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Discussing volume in 2013

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Thoughts on issuance and redemptions in 2013

As the muni market heightens its focus on the election and year-end, we provide some early thoughts on issuance and redemptions in 2013. Our base case for issuance is $375bn for 2013, assuming no change to the tax-exempt status of municipal bonds. We will soon revisit this topic; however, as the outcome of the election will likely shape the path to reducing the federal deficit and give clearer guidance about which proposals affecting munis are likely to be pursued.

Positioning for the roll

As we begin to approach year-end, investors should begin to think about positioning to take advantage of the roll down the yield curve, as bonds become priced to points on the yield curve less one year to maturity. We estimate the amount of roll embedded in bond pricing in the current market.

Moody's pursues California cities credit review

Earlier this week Moody's announced that it had placed under review the ratings for debt obligations associated with 32 municipalities, making good on its mid-August determination to take a closer look at all 95 California cities in its rated universe. The express language employed in Moody's missive suggests that additional ratings actions on debt tied to California cities may be in the offing, in our view.

Mayhem on the Monongahela

On Friday 28 September 2012, West Penn Allegheny Health System (WPAHS) took the healthcare world by surprise by announcing that the affiliation agreement between it and the insurer Highmark was terminated. WPAHS alleged that Highmark had breached the terms of the agreement by insisting that the WPAHS restructure its debt by filing for bankruptcy, and that, in so insisting, Highmark released West Penn from its obligations under the agreement.

Guam Power Authority cutting rates after sale

Guam Power Authority (GPA) is the sole electricity provider on the island of Guam, and benefits from the presence of the U.S. Navy, its largest customer. However, GPA is challenged by its reliance on oil and lag in fuel cost recovery, and we do not view favorably the recent order to roll back the base rate increase that had been approved in April. GPA's Senior Revenue Bonds are rated Baa3/BBB/BBB- by Moody's, S&P, and Fitch, respectively, and we are inclined to weigh in with the majority, viewing the senior bonds as Baa3/BBB- equivalents.

MEDCO refunding lease revenue bonds

Next week, the Maryland Economic Development Corporation (MEDCO) has tentatively scheduled for issuance a $199mn refunding bond issue, rated Aa1/AA+ by Moody's and S&P, respectively, proceeds will be used to refund the 2003 Series Bonds, which were issued to finance construction at the Baltimore/Washington International Airport (BWI).

Refer to important disclosures on page 28 to 29. Link to Definitions on page 27.

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We estimate bonds maturing next year of $238bn, of which $82bn are prerefunded bonds which are being retired at their respective call dates. Excluding prerefunded bonds, we estimate $152bn bonds will become currently callable in 2013. Based on the BofAML Economics and Rates Strategy Teams' forecasts for the 10-year and 30-year Treasury rate to remain near 1.75% and 2.90% through 3Q2013 and the Federal Reserve to remain on hold through late-2015, it is likely most of these bonds will be refunded. In addition, while the steepness in the curve should continue to be cost-prohibitive for advance refunding bonds with longer call dates, we are likely to see greater advance refunding for bonds with calls in 2014 and 2015. Our initial thought on refunding volume in 2013 is $175bn.

Table 1: Issuance and redemption estimates

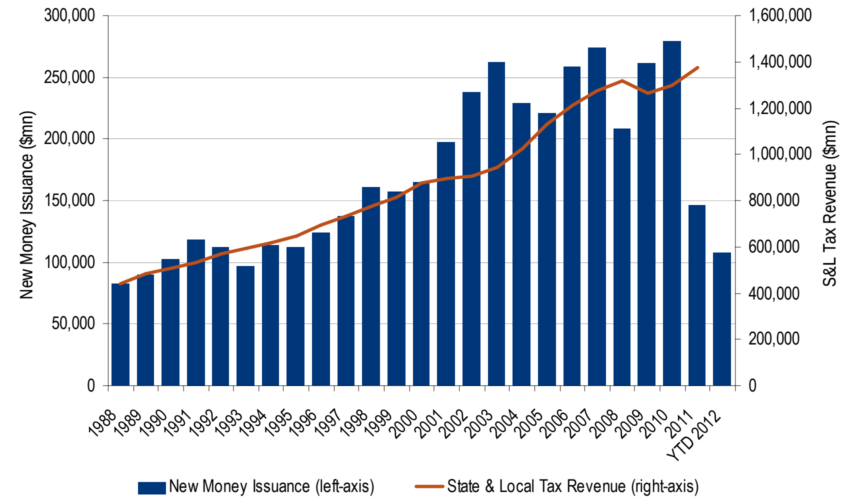
	2013 Total ($bn)
Current Calls	$152
All Bonds Maturing	238
Refunding Issuance	175
New Money Issuance	200
Net Supply	-38

Source: BofA Merrill Lynch Global Research

New money issuance continues to be down sharply from the average issuance over the past decade. Chart 1 shows annual new money issuance vs. state and local government tax revenue. The chart shows the correlation between the growth in tax revenues and the growth in new money issuance has broken down in the last two years as issuers have been more focused on trimming budgets. In 2013, we anticipate an increase in new money to around $200bn from this year's total which is likely to finish the year at $150bn.

The theme of net negative supply which has prevailed since 2011 should continue. From the end of 2010 through 2Q2012, total par outstanding in the muni market has declined by $69bn. Based on our estimate of $200bn new money issuance vs. $238bn bonds maturing, we anticipate a decline in total par of $38bn for 2013 (see Table 1). This positive technical factor should help support relative performance of munis in 2013; however, an increase in new money issuance would also likely put some pressure on rates on the long end of the yield curve which has been benefited from the overwhelming demand and reduced supply.

Chart 1: New Money Issuance vs. State and Local Tax Revenue ($mn)



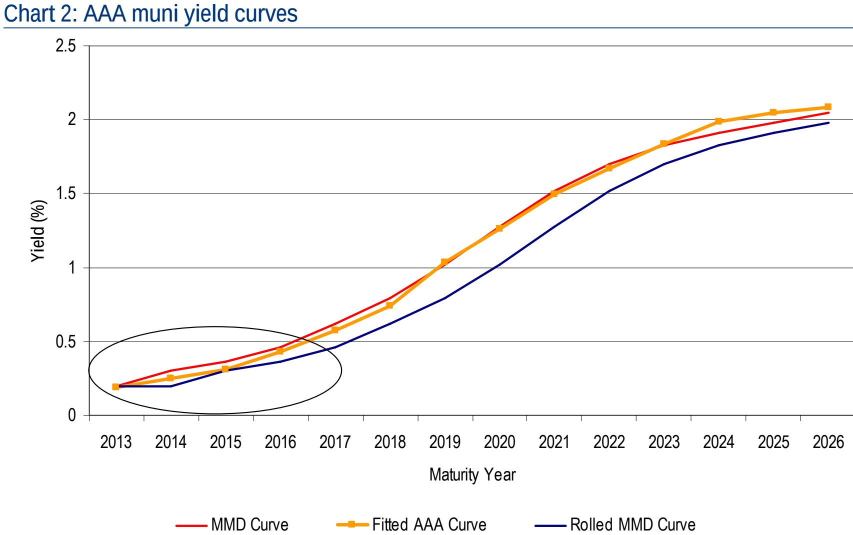
Source: BofA Merrill Lynch Global Research; Thomson Financial; U.S. Census Bureau; Year-to-date as of 10 October 2012

Positioning for the roll

As we begin to approach year-end, investors should begin to think about positioning to take advantage of the roll down the yield curve, as bonds become priced to points on the yield curve less one year to maturity. We estimate the amount of roll embedded in bond pricing in the current market.

The analysis involves several steps. First, we take a set of AAA-rated General Obligation bonds in the BofA ML muni master index. We then fit a curve to the data set using best fit procedures to estimate the current market AAA-rated GO curve using the years to maturity as opposed to the time to maturity. We compare this curve to the current MMD curve and "rolled" MMD curve to see how much of the roll down the curve is currently priced into the market. The "rolled" MMD curve represents a bond's pricing once it has been priced to a maturity one year less. Chart 2 shows the results. With the exception of maturities in 2013, 2014 and 2015, the AAA Fitted curve is very close to the current MMD curve indicating that the market does not appear to have begun pricing in the roll. We would expect the AAA Fitted curve to converge towards the rolled MMD curve as we approach year-end.

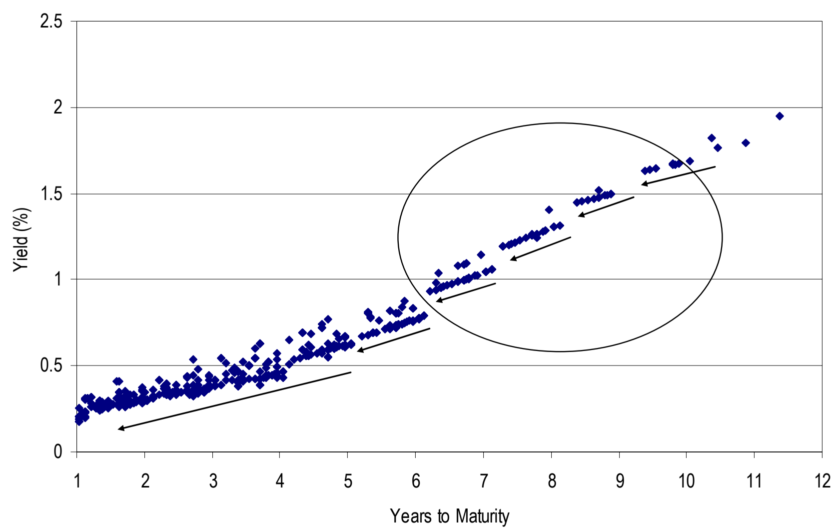
Chart 2: AAA muni yield curves



Source: BofA Merrill Lynch Global Research; Thomson Reuters MMD

Chart 3 shows the yield to worst on the bonds in the data set. The arrows in the chart highlight the roll opportunities in the 6-11 year part of the curve. For instance, an investor can pick up 13bp, extending maturities by 2 months from 1 December 2019 to 1 February 2020. This spread should narrow as we approach year-end. We recommend investors take advantage of these disparities while they still exist.

Chart 3: Yield on non-callable AAA-rated GO bonds vs. Years to Maturity



Source: BofA Merrill Lynch Global Research

A recent illustration of these spreads can be seen in the new issue pricing of the Arkansas Federal Highway Grant Anticipation and Tax Revenue Bonds, Series 2012, rated AA by Standard and Poor's and Aa1 by Moody's, which priced on 11 September 2012. Table 2 shows the pricing on select maturities from 1 April 2018 through 1 October 2022. An investor could pick up 18bp, on average, extending maturities 6 months from October to April the following year, but only 5bp, on average, extending 6 months from April to October within the same year.

