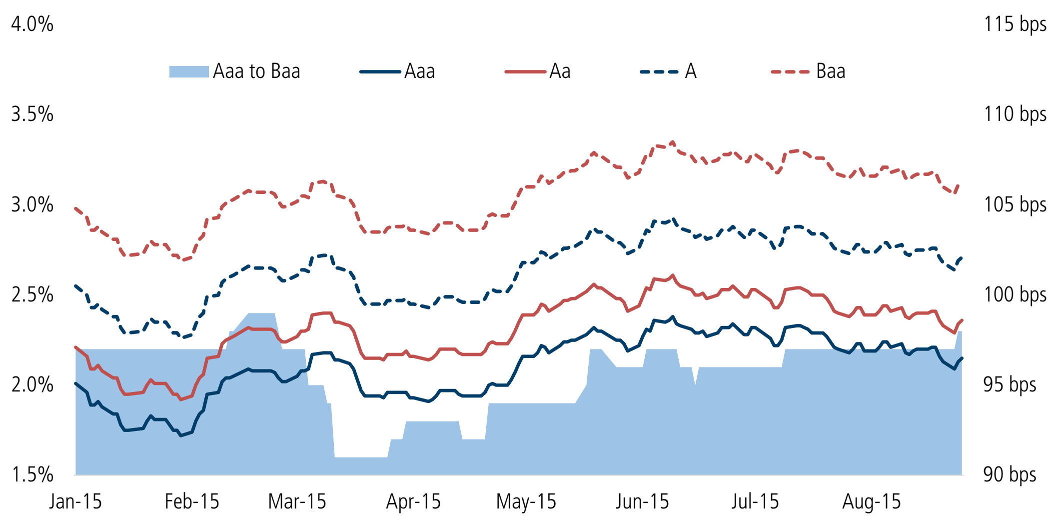
Municipal/Treasury Ratios



Tax Free Yield Curve AAA (Years to Maturity)



Yields and Credit Spreads (10 Year Maturities)



Source: Janney Fixed Income Strategy; MMA; MMD

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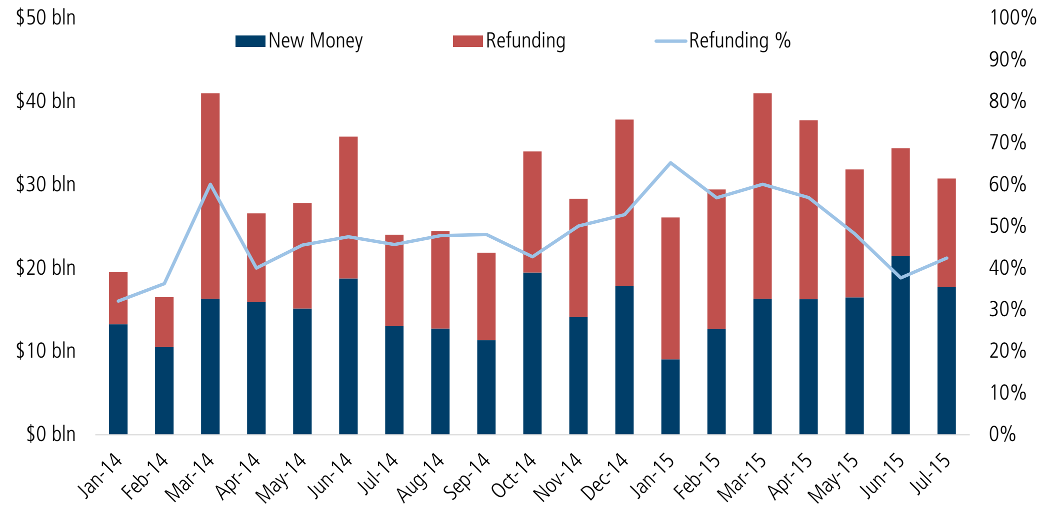
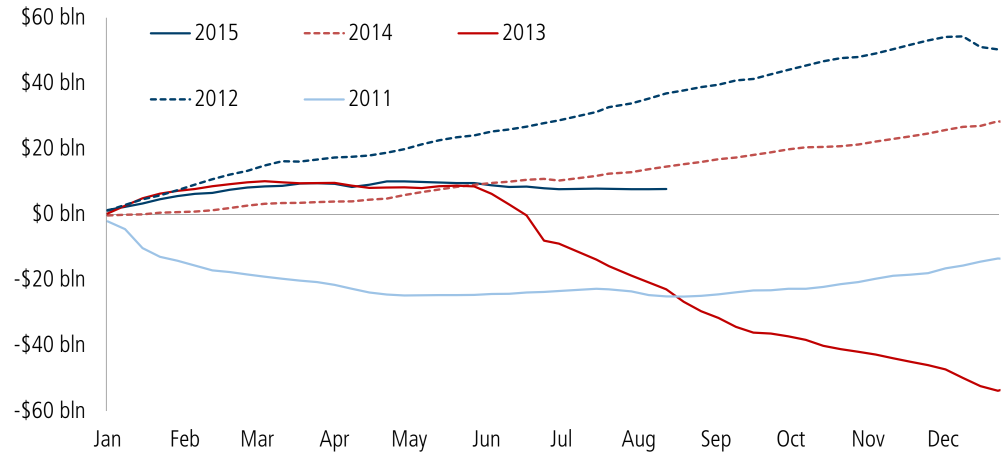
2015 new issue volume is well ahead of last year's.

After a strong start in past months, fund flows have turned mildly negative.

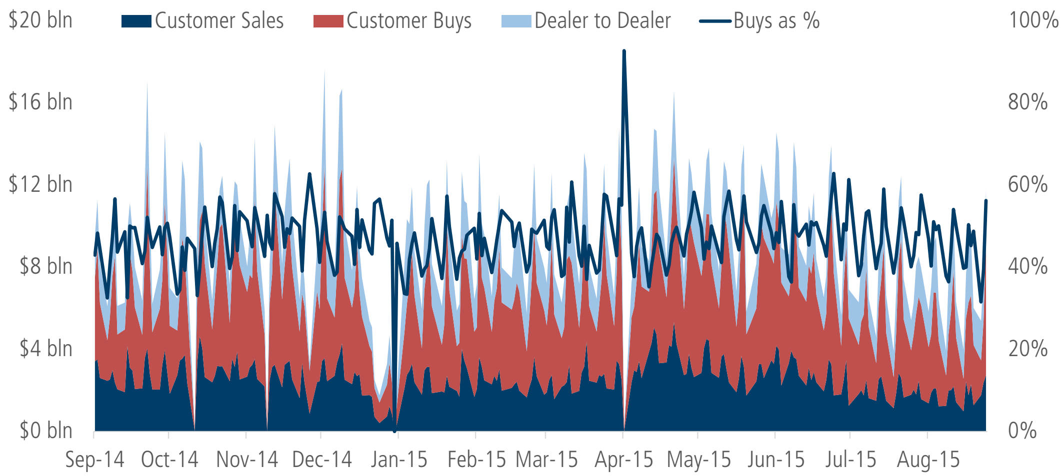
New Issue Volume



Cumulative Mutual Fund Flows



MSRB Trading Volume



Source: Janney Fixed Income Strategy; Bond Buyer Interest Company Institute

Analyst Certification

I, Alan Schankel,the Primarily Responsible Analyst for this report, hereby certify that all of the views expressed in this report accurately reflect my personal views about any and all of the subject sectors, industries, securities, and issuers. No part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this research report.

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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