The Municipal Securities Market in the Midst of Economic Chaos

February 18, 2010
The Brave New World of Public Finance

As the World Turns

- Bond Insurer and LOC Bank Downgrades
- Changes in Underwriting and Underwriters
- State Budget and Market Impacts
- Local Budget Stress
- Credit is King
- Stimulus Package Introduces BABs
The Fall of Insurance and Other Credit Intermediaries
Before the World as We Knew it Ended

- Why insurance worked for investors
  - Safety for retail investors
  - Liquidity for institutional investors
  - Allowed institutional investors to at least partially outsource credit review and surveillance to bond insurance companies

- Why insurance worked for issuers
  - Present value savings from lower interest rates were greater than cost of insurance
  - Cost of insurance could be included in calculation of arbitrage yield, allowing issuer to earn back premium through proceeds investment
  - In California, bond insurance would often achieve 80% market penetration
    - Solid AA-rated credits would still find insurance to be cost effective

- The 21st Century saw emergence of several new AAA-rated insurers
After the World as We Knew it Ended

- Half of the municipal bond world—i.e., all insured bonds—has been downgraded: some $1.3 trillion in par value
- Insurance penetration fell to 8% in 2008, relative to 57% of the national market in 2005
- One insurer remains: Assured Guaranty (who acquired FSA and renamed it AGMC)
  - AA3/AAA/AA- ratings
- Is there a future for bond insurance?
  - Some investors still want credit protection and the liquidity it brings
  - But many institutional investors not willing to give up much yield in return
  - The company with three AAA ratings may be a thing of history
- Often additional bonds require insurer consent, even legal amendment
  - Can you find anybody at home?
  - And what are their incentives to cooperate
- Legacy of sureties in lieu of cash funded debt service reserve funds
Letters-of-Credit

- The old days: credit and liquidity were cheap and plentiful for variable rate bonds
  - 20 basis point instruments were common
  - Bank ratings were stable
  - Long-term letters could be procured

- The last two years
  - Many ratings collapsed (e.g., Dexia, Depfa)
  - Bonds were put back to banks, especially when bond insurance was paired with bank liquidity
  - Reading old bank documents for outstanding bonds became a full time job
  - Refunding of auction rate and VRDO’s that were matched with swaps for “synthetic fixed rate” strained the available liquidity market

- Now
  - Credit is expensive (140 basis points and higher for a new LOC)
  - Much fewer participants (though getting better)
  - Legal provisions even more bank-biased than ever
Changes in Underwriters and Underwriting
### Fall of the Investment Banks

- Of the 8 largest underwriters of municipal bonds in 2007, only four remain in the municipal bond business and none of those four maintain their status as independent investment banking firms.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Firm</th>
<th>Amount in (millions)</th>
<th>Percent</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Citi</td>
<td>$61,890,000</td>
<td>14.6%</td>
<td>Continues to be the world's largest financial services organization.</td>
</tr>
<tr>
<td>2</td>
<td>Merrill Lynch</td>
<td>47,988,000</td>
<td>11.3%</td>
<td>Plans for Banc of America to acquire Merrill were announced on September 14, 2008.</td>
</tr>
<tr>
<td>3</td>
<td>UBS Securities</td>
<td>36,311,000</td>
<td>8.6%</td>
<td>UBS announced plans to exit the municipal bond operations on May 6, 2008.</td>
</tr>
<tr>
<td>4</td>
<td>Goldman Sachs</td>
<td>28,562,000</td>
<td>6.7%</td>
<td>Announced plans to change status from an investment bank to a bank holding company on September 21, 2008; Warren Buffett plans to take a stake in Goldman.</td>
</tr>
<tr>
<td>5</td>
<td>Morgan Stanley</td>
<td>25,532,000</td>
<td>6.0%</td>
<td>Announced plans to change status from an investment bank to a bank holding company on September 21, 2008; Mitsubishi Financial Group plans to take a stake in Morgan Stanley.</td>
</tr>
<tr>
<td>6</td>
<td>JP Morgan</td>
<td>25,514,000</td>
<td>6.0%</td>
<td>JP Morgan was acquired by Chase Manhattan Bank on September 13, 2000.</td>
</tr>
<tr>
<td>7</td>
<td>Lehman Brothers</td>
<td>24,838,000</td>
<td>5.9%</td>
<td>Filed for chapter 11 bankruptcy protection on September 5, 2008; (the largest bankruptcy in U.S. history); Barclay has acquired much of Lehman’s broker/dealer business.</td>
</tr>
<tr>
<td>8</td>
<td>Bear Stearns</td>
<td>24,750,000</td>
<td>5.8%</td>
<td>“Merged” with JP Morgan Chase on March 16, 2008, after having received an emergency bailout loan two days earlier.</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$275,385,000</td>
<td>64.9%</td>
<td></td>
</tr>
</tbody>
</table>