Table 2: New Issue Pricing on select maturities in the Arkansas Federal Highway Grant Anticipation and Tax Revenue Bonds, Series 2012

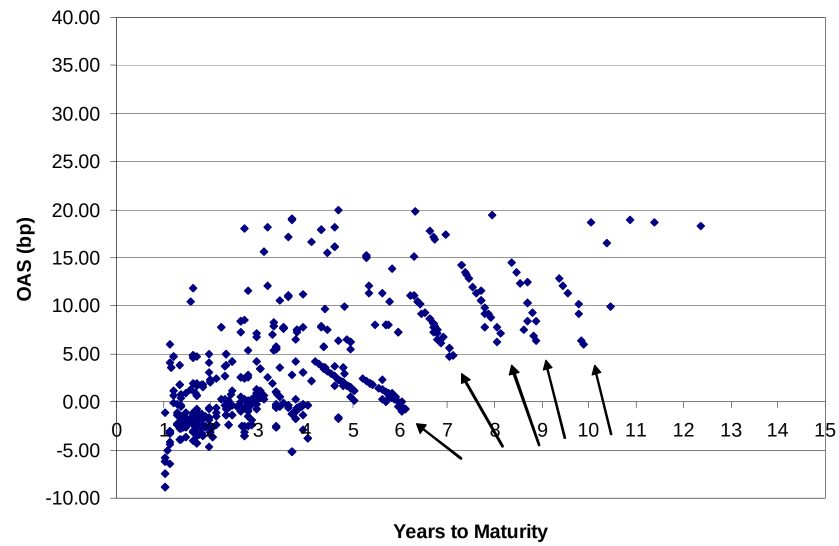
Maturity	Size	Coupon	Yield	Cusip	Mid/Late MMD*	Spread	OAS	MMD**	Spread
4/1/2018	9,030	5	0.92	041042UE0	0.92	0	13	0.95	-3
10/1/2018	9,255	5	0.95	041042UF7	0.98	-3	4	0.95	0
4/1/2019	9,490	5	1.19	041042UG5	1.19	0	16	1.22	-3
10/1/2019	9,725	5	1.25	041042UH3	1.25	0	9	1.22	3
4/1/2020	9,970	5	1.41	041042UJ9	1.41	0	15	1.44	-3
10/1/2020	10,220	5	1.47	041042UK6	1.47	0	10	1.44	3
4/1/2021	10,475	5	1.63	041042UL4	1.63	0	16	1.66	-3
10/1/2021	10,735	5	1.69	041042UM2	1.69	0	12	1.66	3
4/1/2022	11,005	3	1.84	041042UN0	1.78	6	15	1.79	5
10/1/2022	11,170	3	1.87	041042UP5	1.82	5	12	1.79	8

Source: BofA Merrill Lynch Global Research; Thomson Reuters MMD; *Mid scale used for April maturities, Late scale used for October maturities. **MMD equals the stated MMD scale. Size in ($000s).

An option-adjusted pricing model can be a useful tool to price the effect of rolling down the yield curve as well as determining relative value between two bonds in the front end of the curve in a steep yield curve environment. Because an option-adjusted pricing model discounts cash flows at forward rates implied by the AAA muni curve, the model prices the potential for reinvestment. In a steep yield curve environment, which implies upward sloping forward rates, an investor should place a larger premium on bonds closer to maturity with the potential to invest at higher rates in the future. If future rates did, in fact, follow the path of their implied forward rates, then option-adjusted spreads for two bonds with the same security should be equal.

Chart 4 shows the option-adjusted spreads for the same data set of AAA-rated GO bonds with yields shown in Chart 3. Similar to the arrows in Chart 3 showing a flatter slope in the 6-11 range indicating the roll not fully priced in the market, the wider option-adjusted spreads in Chart 4 indicate cheaper bonds within those maturities. We anticipate these spreads narrowing as we approach year-end.

Chart 4: Option-adjusted spreads on non-callable AAA-rated GO bonds vs. Years to Maturity



Source: BofA Merrill Lynch Global Research

Issuance

Issuance for the month-to-date totals $15.3bn, which represents a 62.3% increase over the same period last year (see Table 3). New money has comprised 55.3% of the total for the month-to-date, compared with only 38.1% for the year-to-date. Insurance penetration has seen a slight increase to 5.5% of the total for the month-to-date, compared with 3.7% for the year-to-date.

Table 3: Issuance summary ($mn)

	MTD 10/11/12	MTD 10/11/11	YTD 10/11/12	YTD 10/11/11
Total	15,304.4	9,429.2	290,414.2	195,602.7
New Money	8,457.1	3,427.5	110,545.6	96,138.1
Refunding	6,847.3	6,001.7	179,868.7	99,464.6
Insured	845.1	297.2	10,772.6	10,792.0
Fixed rate	13,987.2	9,059.7	270,653.1	175,826.5
Variable rate short	615.6	188.1	9,049.2	8,036.1
Linked rate	518.7	114.9	7,745.8	7,893.7
Variable rate long	101.8	-	1,222.8	1,989.2
Zero coupon	81.1	64.3	1,470.1	1,329.0
Convertible	-	2.2	273.1	528.1

Table 3: Issuance summary ($mn)

	MTD 10/11/12	MTD 10/11/11	YTD 10/11/12	YTD 10/11/11
Tax exempt	13,419.9	8,532.2	256,044.1	166,597.3
Taxable	1,501.5	858.3	24,570.6	23,218.7
AMT	383.0	38.7	9,799.5	5,786.7

Source: Thomson Financial

Returns

The BofAML Muni Master Index continues to show solid performance, having returned 0.118% for the month-to-date, and has outperformed the Treasury Master Index by 122bp in total return since 31 August, and 471bp in total return for the year-to-date (see Table 4). The 7-12 year range within the tax-exempt market has had the best performance for the month-to-date. BBB-credits continue to strongly outperform.

Table 4: Index returns

	Start date:	9/30/2012		8/31/2012		12/31/2011	
	End date:	10/11/2012		10/11/2012		10/11/2012	
	DES	Total Return	Price Return	Total Return	Price Return	Total Return	Price Return
U1A0	Munis 1-3	0.009	-0.127	0.108	-0.397	1.018	-2.487
U2A0	Munis 3-7	0.076	-0.053	0.575	0.095	3.221	-0.139
U3A0	Munis 7-12	0.155	0.030	0.951	0.483	4.993	1.663
U4A0	Munis 12-22	0.141	0.006	0.926	0.419	8.441	4.691
U5A0	Munis 22+	0.134	-0.006	0.905	0.381	10.355	6.405
U0A0	Muni Master	0.118	-0.016	0.791	0.289	6.839	3.186
G0A0	Govt Master	-0.120	-0.191	-0.429	-0.690	2.134	0.214
BABS	Build America Bonds	-0.275	-0.424	-0.676	-1.226	9.391	5.258
C0A0	Corp Master	0.620	0.484	1.363	0.849	9.721	5.798
M0A0	Mortgage Master	-0.135	-0.040	0.104	0.118	2.730	1.391
J0A0	Corp High Yield	0.596	0.365	2.002	1.129	12.580	6.003
U0A1	AAA Munis	0.060	-0.062	0.701	0.244	4.557	1.280
U0A2	AA Munis	0.083	-0.047	0.761	0.272	6.238	2.690
U0A3	A Munis	0.163	0.025	0.909	0.393	7.743	3.960
U0A4	BBB Munis	0.215	0.063	0.657	0.091	9.715	5.489

Source: BofA Merrill Lynch Global Research

Sector commentary

Moody’s pursues California cities credit review

Earlier this week Moody’s announced that it had placed under review the ratings for debt obligations associated with 32 municipalities, making good on its mid-August determination to take a closer look at all 95 California cities in its rated universe. Moody’s noted that the reviews “do not reflect across-the-board actions on a given type of debt obligation,” other than its treatment of unsecured pension obligation bonds, eight of which were downgraded. All but one of the pension obligation bonds remain under review for further downgrade, and those of a ninth city were additionally placed under review. The express language employed in Moody’s missive suggests that additional ratings actions on debt tied to California cities may be in the offing, in our view. While Moody’s indicated that the credit standing of all 95 rated cities was assessed, and general obligation bond credit quality “for the most part remains consistent” with its current ratings, the omission of ratings affirmations on the remaining 63 municipalities leaves the door open to further scrutinization.

As of 9 October, Moody's placed under review for downgrade the GO or issuer ratings of nine cities, and the lease-backed obligations of 27 cities. The GO ratings of Los Angeles and San Francisco, California's largest and fourth largest cities, unexpectedly were placed under review for possible upgrade. Moody's most recent rating action on Los Angeles was a downgrade to Aa3 from Aa2 in April 2010, but the city's rating outlook, which had been negative at that time, was revised to stable as recently as July 2011. Moody's most recent rating action on San Francisco in November 2010 was also a downgrade to Aa2 from Aa1, but the ratings outlook had remained stable since that time. Both Los Angeles and San Francisco were cited for their relative resiliency in the wake of the recession and protracted economic recovery, as well as the performance of their respective property markets. The ratings of California's second and third largest cities, San Diego and San Jose, were most recently revised in April 2010 and March 2012, respectively, and were not included among the 32 cities for which ratings reviews were initiated.

The motivation for action has been clear for some time

Moody's review was triggered by the Chapter 9 Municipal Bankruptcy filings this year by the Cities of Stockton, Mammoth Lakes, and, most immediately prior to its August issuance of a Special Comment, San Bernardino. Only Stockton, among the three, is rated by Moody's. In fact, Moody's has identified another 389 city credits in California which it does not rate. Certain of these credits carry ratings from S&P and/or Fitch, but the market access for many of these issuers had been facilitated exclusively by credit enhancement, most frequently provided by municipal bond insurance. Although portfolio monitoring and credit surveillance had come to be recognized as a salient and attractive attribute of bond insurance, the absence of published underlying ratings which are subject to revision has obscured a sizeable segment of the local issuer market. In the wake of multiple downgrades and, in some instances, withdrawals of the ratings assigned to the bond insurers, this has created a challenge which is not confined to cities in California.

While emphasizing the infrequency of municipal bond defaults, and the even more rare phenomenon of municipal bankruptcy, the experience over the current economic cycle in California, including the 2008 bankruptcy filing and subsequent emergence from bankruptcy by Vallejo, has led Moody's to assume that more declarations of fiscal emergencies; municipal bond payment defaults; and prospective Chapter 9 filings may lie ahead. As Moody's has detailed, the prospects for municipal credits in California have been uniquely influenced by the vagaries of the state's economy and political system. This is not the first instance in which California's boom-bust real estate sector has played havoc with labor markets and local tax bases, particularly the cycle for local property assessment and the impact of the Proposition 13 tax rate limitation on local property tax levies.

Moody's perceives the state government as exercising a "hands off" home-rule policy, which has resulted in limited state financial assistance to local government, and a fairly broad statutory authorization for Chapter 9 municipal bankruptcy which has only been modestly narrowed in scope by Assembly Bill 506. AB 506, enacted one year ago, prescribes a 60-day mediation period in an effort to avert bankruptcy filing, unless there is a declaration of fiscal emergency. The filing process may be accelerated if a fiscal emergency has been declared, but fiscal emergencies do not necessarily presage bankruptcy, as has been demonstrated on numerous occasions in the recent past. Moody's has additionally recognized the assertiveness of public employee unions in the collective bargaining process, but by no means would the recent escalation of public employee compensation and terms governing post employment retirement programs and benefits be confined to cities in California.

We agree with all of these observations on California cities, but differ somewhat on the institutional analysis and intergovernmental fiscal framework. First, the initiative petition process that has led to the passage by referendum of Proposition 13 in 1978, Proposition 98 in 1988, and an array of taxing constraints and programmatic mandates has greatly diminished policymakers' flexibility to confront public financing issues as they arise. Second, the inexorable pressures on California's state budget that occur during recessionary periods have preoccupied the state fiscal establishment with its own immediate constitutional requirements to enact a balance budget while fulfilling its K-14 educational funding mandates. To this end, the state has taken actions which have been at times deleterious to local government financial administration, such as devolving more social services provisioning and corrections onto county government. More recently, the dissolution of community redevelopment agencies (RDAs) has had the unintended consequence of quashing the practice of channeling RDA unencumbered revenues from surplus tax increment to city General Funds, a revenue source that heretofore had been available to both Stockton and San Bernardino, and likely would have been institutionalized in numerous other municipalities throughout the state.

The full scope of Moody's review

It is clear from the actions that have been taken and the direction of Moody's reviews that the convention of notching down one ratings grade from the General Obligation for limited, General Fund-backed debt instruments is no longer being followed in California. This practice makes sense to us, particularly in light of the reconciliation proposal Stockton presented to its various creditors over the course of its failed mediation proceeding. Approximately $125mn of the slightly greater than $300mn lease rental obligations and certificates of participation payable from Stockton's General Fund was issued for reducing to a certain degree the city's unfunded pension funding liabilities. Stockton deemed this obligation to be "unsecured," and declared that it would forgo total principal and interest repayment upon a reorganization and restructuring of its debt. The inability to tie the pension obligation COPs to any physical asset would imply a certain internal logic to this premise, although the insurer of the COPs, Assured Guaranty, has vowed to vigorously contest such disposition in court. Moody's, correctly in our opinion, has determined not to await adjudication of this matter, addressing all rated non-GO California city issued pension obligation bonds as a class. Would it have been over the top to expect amicus filings on behalf of Assured Guaranty by any of the existing city issuers of pension obligation bonds in the Stockton bankruptcy?

