State Credit Update & DataBank

Fixed Income Strategy

October 21, 2016

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Page 2 Focus

Illinois - Second S&P Downgrade in Four Months

Divergence of State Higher Ed funding and Tuition Costs

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State	Ratings Moody's/ S&P/Fitch	YoY Tax Rev 1st Qtr 2016 Δ	UE Rate Sep 2016	% Δ in State Higher Ed Spending per Student 2008-2016	% Δ in Tuition for Public Colleges 2008-2016	2016 State Gas Taxes/ Gal	Spread to MMD 10 Year 10-13-2016	Spread Change Since 12-31-15
Alabama	Aa1/AA/AA+	1.2%	5.4%	-36.2%	62.7%	$ 0.209	12 bps	1 bps
Alaska	Aa2/AA+/AA+	59.8%	6.8%	-0.6%	29.9%	$ 0.123	32 bps	23 bps
Arizona*	Aa2/AA/NR	3.1%	5.8%	-55.6%	87.8%	$ 0.190	22 bps	-3 bps
Arkansas	Aa1/AA/NR	9.4%	3.9%	-9.8%	22.9%	$ 0.218	9 bps	1 bps
California	Aa3/AA-/AA-	3.7%	5.5%	-3.2%	63.8%	$ 0.406	22 bps	8 bps
Colorado *	Aa1/AA/NR	0.5%	3.8%	-8.4%	56.9%	$ 0.220	18 bps	0 bps
Connecticut	Aa3/AA-/AA-	2.2%	5.6%	-10.9%	31.6%	$ 0.375	52 bps	12 bps
Delaware	Aaa/AAA/AAA	4.9%	4.3%	-28.8%	30.8%	$ 0.230	-1 bps	0 bps
Florida	Aa1/AAA/AAA	3.8%	4.7%	-22.7%	64.3%	$ 0.366	12 bps	-2 bps
Georgia	Aaa/AAA/AAA	13.5%	4.9%	-19.8%	76.7%	$ 0.310	0 bps	0 bps
Hawaii	Aa1/AA+/AA	4.0%	3.4%	-14.9%	77.4%	$ 0.424	15 bps	3 bps
Idaho*	Aa1/AA+/AA+	2.5%	3.8%	-30.8%	36.1%	$ 0.320	18 bps	0 bps
Illinois	Baa2/BBB/BBB+	-3.0%	5.5%	-54.0%	26.8%	$ 0.302	162 bps	-8 bps
Indiana*	Aaa/AAA/AAA	1.7%	4.5%	-5.8%	16.0%	$ 0.299	12 bps	0 bps
Iowa*	Aaa/AAA/AAA	6.3%	4.2%	-21.7%	10.8%	$ 0.320	12 bps	0 bps
Kansas*	Aa2/AA-/NR	5.3%	4.3%	-22.0%	29.9%	$ 0.240	18 bps	0 bps
Kentucky*	Aa2/A+/AA-	3.8%	4.9%	-32.0%	33.3%	$ 0.260	20 bps	0 bps
Louisiana	Aa3/AA/AA-	16.8%	6.3%	-39.1%	79.8%	$ 0.200	49 bps	7 bps
Maine	Aa2/AA/AA	3.7%	4.0%	-8.1%	14.2%	$ 0.300	12 bps	3 bps
Maryland	Aaa/AAA/AAA	7.2%	4.3%	-8.3%	9.6%	$ 0.326	3 bps	0 bps
Massachusetts	Aa1/AA+/AA+	1.3%	3.9%	-15.8%	28.5%	$ 0.265	16 bps	5 bps