👍 = Firm continues to participate in the municipal market.  🗑️ = Firm no longer exists or no longer participates in the municipal market.
Changes in the Underwriting Environment

- Increased importance of regional firms with a major municipal focus
- Changes in willingness to underwrite
- Higher underwriting takedowns
- Changes in the buyer base
  - The diminished importance of “non-traditional” buyers such as hedge funds
  - The growing importance of “professional retail”
- Further increased use of negotiated sale to navigate challenging market
But Competitive Market is Still Alive and Successful for the Strongest Credits

| County of Santa Clara General Obligation Bonds (Election of 2008) 2009 Series A |
| Par Amount: $350 million |
| Rating: AA+ |
| Sale Date: May 5, 2009 |
| Dated Date: May 27, 2009 |
| Maturity Date: August 1, 2031 |
Local Budget Stress
Local Credit Challenges

- 2009-10 AV declines as much as 15% projected for some areas
  - Median home prices declined 39.9% statewide from February 2008
  - Prop 8 reassessments in most counties
  - Foreclosure activity off its 2008 peaks, but remains near record levels
  - Delinquencies as high as 13+% in some counties

- Sales tax decline hammering local revenue base

- Even diversified revenue bases—with utility taxes, business taxes, transfer taxes, TOT—are getting squeezed

- Increased chatter by cities regarding bankruptcy and default

- Investors have turned to favoring water and other “essential service” revenue bonds even over unlimited property tax-secured general obligation bonds
On the Expenditure Side: Pressure on Pension Costs

CalPERs Annual Rates of Return

Year Ending 12/31

2008 -27.1%

POBs are Again Being Discussed as a Budget Balancing Tool

- POBs can achieve budgetary savings in short-run if borrowing rate is lower than actuarially assumed interest rate.

- However, unlike a traditional refunding, POBs do not lock in savings over long-term, because the actuarial rate is not a fixed, guaranteed cost of funds.
  - The actuarial rate is higher than the bond cost, because retirement systems assume more risk and are exposed to more volatility in their investments than muni bond investors.
  - POBs are designed to take advantage of risk arbitrage, to accelerate reinvestment earnings and shrink unfunded obligations.

- Whether a POB program is successful over the long-run will depend on whether actual investment results exceed the cost of borrowing, which can only be known after many years.

- Moreover, POBs generally abandon the benefits of dollar cost averaging, increasing exposure to market risk. Thus, the timing of losses and gains matter!
Credit is King
A Combination of Factors Spotlighting Credit

- In times of uncertainty, there is always a flight to quality
  - Disconnect between Treasuries vs. Municipals
  - Money managers were burned by toxic insurance and bank names
- Greater reliance on underlying ratings to determine the cost of funds
  - Even though many point fingers at the agencies’ pre-crisis performance
  - Many institutional investors assign internal ratings
- Continuing debate on the relationship of municipal and other ratings
  - Before the crisis, much talk of “globalizing” the rating scale
  - S&P proceeded, while Moody’s and Fitch put the project on hold for a while
- Often superficial factors will impact bond liquidity which affects pricing
  - “Name” value and market perceptions
  - Revenue “bonds” can price 50 basis points better than revenue “COPs”
Credit Spreads Widened During the Crisis

- Interest rates for municipal bonds = “AAA” interest rate + “credit spread”

- “Credit spread” represents the additional yield required to compensate investors for taking on more credit risk.

- General Obligation bonds, essential service revenue bonds and “AA” or higher rated bonds are most in demand.