Beyond Los Angeles and San Francisco, Moody's has provided little, if any, insight into the considerations underlying the remaining reviews and ratings actions. Those cities that are staring down the barrel of possible issuer, GO and/or lease rental downgrades include Azusa, Berkeley, Colma, Danville, Fresno, Glendale, Huntington Beach, Inglewood, Long Beach, Los Gatos, Martinez, Monterey, Oakland, Oceanside, Palmdale, Petaluma, Rancho Mirage, Redondo Beach, Sacramento, San Leandro, Santa Ana, Santa Barbara, Santa Clara, Santa Maria, Santa Monica, Santa Rosa, Sunnyvale, Torrance, and Woodland. Although having been placed under review for possible upgrade, Los

Angeles received downgrades to A2 from A1 on two series of Judgment Obligation Bonds; and multiple issues of San Francisco lease revenue bonds and certificates of participation were placed under review for possible downgrade.

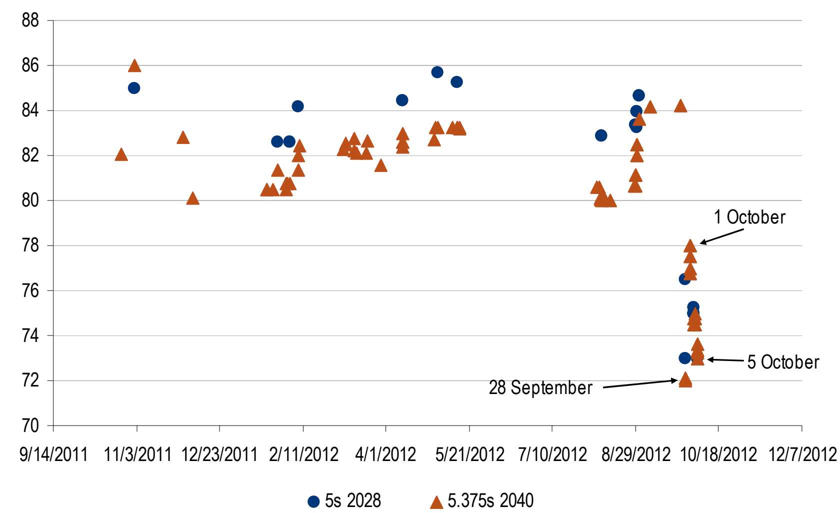
In our opinion, Moody's focus on California cities may have been overdue, and should be welcomed by the market. We anticipate and look forward to indications of similar timely and comprehensive reviews by S&P and Fitch. One challenge in expediting the review process is the timely disclosure of audited financials and current budgetary information. Most fiscal years for California issuers end on 30 June, and the Comprehensive Annual Financial Reports issued by California governmental entities, which are frequently quite good, are usually released early in the ensuing calendar year. Many jurisdictions do make available annual budgets for the current fiscal year, with unaudited estimates of financial statements from the immediately concluded fiscal year presented for comparative analysis. Investors are not necessarily limited by the time line of full ratings agency reviews, or the existence or absence of municipal ratings, in discerning for themselves the financial wherewithal of California's cities. Validation of published ratings, however, should be a matter of course, and for that Moody's deserves kudos for addressing the needs of an information-starved California market.

Credit Commentary

Mayhem on the Monongahela

On Friday 28 September 2012, West Penn Allegheny Health System (WPAHS) took the healthcare world by surprise by announcing that the affiliation agreement between it and the insurer Highmark was terminated. WPAHS alleged that Highmark had breached the terms of the agreement by insisting that the WPAHS restructure its debt by filing for bankruptcy, and that, in so insisting, Highmark released West Penn from its obligations under the agreement. West Penn asserted that it was free to consider other partnerships and to keep the funds already advanced to it by the insurer. The impact of the announcement on WPAHS's $721.17mn outstanding Series 2007A tax-exempt bonds was immediate and dramatic: the long bonds (5.375% coupon maturing 11/15/2040) which had been priced at 85 on 27 September fell to 72 (see Chart 5). In a week of active trading, the bonds came back up to 78 on Monday, 1 October 2012, but this appears to have been a one-off. Highmark responded that day by suing to enjoin West Penn from engaging in affiliation or acquisition discussions with other organizations, and the price fell again, down to 73 by 5 October, when trading activity virtually ceased (there has been one five-bond trade since then), as the players held their positions and waited for additional news.

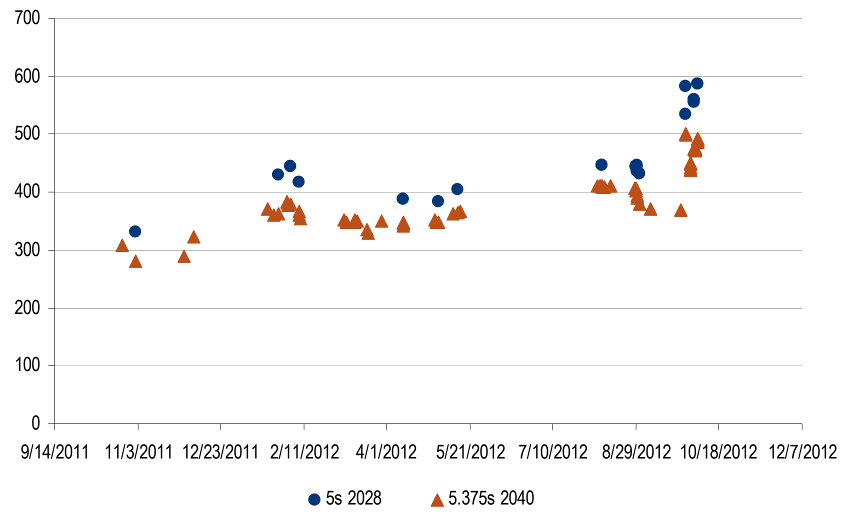
Chart 5: West Penn Allegheny Health System Series 2007A pricing



Source: BofA Merrill Lynch Global Research

We see a similarly dramatic effect on the spreads of these two bonds (see Chart 6).

Chart 6: West Penn Allegheny Health System Series 2007A spreads to MMD (bps)



Source: BofA Merrill Lynch Global Research

As of today, there has been some activity and communication from each side. Highmark met with a group of West Penn Allegheny physicians to tell them that WPAHS remains a key part of the insurer's plans. Physician leaders are reported to have written to the WPAHS board demanding that interim management be fired. And the West Penn board chairman called the Highmark CEO to offer to return to the negotiating table. A preliminary injunction hearing on Highmark's Motion has been scheduled for 25 – 26 October. We await future developments with great interest.

Three possible scenarios

We envision three of the most obvious or likely scenarios (slight variations could be possible):

- Highmark and West Penn resume their partnership.
- Another partner is found. This is less likely in our opinion, as we believe that Highmark retains a strong interest in the merger, and that WPAHS's position that there has been a termination-causing breach of the agreement is untenable, under our reading of the affiliation agreement document. A for-profit system such as Vanguard might have interest. Strong near-by not-for-profit systems like Geisinger or the Cleveland Clinic might be able to run the WPAHS facilities profitably, but we have trouble imagining a scenario in which they would want to. A large mission-driven religious system would be a more plausible "white knight", as such a system would be motivated by the desire to continue the provision of competitively priced healthcare to West Penn's patients.
- WPAHS is broken up, facilities run by other local providers or closed. We do not find this particularly likely, since we do not believe that the non-UPMC competition has sufficient wherewithal to take on the financial burden, and UPMC would probably be prevented from doing so on anti-trust grounds.

We believe that no matter which road West Penn ends up following, the bonds will be restructured, either in or out of bankruptcy court. The suggestion has already been laid on the table. The System may not want to file Chapter 11, but a consensual write-down would require bondholder approval. We are skeptical that this could be obtained, given the probable difficulty in locating retail holders to obtain the needed 100% consent to such principal or interest payment modifications. At the end of the day, given the magnitude of its financial difficulties, we cannot imagine that any suitor would offer more than a very distressed hospital price for West Penn. In our opinion, Highmark could make a successful new bid for WPAHS at or below the current market price.

What price for the system, what price for the bonds?

Implicit in the recent trading levels is an assumption by the market that the bondholders are going to take a "haircut". Although we do not know for certain at this juncture what particular restructuring would be offered, or approved, in bankruptcy court, we can sketch out an educated view of what it might look like. We think it would be likely that the pension obligations would be taken over by the Pension Benefit Guarantee Corporation. We would expect that the bonds would be taken out at a discount based on what the prevailing purchase prices for hospitals have been in the healthcare marketplace recently. The figure we have seen most often for distressed hospitals is a multiple of 0.4x revenues, compared to 0.7x or even 1.0x for healthy operations.

Table 5: WPAHS liabilities ($000s)

Series 2007A Bonds	721,170
Floating Rate Certificates	37,084
Highmark loan	50,000
Equipment notes, etc.	33,265
Total long term debt	841,519
Unfunded pension liability	192,897

Source: WPAHS unaudited financial statements, nine months ended 3/31/2012

WPAHS's nine month FY 2012 (through 31 March 2012) revenues, annualized, come to $1.583mn. This would translate into a purchase price of $633mn, or about 75 cents on the dollar, which is about where the bonds have been trading. But we do not view this as a typical distressed hospital: in our view it is a deeply speculative grade credit with a long history of financial deterioration. Perhaps a more appropriate comparable would be the Detroit Medical Center (DMC), an urban 8-hospital system which had $2.1bn in revenues, which Vanguard bought for a multiple of 0.2x. This would theoretically cut the West Penn recovery down to 38 cents on the dollar. The low multiple did not result in a similar haircut for the DMC holders because that system was considerably less leveraged than West Penn, with long term debt at 22% of revenues, compared to West Penn's 53%. Given that the DMC was already showing signs of financial recovery at the time it was sold, which WPAHS has not yet, it may be hard to argue that West Penn is worth any more as a system than its Detroit counterpart was.

Highmark's burgeoning empire

Highmark has been engaged in an attempt to build a $1bn integrated health system to compete with the area's dominant healthcare provider, the University of Pittsburgh Medical Center (UPMC), with its over 20 hospitals, 400 clinical locations, 5,500 physicians, and health plans with more than 1.8mn members. Highmark has a head start on the health insurance side, as its plans cover 4.5mn members in Pennsylvania, West Virginia and Delaware. The insurer intends to spend another $500mn on building its provider network, beyond the $475mn it has committed to West Penn. Thus far Highmark has reached out to one other area hospital, Jefferson Regional Medical Center, investing at least $275mn and assuming $200mn in liabilities, and is building or acquiring ambulatory care centers and medical malls throughout the region, and has acquired a number of private physician practices, with more slated to come. However, although Highmark's partnerships and acquisitions may range beyond the West Penn affiliation, the merger with the five hospital system was the heart of the insurer's strategy.

The affiliation agreement was widely viewed as a lifeline for the struggling WPAHS when it was signed on 31 October 2011. It has overcome one major hurdle since then. A Justice Department inquiry, which closed in April without finding any anti-competitive effect of the merger, could have derailed it, but did not. Despite the fact that Highmark has a 60% market share on the insurance side, the West Penn/Highmark combination was found to have salutary competitive potential against UPMC's 60% share on the hospital side. Progress on approval on the Commonwealth level has been slower. Over the course of the 11 months the health providers were awaiting approval of their deal by the Pennsylvania Insurance Department (PID), that approval has been continually delayed. The PID extended its time frame as changes were made which needed to be incorporated into the decision: the reopening of West Penn Hospital's emergency room, the extension of the UPMC contract, the announcement of the Jefferson Regional partnership.