Michigan	Aa1/AA-/AA	-13.8%	4.5%	-20.9%	23.4%	$ 0.305	20 bps	-3 bps
Minnesota	Aa1/AA+/AAA	2.8%	4.0%	-14.8%	21.5%	$ 0.286	5 bps	1 bps
Mississippi	Aa2/AA/AA	1.1%	6.0%	-21.1%	31.4%	$ 0.188	22 bps	-3 bps
Missouri	Aaa/AAA/AAA	8.2%	5.1%	-22.2%	9.5%	$ 0.173	1 bps	0 bps
Montana	Aa1/AA/AA+	-10.4%	4.3%	1.8%	4.8%	$ 0.278	19 bps	0 bps
Nebraska*	NR/AAA/NR	-1.7%	3.2%	-5.3%	19.3%	$ 0.277	17 bps	0 bps
Nevada	Aa2/AA/AA+	7.3%	6.3%	-28.1%	47.7%	$ 0.339	18 bps	-4 bps
New Hampshire	Aa1/AA/AA+	7.0%	3.0%	-30.1%	36.8%	$ 0.238	4 bps	-4 bps
New Jersey	A2/A/A	-0.6%	5.3%	-23.2%	16.7%	$ 0.145	70 bps	-23 bps
New Mexico	Aaa/AA+/NR	-4.6%	6.6%	-29.6%	30.9%	$ 0.189	10 bps	1 bps
New York	Aa1/AA+/AA+	-4.6%	4.8%	-6.4%	31.7%	$ 0.426	6 bps	1 bps
North Carolina	Aaa/AAA/AAA	3.1%	4.6%	-20.1%	41.7%	$ 0.353	0 bps	0 bps
North Dakota*	Aa1/AA+/NR	-30.0%	3.1%	46.0%	15.9%	$ 0.230	20 bps	0 bps
Ohio	Aa1/AA+/AA+	-0.8%	4.7%	-15.2%	5.4%	$ 0.280	15 bps	0 bps
Oklahoma	Aa2/AA+/AA+	-13.6%	5.1%	-21.7%	30.5%	$ 0.170	20 bps	0 bps
Oregon	Aa1/AA+/AA+	3.2%	5.4%	-21.7%	37.9%	$ 0.311	6 bps	-2 bps
Pennsylvania	Aa3/AA-/AA-	7.7%	5.7%	-33.3%	19.7%	$ 0.504	57 bps	7 bps
Rhode Island	Aa2/AA/AA	6.6%	5.6%	-21.6%	38.0%	$ 0.340	32 bps	-3 bps
South Carolina	Aaa/AA+/AAA	19.9%	5.1%	-37.0%	23.5%	$ 0.168	4 bps	1 bps
South Dakota*	Aaa/AAA/AAA	6.6%	2.9%	-14.9%	31.9%	$ 0.300	20 bps	0 bps
Tennessee	Aaa/AAA/AAA	3.7%	4.4%	-18.0%	51.1%	$ 0.214	0 bps	-2 bps
Texas	Aaa/AAA/AAA	-4.7%	4.7%	-17.2%	23.7%	$ 0.200	17 bps	6 bps
Utah	Aaa/AAA/AAA	4.5%	3.7%	-13.7%	37.1%	$ 0.294	0 bps	1 bps
Vermont	Aaa/AA+/AAA	0.4%	3.3%	-16.2%	25.1%	$ 0.305	2 bps	0 bps
Virginia	Aaa/AAA/AAA	9.4%	3.9%	-22.5%	47.5%	$ 0.223	-1 bps	0 bps
Washington	Aa1/AA+/AA+	7.3%	5.7%	-20.0%	50.4%	$ 0.445	22 bps	6 bps
West Virginia	Aa1/AA-/AA	-6.5%	5.7%	-23.6%	42.4%	$ 0.332	16 bps	3 bps
Wisconsin	Aa2/AA/AA	5.3%	4.2%	3.3%	20.3%	$ 0.329	13 bps	2 bps
Wyoming*	NR/AAA/NR	-14.0%	5.5%	21.0%	20.4%	$ 0.240	10 bps	0 bps