Table 6: Funding Commitment Schedule

Initial Funding	50,000	28-Jun-2011	Gift
Second Funding	100,000	31-Oct-2011	50% loan
Third Funding	50,000	29-Apr-2012	Loan
Fourth Funding	100,000	1-Apr-2013	Loan
Fifth Funding	100,000	1-Apr-2014	Loan
Medical & Health Education	75,000	31-Oct-2011	Endowment

Source: Affiliation Agreement date 31 October 2011

Highmark agreed to infuse $400mn into the hospitals, the first $100mn of which were to be grants (the initial $50mn funding and half of the second, $100mn installment) and the rest to be loans, plus an additional $75mn invested toward medical education. To date, $200mn has been contributed, all of which West Penn has asserted it is now entitled to keep. At the time the affiliation was signed, UPMC refused to extend its ten year contract with Highmark, on the grounds that, as it stated publicly in explanation, the insurer was now a competitor. Amidst a welter of lawsuits, the introduction of new national insurers to the market, and under pressure from the Commonwealth, Highmark and UPMC agreed to continue their relationship through the end of 2014, albeit at higher rates paid by the former to the latter once the national insurers had agreed to higher rates than Highmark had formerly paid UPMC.

Anatomy of the breach

West Penn Allegheny cited several actions taken by Highmark that it believed negatively affected the health system, and constituted a breach of the affiliation agreement. First and foremost was Highmark's request that West Penn use the bankruptcy court to restructure its debt. WPAHS also objected to Highmark's paying its hospitals what it characterized as unfairly low rates, and to the extension of the Highmark/UPMC contract and the inclusion in it of UPMC East, (newly built competitor to WPAHS's Forbes Hospital). West Penn also objected to "the abrupt change in Highmark leadership in April 2012" (the firing of CEO Dr. Melani for unprofessional conduct) and "Highmark's failure to generate the volume increases" it had projected in November 2011. (One could suggest that volume declines were at least partially attributable to West Penn and its physicians, but management apparently did not take that view.) West Penn argued that these events constituted enough of a violation of the affiliation agreement to invalidate and terminate the agreement, leaving the system free to pursue other partnerships. WPAHS also appears to interpret the documents to the effect that the termination of the agreement transforms the loans made to it to unrestricted payments that do not have to be repaid, hence the argument that West Penn is entitled to keep the $200mn already paid to it.

In our opinion, the affiliation agreement does not support either argument. We found no language to support the idea that these actions constitute a cause for termination. A material inaccuracy or breach of a representation or warranty made by either party is cause for termination, but the performance of activities that one side does not like is not listed as such. And if the agreement is not terminated, the transformation of the loans into gifts is not triggered. This is not perhaps the greatest cause for disagreement between the two parties, although we note that Highmark is suing not only to enjoin West Penn from pursuing other partners, but also for “monetary damages exceeding $200mn”.

Delays and continued losses

The WPAHS acquisition was originally expected to be closed in the fall of 2012, but with the PID delays it seems unlikely to be approved before year end. Given the additional delay in the process likely to be engendered by WPAHS’s current recalcitrance, it is possible that the closing might not occur by the originally scheduled “End Date” of 1 May 2013, after which either party may terminate the affiliation agreement. The longer the acquisition was postponed, the more money West Penn was at risk to lose, and the less attractive the deal may seem to Highmark.

By the third quarter of FY 2012 (31 March 2012), WPAHS had lost $87.7mn from operations, or a negative 7.4% operating margin, and had a $75.7mn bottom line loss (-6.3%), compared to 3Q 2011’s $35.11mn operating loss (-2.9%) and $20.3mn bottom line loss (-1.6%). 56.8% of expenses are labor-related, up from 54.2% in the year ago period. Cash had deteriorated to $203.4mn from $246mn at the end of FY 2010, or 45.7 days cash on hand from 57 days, despite the infusions of cash from Highmark. Note that the Master Indenture definition of “days cash on hand” allows WPAHS to include $17.2mn in unexpended Project Funds, which brings the cash figure up to 49.5 days. Debt service coverage has declined to basically zero (0.056x MADS), although the $50mn gift portion of the Second Funding, currently accounted for as deferred revenue, will be recognized as contribution income for the fiscal year ended 30 June 2012, which will bring coverage to 1.30x MADS.

Trigger for the restructuring proposal

Perhaps the most significant trigger of Highmark’s request for a restructuring was the firing of its former CEO Dr. Melani, who had ties to West Penn, having done his residency there, and who had a very strong antipathy to bankruptcy, as being too disruptive to the hospitals and the doctors. His successor, Dr. Winkenwerder, brought a new perspective to the situation: evaluating this as an investment that could grow to be even larger than the originally contemplated $1bn. Given the decline in operating performance outlined above, it is likely that a $475mn subsidy for West Penn will prove too little, and further contributions will be required. By our count the current cost to Highmark has already reached $1.3bn. Highmark could be responsible for not only the remaining $275mn of the $475mn funding commitment, but $842mn in WPAHS long term debt ($721mn in bonds, $43mn in debt-restructuring certificates, and various equipment notes and the loans from Highmark) and $193mn in unfunded pension liabilities. From all indications, the insurer is still intent on building its integrated delivery system, but it is likely that Highmark, with a fresh set of eyes, has now come to the point of view that the transaction with West Penn, as it is currently structured, is too expensive. This could explain how Dr. Winkenwerder came to propose, request or demand the bankruptcy filing at his first meeting with the West Penn board on 30 August, which resulted in that board terminating the agreement on 28 September.

Guam Power Authority cutting rates after sale

Guam Power Authority (GPA) is the sole electricity provider on the island of Guam, an unincorporated territory of the U.S. The Authority benefits from the presence of the U.S. Navy, its largest customer, with which, in July 2012, GPA executed a new 10-year power supply agreement. However, GPA is challenged by its reliance on oil and lag in fuel cost recovery, and we do not view favorably the recent order to roll back the base rate increase that had just been approved in April. Additionally, GPA may not be in compliance with environmental regulations within the required timeframe, and the potential retrofit costs have not been budgeted into its capital plan. In the first week of October, GPA sold $339.9mn in Senior Revenue Bonds as part of a refunding and restructuring. At the time of the sale, GPA had outstanding $515mn Senior Revenue Bonds and $52mn Subordinate Revenue Bonds. Moody's, S&P, and, Fitch have assigned ratings of Baa3/BBB/BBB-, respectively, to the Senior Bonds, and ratings of Ba1/BBB-/BB+ to the Subordinate Bonds. All three agencies maintain a stable outlook on the bonds. We are inclined to weigh in with the majority, viewing the Senior Bonds as Baa3/BBB- rated equivalents, and the Subordinate Bonds as one notch lower at Ba1/BB+.

On 25 September, the Guam Public Utility Commission (PUC) issued an order stating that it would roll back GPA's April rate increase that was to be effective through the fiscal year ending 30 September 2013 by the amount of reduction in debt service resulting from the October sale. The transaction lowers GPA's debt service by approximately $10mn per year for the next six years, and GPA is expected to file a petition by the end of the month to roll back likely the entire 6% rate increase. However, the pro formal financials for FY2012 through FY2016 in the Authority's Preliminary Official Statement were based on the anticipated rate increases, and according to that disclosure, the financial impact of the reduction in FY2013 is estimated to be as high as $9mn. As of this writing, the final Official Statement has not yet been released, but according to our own calculations, fixed charge coverage of FY2013 senior and subordinate debt service and lease payments could be much narrower, versus the originally projected 1.48x. GPA would still be in compliance with its rate covenants. However, in our opinion, this action is reflective of the intent to keep rates low, despite the tradeoff in financial flexibility.

GPA's Senior Bonds 5.5% of 2030 are trading 40bps rich to Baa1/BBB+/BBB+ rated PREPA, and 33bps cheap to the Baa2/BBB-/BB rated Virgin Island Electric Senior Bonds.

Fuel generation plans focus on diversifying away from oil

Given GPA's capacity is ample for its current approximately 275 MW load, plus any potential growth-impacts, its future fuel generation plans are focused on diversifying away from oil. GPA's available resources in FY2012 were comprised of 308.5 MW of owned-generation, and 178.4 MW derived from Independent Power Producers (IPPs). As an island utility, and due to its fairly evenly distributed loads, GPA requires higher reserves margins than mainland utilities require. In FY2012, the Authority's had an estimated reserve margin of 81%, versus its target reserve margin of 46.1%.

A new Integrated Resource Plan (IRP) is expected to be completed, at the latest, by January 2013, and will include the feasibility assessment of the use of liquefied natural gas (LNG), demand side resources, and the further integration of renewables into its resource portfolio. In 2008, legislation was passed which set renewable portfolio standard (RPS) targets, and by the end of 2015, 5% of GPA's net electric sales are to be derived from renewables, and by the end of 2025, 25%. In early 2012, GPA awarded a 20 MW solar project to Quantum Guam Power, and a 14 MW wind and solar project to Pacific Green Resources. Both

Existing options to reduce oil dependence carry relatively high capital costs, and it will be several years before the benefits of the diversification efforts will be seen.

projects are to be operational by the end 2014. While we view favorably GPA's goals of reducing its oil dependence, the existing options carry relatively high capital costs, and it will be several years before the benefits of these diversification efforts might be seen. In the near term, GPA will continue to rely on fuel oil, but will utilize fuel hedging for approximately 50% of its projected fuel requirements.

Current capital plan doesn't include environmental capex

GPA's current $280mn capital improvement program (CIP) for FY2012 through FY2016 is budgeted largely for ongoing improvements to existing generating, transmission, and distribution facilities, the extension of transmission lines, and the addition of Smart Grid technologies. Approximately 30% of the CIP is budgeted to be funded internally through revenues; 41% through prior bond proceeds; 24% through future bond issuances, including a potential senior lien bond issuance in FY2014; and 5% through Department of Energy grants.

The current CIP does not include potential costs required to comply with environmental regs, or any cost associated with the utilization of LNG.

We note that the current CIP does not include potential costs required to comply with environmental regulations. Additionally, the assessment of the use of LNG is in the early stages, thus, any cost associated with the utilization of LNG is also not included in the CIP. The CIP does not include the cost of improvements directly related to increasing U.S. military presence resulting from the relocation of certain naval facilities to Guam, as these are intended to be paid for by the U.S. military, either directly or through energy price increases to cover debt service on bonds GPA could issue to fund these costs.

GPA may opt to retrofit its plants to run on either fuel oil or LNG, rather than installing the necessary emissions control technology.

All of GPA's generating facilities must comply with federal environmental laws and regulations, as well as with the local Guam regulations. Under the mercury and air toxics standards (MATS), which are targeted at reducing air pollution from coal- and oil-fired power plants, there are specific requirements for power plants not located in the continental U.S. The MATS require the imposition of more stringent emissions limits that reflect the application of maximum achievable control technology (MACT). GPA's Units 1 and 2 of Cabras and Tanguisson are subject to the MATS requirements, and GPA's diesel units and combustion turbines are subject to the MACT standards. GPA has until April 2015 to install the MACT.

Based on preliminary studies and cost estimates, GPA may opt to retrofit its plants to run on either fuel oil or LNG, rather than installing the necessary emissions control technology. However, preliminary estimates for the LNG capital expenditures are still sizable. GPA may not be in compliance by the April 2015 deadline, and its LNG feasibility study hasn't been completed. GPA has been in discussions with the EPA regarding its progress.

Table 7: Residential electric rates of utilities relying primarily on oil-fired generation

Island Utility	Rate (cents/kWh)
Guam Power Authority	27
The Barbados Light & Power Co, Ltd.	35
Hawaii Electric Light Co., Inc.	43
Kauai Island Utility Cooperative	39
Maui Electric Company, Ltd.	39
Virgin Islands Water & Power Authority	41
Puerto Rico Electric & Power Authority	27

Source: R .W. Beck: Consulting Engineer's Report for GPA

PUC has authority over GPA's rates and charges

The five-member Consolidated Commission on Utilities (CCU), which oversees GPA and acts as its board of directors, establishes GPA's electric rates, but the PUC must approve all increases in rates and charges. Since 1995, GPA has petitioned the PUC for base increases seven times, and with the exception of the 1995 petition, the PUC has granted at least a portion of GPA's request. However, PUC's intent has been to keep rates low, and with residential rates at 27 cents per kWh, rates compare favorably to other island based utilities that depend primarily on oil-fired generation (see Table 7).

GPA is entitled to recover all of its fuel costs through a Levelized Energy Adjustment Clause (LEAC) mechanism, but its LEAC adjustments are considered semiannually, causing a lag in a fuel cost recovery. GPA has proposed making quarterly LEAC adjustments, but this has yet to be approved by the PUC. Customers' bills also include a Working Capital Fund Surcharge, which is also subject to adjustments on a semiannual basis. In addition to GPA's petition to change the frequency of the LEAC mechanism, the PUC is still considering GPA's proposal to impose a payment in lieu of taxes (PILOT) surcharge to cover payments required to Guam's General Fund of $3.5mn in FY2012 and $875,000 annually for FY2013 through FY2016.

Satisfies DSC covenants; future rate increases needed

The rate covenant requires net operating revenues to be sufficient to provide 1.3x debt service coverage (DSC) of the senior lien bonds, and 1.2x DSC of senior and subordinate bonds. The DSC calculation, as per the indenture, does not require annual lease payments pursuant to outstanding energy agreements with IPPs to be included. GPA has been in compliance with covenants, and FY2011 fixed charge coverage, which includes the lease payments, was approximately 1.3x. While coverage will be narrower as a result of the rollback of the base rate increase, we expect future necessary rate increases to cover fixed charges to be approved. Given the scale and scope of GPA's capital plan may more than double to meet the environmental regulations, we hope to see less resistance to raising rates. The Authority will be filing a rate petition in March of 2013 for a rate increase in FY2014.

The additional bonds test requires that pledged revenues for the fiscal year preceding the issuance to be 1.3x maximum annual debt service (MADS) for the senior bonds, and 1.2x MADS for the outstanding senior and subordinate bonds plus the future issuance. Both the senior and subordinate reserve funds are to be sized at MADS for the outstanding senior and subordinate bonds.

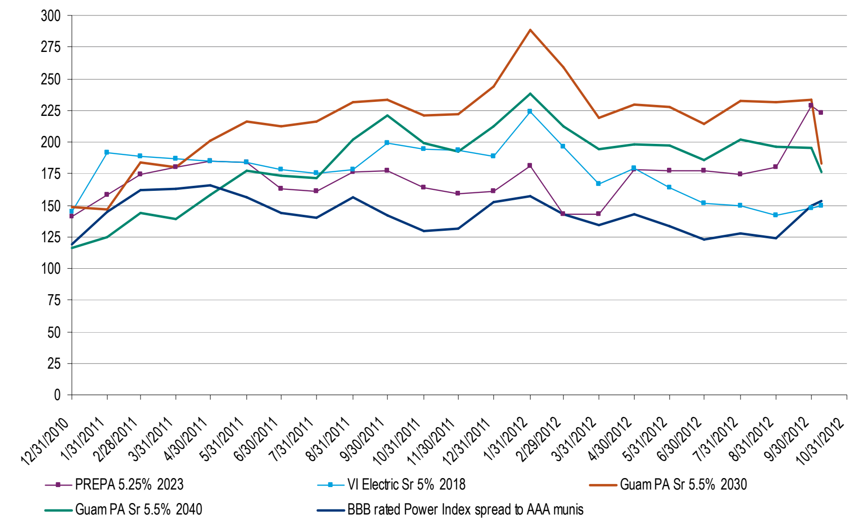
Economy reliant upon tourism and the U.S. military

With a population of about 160,000 Guam's economy is somewhat constrained, and tourism is its largest industry. Tourism and the U.S. military are the primary drivers of Guam's economy, and account for over half of the jobs on the island. Guam's proximity to major cities in Asia and the South Pacific contributes to the island's diversity of visitors, and Guam's geographic location provides the U.S. military operations with greater flexibility compared to other locations in the Pacific and Asia. As of May 2012, Guam's international airport was the eighth largest international gateway in the U.S. Guam's economy has benefited from the rebound in tourism since the economic downturn and the March 2011 earthquake and tsunami in Japan.

Trading in between PREPA and VI Electric

As shown by Chart 7, GPA's Senior Revenue Bonds 5.5% of 2030 and 2040 are trading 30bps and 23bps cheap, respectively, to the BBB rated BofAML Power Revenue Bond Index. We would expect the bonds would trade cheap to that index, but what we find interesting is that the 5.5% of 2030 are trading 40bps rich to Puerto Rico Electric and Power Authority (PREPA), which carries ratings of Baa1/BBB+/BBB+ from Moody's, S&P, and Fitch, respectively. Additionally, GPA's Senior Bonds are trading 33bps cheap to the Virgin Island Electric System Senior Bonds, which are rated Baa2/BBB-/BB and carry a negative outlook from all three agencies.

Chart 7: Guam Power Authority Senior Revenue Bonds vs. Virgin Island Electric vs. Puerto Rico Electric and Power Authority vs. BBB rated Power Index spread to MMD (bps)



Source: BofA Merrill Lynch Global Research

MEDCO refunding lease revenue bonds

Next week, the Maryland Economic Development Corporation (MEDCO) has tentatively scheduled for issuance a $199mn refunding bond issue, rated Aa1/AA+ by Moody's and S&P, respectively, proceeds will be used to refund the 2003 Series Bonds, which were issued to finance construction at the Baltimore/Washington International Thurgood Marshall Airport (BWI). Completed in February 2006, BWI construction included the expansion of Pier A, Pier B, and the Terminal Building, which addressed growing airline operations; in particular, Southwest Airlines' expansion at the airport. The total cost of the project was $219mn, with the Series 2003 bonds financing $207mn (94.5%).

Located in Anne Arundel County, Maryland, BWI is the busiest airport in the Baltimore-Washington area, with the most boardings overall. Since 2009, traffic and operations have increased yearly, with a 2.1% increase in 2011. Though BWI has not been an official hub for any airline since US Airways de-hubbed shortly after the September 11 attacks, Southwest's dominant presence at the airport makes it effectively a hub.

In 2011, Southwest acquired AirTran Airlines; the two combined to account for 225 daily departures, and 71.7% of enplanements in FY2012. BWI is the only airport in the metropolitan Washington D.C. area at which Southwest Airlines operates. Further expansion of the airport's Concourse C (Pier C) commenced this past summer, and upon completion in a year, will be occupied entirely by Southwest and AirTran.

Careful budgeting keeps the trust fund solid

The 2003 Series Bonds are lease revenue bonds, secured by payments from the Maryland Aviation Administration (MAA) to MEDCO. For the 2012 Series bonds, debt service payments fluctuate; payments lower to roughly 9.9mn in 2014 and 2015 (from 12.0mn in 2013), and gradually rises to 10.8mn in 2020. In 2021, it dips back to 10.0mn, and there is a steady increase from 2022 onwards, ending at a 13.5mn payment due in 2030.The MAA is an agency of the State and was created for the purpose of aviation development throughout Maryland.

Payment on the Bonds is effectively a General Fund obligation of the State of Maryland. Every January, the General Assembly appropriates rentals which the MAA must pay under the lease. Though it is not mandatory for the state to appropriate funds, the lease payments, which are in amounts adequate to pay debt service, are the MAA's unconditional obligation. Rentals are intended (though not limited) to be paid from the Transportation Trust Fund (TTF), as are all expenditures of most of the state-owned transportation agencies. The TTF's revenue sources include taxes, fees, charges, and bond proceeds. In FY2011, the TTF increased to $1.64bn from $1.56bn in both FY2009 and FY2010, and are projected to increase to $1.65bn in FY2012. Revenues are projected to fall in FY2013, partly due to a reduction in percentage distribution of the State's 8.25% corporation income tax (from 24% to 9.5%). After FY2013, the percentage distribution will be up to 19.5% until FY2017 and future years, where it will then be lowered and kept at 17.2%. In addition, FY2013 total fund balance will also decrease, back to $1.6bn. Though the fund balance is forecasted to decrease for FY2013, the decline is not significant, and the TTF remains funded adequately.

The state has shown responsibility in preserving the TTF, most notably in the 2007 Special Session of the General Assembly, where legislators pledged to increase state program funding, including the TTF, by over $350mn, through additional sources such as various tax revenues. However, there have also been times in the past, during periods of financial strain, when the state has transferred or redirected revenues from the TTF into the General Fund. A notable case of revenue redirection was in 2003, where a total of $315mn of TTF revenues were instead credited to the General Fund account. Despite past fund diversion, the state's noticeable effort to increase fund revenues, and the positive and stable fund balance, are strong indications of capable financial planning. Worth noting, though not credit enhancing, is that in the event of a default, payment of the bonds is further secured by the facility's monthly revenues received by the MAA.

MEDCO supported by Maryland's credit

These bonds are rated Aa1/AA+ by Moody's and S&P, with Moody's having a negative outlook. Moody's negative outlook is attributed to Maryland's ties to the federal government, including reliance on government spending and employment. Though these bonds are not general obligations of the State of Maryland, links such as TTF transfers to the state's general fund and state appropriation of payments are a reflection of the bond's ties to the state, and furthermore, the importance of the state's credit.

Maryland has shown above national average economic performance and responsible fiscal management, both of which are reflected in its GO ratings (Aaa/AAA). Per capita income in the state is the nation's fourth highest at $51,038, 22.5% higher than the national average of $41,663. Unemployment as of August 2012 was 7.1%, compared to the national average of 8.1%. Almost 20% of the labor force is employed by the government; specifically 5.7% are federal government workers, over double the national average of 2.2%, due to the state's proximity to Washington D.C. Similar to most states, housing remains a concern. Though building permits issued increased by 13% in 2011, median home value decreased 7%, as did unit home sales by 1.2%. Maryland, well aware of the possible ongoing economic challenges ahead, sensibly acknowledges these difficulties in its General Fund revenue projections. As one of the few top rated states, FY2012 General Fund revenues were $14.3bn, 1.6% above estimates. Total FY2013 revenues are projected to be $14.9bn, which is approximately 4.6% growth. Individual income and sales tax are the leading revenue sources for the state; corporation and motor vehicle tax, though not primary revenue sources, will increase substantially in FY2013, by 27.1% and 160% respectively. The Revenue Stabilization Account for FY2011 as a percentage of the General Fund Revenue is 4.6%, lower than previous years which were just under or over 5%, the state goal. FY2012 estimates the percentage at 4.8%, a step closer to the historical averages. The state's net tax-supported debt outstanding as of 2012 March 31, was $10.3bn, of that amount, $7.5bn was general obligation debt.

Continued economic strain coupled with imprudent financial planning would be detrimental towards Maryland's credit quality, which would indirectly affect the Series 2012 bonds. These concerns are implicit of virtually any bond's credit quality, but as mentioned previously, Maryland's credit quality is better than most because of the relative strength of the economy and sound fiscal polices. As of now, Maryland's careful budgeting has contributed to the reliability of the main revenue source for the bonds, the TTF, and has also led to the State maintaining its top rating despite rough economic times; in our opinion, the ratings for the 2012 Series bonds are well justified.