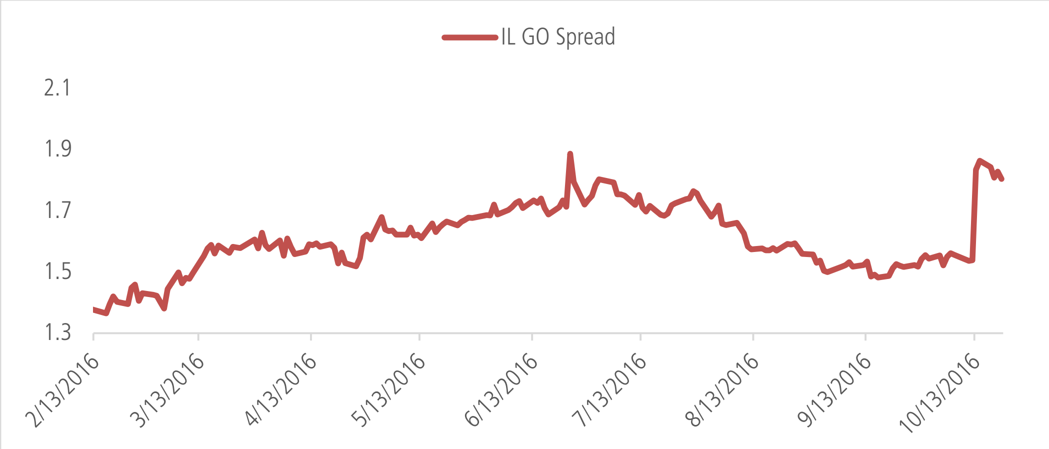
State Credit Update

October 21, 2016

Sources and Expalantion for Page 1 Table Data

- In State column, *denotes theoretical Issuer Credit Rating, since state issues no GO debt. Borrowing is through appropriation backed and revenue debt.
- Source: Moody's, S&P, Fitch.
- YoY Tax Rev Δ is change in state tax revenue 1Q 2016 vs 1Q 2015 from Rockefeller Institute of Government
- Unemployment Rate (SA) is from Bureau of Labor Statistics.
- % Δ of State Higher Education Spending per Student is expressed as a % based upon the acutal dollar reduction in per student spending between 2008-2016 - Center on Budget and Policy Priorities
- % Δ of Tutition expressed as a % based upon the acutal dollar increase in school year tuition charges between 2008-2016 - Center on Budget and Policy Priorities
- 2016 State Gas Taxes are as of January 2016 and do not include the $.1840/gallon federal excise tax on gas. Taxfoundation.org
- Spread to MMD is Municipal Market Data benchmark yield for state's 10 year GO bond minus MMD AAA generic yield. Indication of state's relative trading value. Higher spread (higher yield) is indicative of lower perceived value.
- Change indicates how much spread has changed since Dec 31, 2015. Green (-) means spread has tightened and perceived value has improved while Red indicates wider spreads as investors require more yield to own state's bonds.

IL Credit Spreads Have Widened due to Downgrade and Large New Issue Supply



Source: Janney Fixed Income Strategy; Bloomberg, 10 YR MMA

Illinois downgrade and $1.3 billion bond sale

On September 30, 2016, S&P lowered the general obligation rating of Illinois to BBB from BBB+, and the state appropriation rating to BBB- from BBB. The rating downgrade has come as the state continues to deal with its almost 16 month budget impasse, $9 billion backlog of state bills, and chronically underfunded pension plans. S&P's change of the rating comes despite efforts by IL legislators to mitigate damage by passing a stopgap budget plan in late June that provided $7.5 billion for full year K-12 spending in addition to other smaller one-time measures. With its latest $1.3 billion bond offering, Illinois suffered the combined consequences of both the recent downgrade as well as the dearth of new municipal supply in the marketplace. These two factors contributed to significantly wider spreads than the state has seen over the past year. Prior to the bond sale, spreads for IL ten year GO bonds were approximately 162bps, compared to 10 year spreads of 200bps for the deal this week. On a positive note, the proceeds of the latest bond sale were used to refund existing debt, which saved the state almost $121 million of debt service payments, and Illinois has been able to resolve uncertainty over $600 million in expiring letters of credit by negotiating replacements, which expire in November of 2018.

State Higher Ed Funding

Public colleges and universities in the US educate a large percentage of the nation's post-secondary students, with a 2015 Pew Charitable Trust study putting that number at close to 68%. With such a high percentage of students dependent on these channels of education, disruptions to traditional funding sources have contributed to a notable increase in tuition costs for students attending these schools. On average, 37% of funding for public colleges and universities comes from state (21%) and federal (16%) revenues, which come in the form of grants and loans for students.

Since 2008, state funding for schools has been on the decline, with the average state reduction measuring at 18%. Conversely, as state funding has declined, federal funding has increased, with federal revenue per student spending surpassing state funding for the first time in 2010. Despite the uptick in federal higher education funding, the increase 1) did not match the dollar for dollar reduction of the state portion, and 2) has begun to decline since 2012. In an effort to combat the volatility in per pupil funding, schools have turned to increasing tuition revenues, with an average aggregate bump of 35% between 2008-2016. Going forward we expect there to be some elasticity of demand. As schools continue to raise tuitions, students may begin to look toward cheaper competitors, be it public or private, or even alternative routes of degree seeking such as two year-community colleges, followed by a degree program, or on-line/part-time alternatives.

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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.

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