Appendix I: Average yield by sector and rating

Table 8: Avg yield for 7-12yr index, 10/11/12

Sector	AAA	AA	A	BBB	Average by Sector
Airports	-	2.07	2.16	-	2.12
GO Local	1.38	1.48	2.77	4.09	2.43
GO State	1.35	1.60	1.76	-	1.57
Health	-	2.26	2.67	4.06	3.00
Higher Education	1.61	1.50	3.14	2.97	2.31
Hospital	-	2.99	2.46	2.84	2.76
Industrial Development Revenue	-	-	2.30	3.49	2.90
Leases COPS & Appropriations	-	1.79	2.60	3.65	2.68
Multi-Family Housing	-	3.29	-	-	3.29
Pollution Control	-	-	2.72	3.34	3.03
Power	-	-	2.19	3.38	2.79
Single-Family Housing	3.11	3.30	-	4.35	3.59
Tax Revenues	1.31	1.60	2.75	4.14	2.45
Tobacco	-	-	3.19	3.67	3.43
Toll & Turnpike	-	1.44	1.83	3.69	2.32
Transportation - Other	-	1.52	2.00	3.51	2.34
Utilities - Other	-	1.41	2.78	3.94	2.71
Water & Sewer	1.55	1.45	1.95	4.09	2.26
Average by Rating	1.72	1.98	2.45	3.68	2.46

Source: BofA Merrill Lynch Global Research

Table 9: Yield change, 10/11/12 - 9/30/12, 7-12yr index

Sector	AAA	AA	A	BBB	Average by Sector
Airports	-	-1	-8	-	-5
GO Local	-1	-5	4	3	0
GO State	-2	0	-2	-	-1
Health	-	-12	-3	-7	-7
Higher Education	0	-1	-1	-18	-5
Hospital	-	-2	-15	-60	-26
Industrial Development Revenue	-	-	-14	-1	-8
Leases COPS & Appropriations	-	0	-4	-3	-2
Multi-Family Housing	-	7	-	-	-
Pollution Control	-	-	-2	-1	-2
Power	-	-	-3	0	-2
Single-Family Housing	1	-1	-	1	0
Tax Revenues	-2	-1	-1	-3	-2
Tobacco	-	-	-4	1	-2
Toll & Turnpike	-	-1	-5	-2	-3
Transportation - Other	-	0	-4	-15	-6
Utilities - Other	-	2	-7	8	1
Water & Sewer	-2	-1	-4	-1	-2
Average by Rating	-1	-1	-5	-7	-3

Source: BofA Merrill Lynch Global Research

Table 10: Yield change, 10/11/12 - 12/31/11, 7-12yr index

Sector	AAA	AA	A	BBB	Average by Sector
Airports	-	-70	-80	-	-75
GO Local	-30	-70	-70	8	-41
GO State	-29	-28	-50	-	-36
Health	-	-42	-	-73	-58
Higher Education	-18	-48	-75	-101	-61
Hospital	-	-	-57	-166	-112
Industrial Development Revenue	-	-	-76	-29	-53
Leases COPS & Appropriations	-	-41	-62	-118	-74
Multi-Family Housing	-	-	-	-	-
Pollution Control	-	-	-71	-84	-78
Power	-	-	-16	-51	-34
Single-Family Housing	-24	-72	-	-86	-61
Tax Revenues	-	-24	-42	-66	-44
Tobacco	-	-	-30	-109	-70
Toll & Turnpike	-	-	-30	-96	-63
Transportation - Other	-	-50	-74	-72	-65
Utilities - Other	-	-53	-53	-68	-58
Water & Sewer	-25	-60	-91	-45	-55
Average by Rating	-25	-51	-58	-77	-53

Source: BofA Merrill Lynch Global Research

Table 11: Avg yield for 22+yr index, 10/11/12

Sector	AAA	AA	A	BBB	Average by Sector
Airports	-	3.3	3.59	4.65	3.85
GO Local	2.35	3.34	3.67	5	3.59
GO State	2.08	2.85	3.11	-	2.68
Health	-	3.29	3.58	4.04	3.64
Higher Education	1.99	2.65	3.33	4.21	3.05
Hospital	-	3.32	3.5	4.02	3.61
Industrial Development Revenue	3.28	3.76	3.84	4	3.72
Leases COPS & Appropriations	1.87	2.99	3.67	4.46	3.25
Multi-Family Housing	3.92	4.17	4.82	4.76	4.42
Pollution Control	2.42	-	3.37	3.98	3.26
Power	-	2.36	3.32	4.55	3.41
Single-Family Housing	3.78	4.33	4.08	5.08	4.32
Tax Revenues	2.95	3.24	4.2	4.54	3.73
Tobacco	-	-	5.6	6.37	5.99
Toll & Turnpike	-	2.94	3.25	4.92	3.70
Transportation - Other	-	3.04	3.37	4.2	3.54
Utilities - Other	2.22	2.46	3.78	4.74	3.30
Water & Sewer	2.86	2.67	3.26	4.81	3.40
Average by Rating	2.70	3.17	3.74	4.61	3.55

Source: BofA Merrill Lynch Global Research

Table 12: Yield change, 10/11/12 - 9/30/12, 22+yr index

Sector	AAA	AA	A	BBB	Average by Sector
Airports	-	1	0	2	1
GO Local	1	-1	-5	6	0
GO State	2	0	3	-	2
Health	-	-7	-3	-3	-4
Higher Education	1	1	1	0	1
Hospital	-	-	-1	-3	-2
Industrial Development Revenue	-7	-12	-2	-2	-6
Leases COPS & Appropriations	3	1	0	-2	0
Multi-Family Housing	0	-1	-	1	0
Pollution Control	1	-	1	1	1
Power	-	-3	0	7	1
Single-Family Housing	0	1	0	0	0
Tax Revenues	1	-1	3	4	2
Tobacco	-	-	1	-1	0
Toll & Turnpike	-	0	0	1	0
Transportation - Other	-	-4	0	-1	-2
Utilities - Other	2	2	-7	-6	-2
Water & Sewer	1	-3	0	2	0
Average by Rating	0	-2	-1	0	0

Source: BofA Merrill Lynch Global Research

Table 13: Yield change, 10/11/12 - 12/31/11, 22+yr index

Sector	AAA	AA	A	BBB	Average by Sector
Airports	-	-103	-108	-97	-103
GO Local	-130	-103	-89	0	-81
GO State	-164	-95	-127	-	-129
Health	-	-132	-135	-154	-140
Higher Education	-118	-128	-104	-122	-118
Hospital	-	-119	-141	-149	-136
Industrial Development Revenue	-88	-	-103	-135	-109
Leases COPS & Appropriations	-207	-117	-121	-85	-133
Multi-Family Housing	-	-71	-	-121	-96
Pollution Control	-98	-	-90	-109	-99
Power	-	-159	-98	-55	-104
Single-Family Housing	-83	-43	-78	-65	-67
Tax Revenues	-92	-108	-38	-82	-80
Tobacco	-	-	-14	-67	-41
Toll & Turnpike	-	-125	-119	-82	-109
Transportation - Other	-	-103	-103	-95	-100
Utilities - Other	-122	-116	-97	-41	-94
Water & Sewer	-54	-117	-126	-26	-81
Average by Rating	-116	-109	-99	-87	-103

Source: BofA Merrill Lynch Global Research

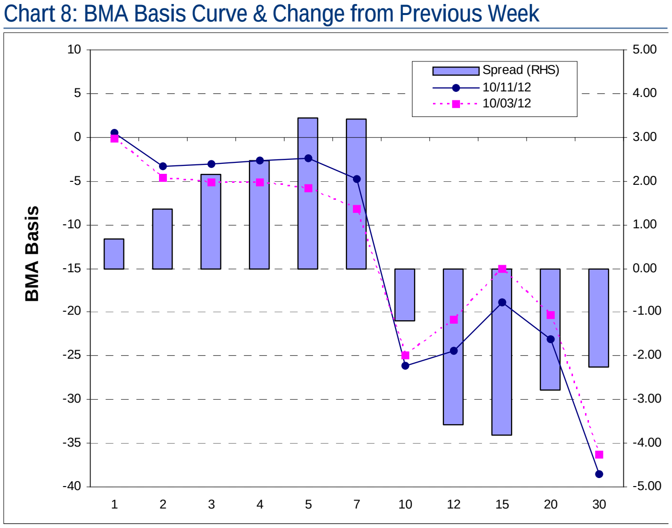
Table 14: Weekly Rate Summary

	AAA Muni 10/11/12	AAA Muni 10/3/12	BP Change		BMA 10/11/12	BMA 10/3/12	BP Change		LIBOR 10/11/12	LIBOR 10/3/12	BP Change		Treasury 10/11/12	Treasury 10/3/12	BP Change
2 yr	0.30%	0.30%	0.0	2 yr	0.27%	0.25%	1.4	2 yr	0.39%	0.37%	2.2	2 yr	0.27%	0.23%	3.6
3 yr	0.36%	0.36%	0.0	3 yr	0.33%	0.31%	2.1	3 yr	0.46%	0.43%	3.3	3 yr	0.35%	0.30%	4.9
4 yr	0.47%	0.46%	1.0	4 yr	0.44%	0.41%	3.5	4 yr	0.60%	0.56%	4.7	4 yr	0.51%	0.45%	5.5
5 yr	0.63%	0.62%	1.0	5 yr	0.61%	0.56%	4.4	5 yr	0.79%	0.74%	5.8	5 yr	0.66%	0.60%	6.1
7 yr	1.02%	1.02%	0.0	7 yr	0.97%	0.94%	3.4	7 yr	1.21%	1.16%	4.8	7 yr	1.09%	1.02%	6.3
10 yr	1.70%	1.67%	3.0	10 yr	1.44%	1.42%	1.8	10 yr	1.72%	1.69%	3.2	10 yr	1.68%	1.62%	5.2
12 yr	1.92%	1.87%	5.0	12 yr	1.68%	1.66%	1.4	12 yr	1.98%	1.95%	2.6	12 yr	1.68%	1.62%	5.2
15 yr	2.13%	2.08%	5.0	15 yr	1.94%	1.93%	1.2	15 yr	2.23%	2.21%	2.0	15 yr	1.97%	1.92%	4.6
20 yr	2.43%	2.40%	3.0	20 yr	2.20%	2.20%	0.2	20 yr	2.44%	2.43%	0.9	20 yr	2.26%	2.22%	4.1
30 yr	2.86%	2.84%	2.0	30 yr	2.47%	2.48%	-0.3	30 yr	2.62%	2.62%	0.4	30 yr	2.85%	2.83%	2.9

	BMA Basis 10/11/12	BMA Basis 10/3/12	Change		BMA/LIBOR Ratio 10/11/12	BMA/LIBOR Ratio 10/3/12	Change		Muni/LIBOR Ratio 10/11/12	Muni/LIBOR Ratio 10/3/12	Change		Muni/Trsy Ratio 10/11/12	Muni/Trsy Ratio 10/3/12	Change
2 yr	-3.3	-4.7	1.4	2 yr	68.6%	69.0%	-0.37%	2 yr	77.2%	81.8%	-4.62%	2 yr	111.1%	128.1%	-16.9%
3 yr	-3.1	-5.2	2.1	3 yr	70.9%	71.3%	-0.38%	3 yr	77.5%	83.3%	-5.86%	3 yr	102.2%	118.7%	-16.5%
4 yr	-2.7	-5.2	2.5	4 yr	73.5%	73.5%	0.00%	4 yr	78.0%	82.8%	-4.84%	4 yr	92.6%	101.5%	-9.0%
5 yr	-2.4	-5.8	3.4	5 yr	76.5%	76.5%	0.00%	5 yr	79.4%	84.3%	-4.93%	5 yr	95.0%	102.9%	-7.9%
7 yr	-4.7	-8.2	3.4	7 yr	80.5%	80.9%	-0.37%	7 yr	84.3%	87.8%	-3.49%	7 yr	93.9%	99.7%	-5.8%
10 yr	-26.2	-25.0	-1.2	10 yr	83.8%	84.3%	-0.50%	10 yr	98.8%	98.8%	-0.09%	10 yr	101.5%	102.9%	-1.4%
12 yr	-24.4	-20.9	-3.6	12 yr	85.0%	85.4%	-0.37%	12 yr	97.2%	95.9%	1.29%	12 yr	114.6%	115.2%	-0.6%
15 yr	-18.9	-15.1	-3.8	15 yr	87.1%	87.4%	-0.25%	15 yr	95.4%	94.0%	1.40%	15 yr	108.1%	108.1%	0.0%
20 yr	-23.1	-20.4	-2.8	20 yr	90.3%	90.5%	-0.25%	20 yr	99.4%	98.6%	0.85%	20 yr	107.3%	107.9%	-0.6%
30 yr	-38.6	-36.3	-2.3	30 yr	94.8%	95.0%	-0.25%	30 yr	109.2%	108.6%	0.59%	30 yr	100.2%	100.5%	-0.3%

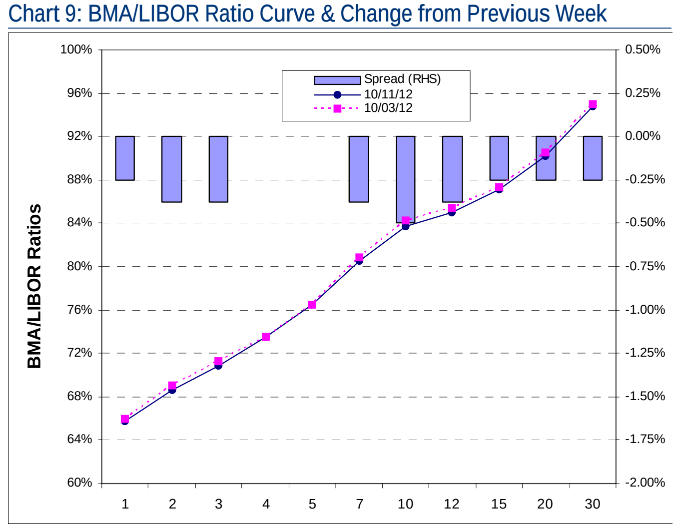
Source: Thomson Reuters MMD; BofA Merrill Lynch Global Research

Chart 8: BMA Basis Curve & Change from Previous Week



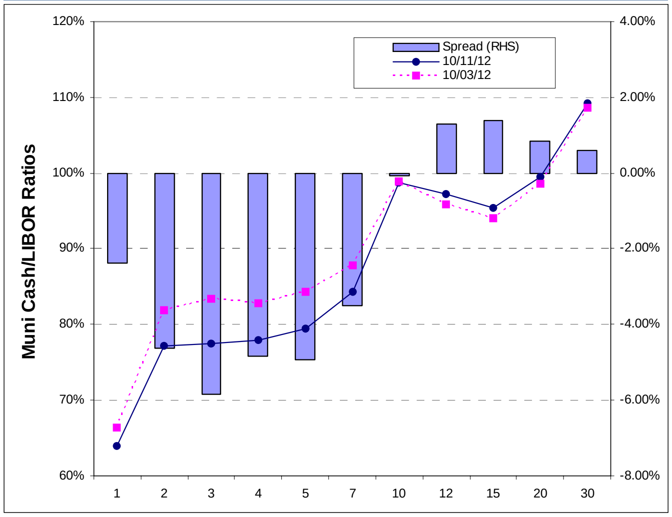
Source: BofA Merrill Lynch Global Research

Chart 9: BMA/LIBOR Ratio Curve & Change from Previous Week



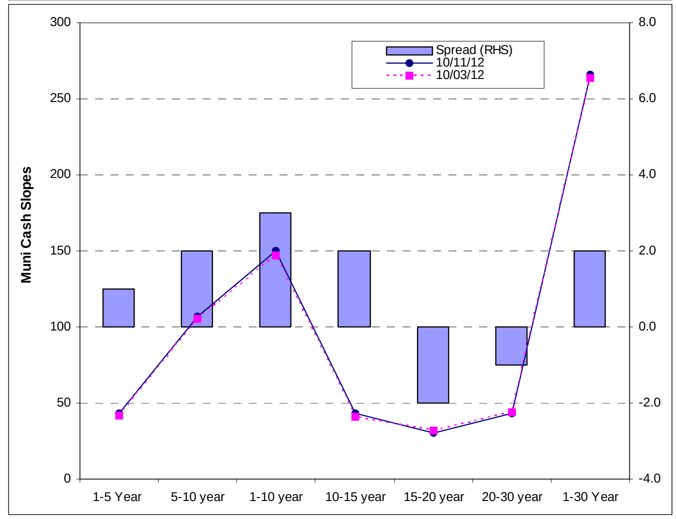
Source: BofA Merrill Lynch Global Research

Chart 10: Muni Cash/LIBOR Ratio Curve & Change from Previous Week



Source: Thomson Reuters MMD; BofA Merrill Lynch Global Research

Chart 11: Muni Cash Slopes & Change from Previous Week



Source: Thomson Reuters MMD; BofA Merrill Lynch Global Research

Table 15: Rich/Cheap Analysis of BMA Swap/Muni Cash Basis by Maturity

Years to Maturity	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year	12 Year	15 Year	20 Year	30 Year
Current BMA Level	0.21	0.27	0.33	0.44	0.61	0.97	1.44	1.68	1.94	2.20	2.47
Current BMA Basis	1	-3	-3	-3	-2	-5	-26	-24	-19	-23	-39
Rich/Cheap of Munis (Short Term)	-	-	-	-	-	Very Rich	Rich	Rich	Rich	Rich	Rich
Rich/Cheap of Munis (Long Term)	Cheap	Cheap	-	-	Cheap	-	-	-	-	Rich	Rich
3 Month Max	4	-1	-1	3	3	-1	-19	-14	-8	-11	-26
3 Month Average	-1	-3	-5	-3	-5	-18	-32	-32	-31	-38	-52
3 Month Min	-3	-6	-10	-8	-12	-29	-41	-48	-55	-67	-76
3 Month STD	1	1	2	3	4	6	4	6	9	12	9
1 Year Max	22	16	10	18	24	29	7	-1	-8	-11	-26
1 Year Average	6	3	-1	0	3	-5	-23	-30	-40	-57	-73
1 Year Min	-3	-7	-12	-15	-16	-29	-41	-51	-76	-111	-126
1 Year STD	6	6	5	6	9	13	11	11	14	20	20
3 Year Max	47	53	73	80	70	45	18	18	12	-11	-26
3 Year Average	11	12	16	18	17	3	-18	-25	-36	-58	-74
3 Year Min	-3	-7	-12	-15	-16	-29	-57	-73	-96	-132	-130
3 Year STD	9	13	19	21	18	14	14	16	21	24	22
3 Month Z-Score	1.0	0.1	0.8	0.1	0.8	2.2	1.3	1.2	1.3	1.3	1.4
1 Yr Z-Score	-1.0	-1.0	-0.3	-0.4	-0.6	0.0	-0.2	0.5	1.5	1.7	1.7
3 Year Z-Score	-1.2	-1.2	-1.0	-1.0	-1.1	-0.6	-0.6	0.0	0.8	1.5	1.6

Note 1: If the current data are 1-std below (above) the 3 month average, we characterize it as short term Rich (Cheap); if the current data are within 1-std of the 3 month, we characterize it as short term Neutral. Long term assignments are based on 3 year data. Source: BofA Merrill Lynch Global Research, Bloomberg, Thomson Reuters MMD

Table 16: Rich/Cheap Analysis of BMA Swap/Muni Cash Basis (Normalized) by Maturity

Years to Maturity	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year	12 Year	15 Year	20 Year	30 Year
Current BMA Level	0.21	0.27	0.33	0.44	0.61	0.97	1.44	1.68	1.94	2.20	2.47
Current BMA Basis	3	-11	-9	-6	-4	-5	-15	-13	-9	-10	-13
Rich/Cheap of Munis (Short Term)	-	-	-	-	-	Very Rich	Rich	Rich	Rich	Rich	Rich
Rich/Cheap of Munis (Long Term)	Cheap	Cheap	Cheap	Cheap	Cheap	-	Cheap	-	-	Rich	Rich
3 Month Max	20	-2	-2	7	4	-1	-11	-8	-4	-5	-9
3 Month Average	-4	-12	-13	-6	-8	-15	-18	-16	-14	-15	-18
3 Month Min	-16	-18	-23	-15	-17	-22	-22	-23	-23	-25	-25
3 Month STD	7	4	5	5	5	5	2	3	4	4	3
1 Year Max	87	52	23	35	37	23	4	0	-4	-5	-9
1 Year Average	28	7	-3	1	3	-4	-12	-14	-16	-20	-22
1 Year Min	-16	-19	-23	-16	-17	-22	-22	-24	-25	-32	-34
1 Year STD	24	18	10	11	12	11	6	5	5	5	5
3 Year Max	167	105	103	76	49	23	7	6	4	-3	-8
3 Year Average	42	24	19	17	13	1	-8	-9	-12	-16	-19
3 Year Min	-16	-19	-23	-16	-17	-22	-22	-24	-25	-32	-34
3 Year STD	31	24	25	21	13	8	6	6	7	6	5
3 Month Z-Score	1.0	0.2	0.8	0.0	0.8	2.3	1.2	1.1	1.3	1.3	1.3
1 Yr Z-Score	-1.0	-1.0	-0.5	-0.6	-0.6	-0.1	-0.5	0.2	1.5	1.9	1.9
3 Year Z-Score	-1.3	-1.5	-1.1	-1.1	-1.2	-0.7	-1.2	-0.5	0.4	1.1	1.1

Note 1: If the current data are 1-std below (above) the 3 month average, we characterize it as short term Cheap (Rich); if the current data are within 1-std of the 3 month, we characterize it as short term Neutral. Long term views are based on 3 year data. Note 2: Normalized BMA/MMD basis is defined as the BMA/MMD basis divided by the MMD rate of the same maturity. Source: BofA Merrill Lynch Global Research, Bloomberg, Thomson Reuters MMD

Table 17: Rich/Cheap Analysis of BMA/LIBOR Ratios by Maturity

Years to Maturity	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year	12 Year	15 Year	20 Year	30 Year
Current LIBOR Level	0.31	0.39	0.46	0.60	0.79	1.21	1.72	1.98	2.23	2.44	2.62
Current BMA Level	0.21	0.27	0.33	0.44	0.61	0.97	1.44	1.68	1.94	2.20	2.47
Current BMA/LIBOR Ratio	65.8%	68.6%	70.9%	73.5%	76.5%	80.5%	83.8%	85.0%	87.1%	90.3%	94.8%
Rich/Cheap of BMA (Short Term)	Cheap	Cheap	Cheap	Cheap	Cheap	-	-	-	-	-	-
Rich/Cheap of BMA (Long Term)	-	-	-	Rich	Rich	-	-	-	-	-	Cheap
3 Month Max	66.0%	69.5%	71.3%	73.6%	76.9%	81.8%	85.4%	86.6%	88.5%	92.5%	97.6%
3 Month Average	53.9%	60.9%	65.5%	70.3%	74.6%	79.4%	83.1%	84.4%	86.3%	89.9%	94.7%
3 Month Min	47.0%	54.5%	60.0%	65.3%	70.3%	76.0%	80.1%	81.8%	83.6%	87.0%	91.8%
3 Month STD	7.1%	5.3%	3.7%	2.5%	1.8%	1.4%	1.3%	1.2%	1.2%	1.4%	1.6%
1 Year Max	68.5%	74.3%	80.3%	84.8%	86.9%	89.4%	91.0%	91.9%	93.1%	94.9%	98.0%
1 Year Average	53.0%	62.6%	69.1%	74.4%	78.1%	82.0%	84.6%	85.7%	87.2%	90.2%	94.2%
1 Year Min	39.0%	52.0%	60.0%	65.3%	70.3%	76.0%	80.1%	81.8%	83.6%	86.5%	89.6%
1 Year STD	6.8%	5.3%	4.9%	4.5%	3.8%	3.3%	2.9%	2.8%	2.7%	2.4%	2.5%
3 Year Max	99.5%	89.6%	87.9%	87.1%	88.6%	90.6%	92.1%	92.8%	94.3%	95.8%	98.5%
3 Year Average	75.3%	75.8%	77.2%	78.9%	80.2%	81.8%	83.2%	84.0%	85.1%	86.9%	89.8%
3 Year Min	39.0%	52.0%	60.0%	65.3%	70.3%	75.0%	75.6%	76.0%	76.8%	77.6%	79.1%
3 Year STD	17.6%	10.2%	6.7%	4.7%	3.6%	3.3%	3.4%	3.5%	3.6%	4.1%	4.7%
3 Month Z-Score	1.7	1.5	1.5	1.3	1.0	0.8	0.5	0.5	0.7	0.3	0.0
1 Yr Z-Score	1.9	1.1	0.4	-0.2	-0.4	-0.5	-0.3	-0.2	0.0	0.0	0.2
3 Year Z-Score	-0.5	-0.7	-0.9	-1.1	-1.0	-0.4	0.2	0.3	0.5	0.8	1.1

Note: BMA rates quoted are quarterly and LIBOR rates quoted are semi-annual. BMA/LIBOR ratios are calculated after LIBOR rates are converted to quarterly. Rich/Cheap/Neutral views are based on 3 month average. If the current data are 1-std below (above) the 3 month average, we characterize it as Rich (Cheap) ; if the current data are within 1-std of the 3 month average, we characterize it as Neutral. Long term views are based on 3 year data

Data Source: BofA Merrill Lynch Global Research, Bloomberg, Thomson Reuters MMD

Table 18: BMA/LIBOR Ratio Slopes by Sector

Curve sector	2/30s	5/30s	7/30s	10/30s	20/30s	5/20s	7/20s	10/20s	2/10s	5/10s	7/10s
Current Slope	26.1%	18.3%	14.3%	11.0%	4.5%	13.8%	9.7%	6.5%	15.1%	7.3%	3.3%
Versus 3 Months	Flat	Flat	-	-	-	Flat	-	-	Flat	Flat	Flat
Versus 3 Years	-	Steep	Steep	Steep	Steep	Steep	Steep	Steep	-	Steep	Steep
3 Month Max	40.5%	23.0%	17.5%	13.1%	5.3%	17.8%	12.3%	7.9%	27.6%	10.3%	4.5%
3 Month Average	33.7%	20.1%	15.3%	11.6%	4.8%	15.3%	10.5%	6.8%	22.2%	8.5%	3.7%
3 Month Min	24.3%	17.4%	13.5%	10.5%	4.4%	12.9%	9.0%	6.0%	13.8%	6.9%	3.0%
3 Month STD	5.9%	1.8%	1.2%	0.8%	0.3%	1.5%	0.9%	0.5%	5.2%	1.0%	0.4%
1 Year Max	40.8%	23.0%	17.5%	13.1%	5.3%	17.8%	12.3%	7.9%	31.6%	10.3%	4.5%
1 Year Average	31.6%	16.1%	12.2%	9.5%	3.9%	12.1%	8.2%	5.6%	22.1%	6.5%	2.6%
1 Year Min	20.9%	9.2%	7.5%	6.1%	2.6%	6.6%	4.9%	3.5%	13.8%	3.1%	1.4%
1 Year STD	5.3%	3.4%	2.6%	1.8%	0.8%	2.7%	1.8%	1.1%	4.3%	1.7%	0.8%
3 Year Max	40.8%	23.0%	17.5%	13.1%	5.3%	17.8%	12.3%	7.9%	31.6%	10.3%	4.5%
3 Year Average	13.9%	9.5%	8.0%	6.6%	2.8%	6.7%	5.1%	3.7%	7.3%	3.0%	1.4%
3 Year Min	-0.4%	4.0%	4.1%	3.5%	1.5%	2.0%	2.1%	1.8%	-5.3%	0.0%	0.3%
3 Year STD	13.5%	5.1%	3.4%	2.4%	0.9%	4.2%	2.5%	1.5%	11.3%	2.8%	1.0%
3 Month Z-Score	-1.3	-1.0	-0.9	-0.7	-0.9	-1.0	-0.8	-0.5	-1.3	-1.2	-1.1
1 Yr Z-Score	-1.0	0.6	0.8	0.8	0.7	0.6	0.8	0.9	-1.6	0.4	0.8
3 Year Z-Score	0.9	1.7	1.9	1.8	1.8	1.7	1.9	1.9	0.7	1.5	1.8

Note 1: If the current data are 1-std below (above) the 3 month average, we characterize it as short term Flat (Steep); if the current data are within 1-std of the 3 month, we characterize it as short term Neutral. Long term views are based on 3 year data

Source: BofA Merrill Lynch Global Research

Table 19: Rich/Cheap Analysis of Muni Cash/LIBOR Ratios

Years to Maturity	1 Year	2 Year	3 Year	4 Year	5 Year	7 Year	10 Year	12 Year	15 Year	20 Year	30 Year
Current LIBOR Level	0.31	0.39	0.46	0.60	0.79	1.21	1.72	1.98	2.23	2.44	2.62
Current Muni Cash/LIBOR Ratio	64.0%	77.2%	77.5%	78.0%	79.4%	84.3%	98.8%	97.2%	95.4%	99.4%	109.2%
Rich/Cheap of Munis (Short Term)	Cheap	Cheap	-	-	-	Very Rich	-	-	-	-	-
Rich/Cheap of Munis (Long Term)	-	Cheap	-	-	-	-	Cheap	-	-	-	-
3 Month Max	68.0%	81.8%	84.8%	84.0%	89.9%	100.4%	108.8%	111.7%	114.3%	121.9%	129.0%
3 Month Average	56.1%	69.2%	75.6%	75.0%	81.0%	93.8%	101.2%	100.4%	100.4%	106.0%	114.9%
3 Month Min	45.9%	57.9%	61.5%	61.0%	67.3%	81.3%	93.9%	91.7%	90.1%	94.2%	103.8%
3 Month STD	6.2%	6.2%	5.9%	5.9%	5.5%	4.7%	3.2%	4.2%	5.3%	6.6%	5.9%
1 Year Max	68.0%	81.8%	92.5%	100.3%	99.2%	100.4%	109.0%	113.5%	124.4%	139.1%	146.9%
1 Year Average	42.7%	59.4%	72.2%	74.7%	76.3%	85.8%	96.7%	99.4%	103.8%	112.3%	121.0%
1 Year Min	29.5%	41.9%	56.2%	54.8%	55.6%	70.0%	82.2%	86.0%	90.1%	94.2%	103.8%
1 Year STD	9.2%	8.9%	7.2%	8.9%	8.8%	8.5%	6.7%	6.9%	8.1%	9.9%	9.3%
3 Year Max	93.0%	97.7%	96.8%	100.3%	99.2%	102.7%	116.3%	118.2%	124.4%	139.1%	146.9%
3 Year Average	54.9%	62.5%	66.7%	69.1%	72.1%	81.2%	90.3%	92.9%	96.8%	104.4%	111.2%
3 Year Min	29.5%	40.4%	40.7%	44.1%	52.1%	64.5%	74.2%	74.1%	75.4%	81.4%	89.0%
3 Year STD	15.6%	11.8%	11.2%	11.5%	9.4%	7.9%	8.4%	9.0%	10.3%	11.7%	11.7%
3 Month Z-Score	1.3	1.3	0.3	0.5	-0.3	-2.0	-0.8	-0.8	-0.9	-1.0	-1.0
1 Yr Z-Score	2.3	2.0	0.7	0.4	0.3	-0.2	0.3	-0.3	-1.0	-1.3	-1.3
3 Year Z-Score	0.6	1.2	1.0	0.8	0.8	0.4	1.0	0.5	-0.1	-0.4	-0.2

Note: BMA rates quoted are quarterly and LIBOR rates quoted are semi-annual. BMA/LIBOR ratios are calculated after LIBOR rates are converted to quarterly. Rich/Cheap/Neutral views are based on 30-day averages. If the current data are 1-std below (above) the 30-day average, we characterize it as Rich (Cheap); if the current data are within 1-std of the 30-day average, we characterize it as Neutral.

Data Source: BofA Merrill Lynch Global Research, Bloomberg, Thomson Reuters MMD

Table 20: Muni Cash Curve Slopes

Slope of Curve Sector	1-5 Year	5-10 year	1-10 year	10-15 year	15-20 year	20-30 year	1-30 Year
Current Slope	43	107	150	43	30	43	266
Versus 3 Months	Flat	-	-	-	Flat	-	-
Versus 3 Years	Flat	Flat	Flat	Flat	Flat	-	Flat
3 Month Max	55	120	173	56	36	44	286
3 Month Average	48	107	156	45	32	39	272
3 Month Min	42	96	141	39	30	33	259
3 Month STD	3	6	8	4	2	4	7
1 Year Max	106	132	221	87	52	46	361
1 Year Average	61	108	170	58	39	37	304
1 Year Min	42	90	141	39	28	24	259
1 Year STD	15	8	18	12	8	5	27
3 Year Max	155	163	309	89	57	55	471
3 Year Average	98	125	222	61	42	37	362
3 Year Min	42	90	141	33	27	14	259
3 Year STD	33	15	45	14	6	7	51
3 Month Z-Score	-1.5	-0.1	-0.7	-0.4	-1.1	1.0	-0.9
1 Yr Z-Score	-1.2	-0.2	-1.1	-1.2	-1.2	1.2	-1.4
3 Year Z-Score	-1.6	-1.1	-1.6	-1.2	-1.8	0.8	-1.9

Note 1: If the current data are 1-std below (above) the 3 month average, we characterize it as short term Flat (Steep); If the current data are 2-std below (above) the 3 month average, we characterize it as short term Very Flat (Very Steep); if the current data are within 1-std of the 3 month, we characterize it as short term Neutral. Long term views are based on 3 year data

Source: Thomson Reuters MMD

Table 21: Relative Curve Slopes of Munis vs BMA and LIBOR Swaps

Relative Slope of Curve Sector	5/10Muni Cash vs 5/10BMA	10/15Muni Cash vs 5/10BMA	15/20Muni Cash vs 5/10 BMA	5/10Muni Cash vs 5/10 LIBOR	10/15Muni Cash vs 5/10 LIBOR	15/20Muni Cash vs 5/10LIBOR
Current Relative Slope	24	-40	-53	14	-50	-63
1-Year Flatness	-	Flat	Flat	-	Flat	Flat
3 Month Max	36.0	-16.3	-36.3	27.9	-21.0	-40.8
3 Month Average	26.4	-36.4	-48.9	18.2	-44.6	-57.1
3 Month Min	17.4	-50.9	-61.9	7.1	-64.6	-75.6
3 Month STD	3.8	8.9	7.1	5.1	11.2	9.5
1 Year Max	43.4	7.0	-25.0	33.5	6.7	-25.3
1 Year Average	26.0	-24.0	-43.4	18.6	-31.4	-50.7
1 Year Min	3.8	-50.9	-61.9	-0.8	-64.6	-75.6
1 Year STD	7.8	13.4	8.4	8.1	16.3	11.4
3 Year Max	66.9	7.0	-25.0	46.4	6.7	-25.3
3 Year Average	35.0	-29.0	-48.0	20.7	-43.3	-62.3
3 Year Min	3.8	-51.7	-69.7	-3.1	-73.4	-90.6
3 Year STD	11.1	12.2	8.7	8.6	16.3	13.7
3 Month Z-Score	-0.68	-0.43	-0.61	-0.78	-0.46	-0.60
1 Yr Z-Score	-0.28	-1.21	-1.17	-0.55	-1.13	-1.06
3 Year Z-Score	-1.01	-0.92	-0.61	-0.75	-0.40	-0.04

Note 1: If the current data are 1-std below (above) the 1 Year average, we characterize it as short term Flat (Steep); If the current data are 2-std below (above) the 1 Year average, we characterize it as short term Very Flat (Very Steep); if the current data are within 1-std of the 1 year, we characterize it as short term Neutral.

Source: Thomson Reuters MMD, BofA Merrill Lynch Global Research

Link to Definitions

Credit

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