- Credit spreads are tightening again for “A” rated credits, including COPs and Lease Revenue, but still wider than the “good old days”.

- Very difficult market for BBB and unrated bonds, though also some improvement in that sector.
Recent Credit Spreads in Today’s Market

- **Glendale RDA (2/11/2010)**
  - $26.97 MM (Baa2/A-)
- **Chula Vista COPs (2/10/2010)**
  - $29.36 MM (A-)
- **Fresno Water System (1/21/2010)**
  - $68.81 MM (A/A+)
- **Santa Monica CCD (1/26/2010)**
  - $33.14 MM (Aa2/AA)

"AAA" MMD
Telling Your Credit Story

- Proactive investor outreach is more important this year, given the focus on underlying credit
- Direct conference calls and meetings with key purchasers to answer questions, walk though cash flow assumptions and projections
- Preliminary Official Statement still the key instrument for investor communication
- Allow for ample time with POS in the hands of investors – at least one week
- **Retail investors** are driving demand – retail order period may be advisable
Retail Sale Case Study: San Francisco COPs

- On May 12, 2009, the City sold $163 million COPs (“A1/AA-/A+”)
- The City received over 201 orders totaling over $335 million
- Retail order period - $86.2 MM of retail orders submitted
- Institutional order period - $222 MM of “going away” orders submitted
- 31% of the bonds were sold to retail investors in block sizes of $500K - $1 MM
  - Suggests strong participation by money managers, investment advisors, high net worth individuals
- 55% of the bonds were sold to institutional investors

<table>
<thead>
<tr>
<th></th>
<th>Retail Orders</th>
<th>Institutional Orders</th>
<th>Member Orders</th>
<th>Total Orders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail Orders</td>
<td>86,180,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional Orders</td>
<td>222,030,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member Orders</td>
<td>27,500,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Orders</td>
<td>$335,710,000</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Retail Order Period – Distribution Summary

- Over 74% of the retail orders were in the $500K - $1 MM size

- Large block sizes suggest strong participation by “professional retail” (e.g. money managers, investment advisors, bank trust departments & high net worth individuals)

- Smaller retail buyers placed 27% of the total retail orders

*No retail orders over $1 million were permitted.
The State Budget and Market Impacts
The State of California: The Gift that Keeps on Giving

- The California penalty
  - State budget problems cast a shadow over the California market
  - Many investors simply avoiding investments in the State
  - The result are higher yields on California paper
  - The irony is that California used to have an advantage due to double income tax exemption

- The problem of supply
  - The State floods the market with higher yielding paper (e.g. Fall 2009)
  - Especially a problem with short-term notes (e.g. TRANs)

- The problem of a State that balances it budget by reallocating traditionally local resources
Issuance in 2009 – State of CA vs. Local Issuance

State of California
Breakdown of State versus Local Issuance Volume

- State Issuance
- Local Issuance
- State to Local Issuance

Volume (Billions)

Ratio of State to Local Issuance


Volume: $- to $60

Ratio: 0% to 60%
State of California – Fall 2009 Issuance

- $22 bn Total Issuance
- 5-Yr Spread
- 10-Yr Spread
- 30-Yr Spread

RANs - $8.8 bn
GO's - $4.1 bn
SPWB - $805 mn
ERBs - $3.4 bn
GO's - $2.2 bn
Prop. 1A - $1.9 bn
SPWB - $743 mn

Par Amount Issued (Billions)
Spread to AAA MMD (bps)
State of California – Pricing Spreads

CA GO Spreads to AAA MMD
(1/1/2009 to 2/17/2010)

- May 14: Release of 2009-10 May Revise
- Feb 20: 2009-10 Budget Package Signed
- July 6: Fitch downgrade to 'BBB'
- June 25: Fitch downgrade to 'A-'
- March 19: Fitch downgrade to 'BBB'
- March 19: Moody's downgrade to 'A2'
- July 14: Moody's downgrade to 'Baa1'
- July 20: Release of 2009-10 Budget Solutions
- July 28: Governor Signs Budget
- Jan. 8: Release of 2010-11 Proposed Budget
- Jan. 13: S&P downgrade to 'A-'
- July 14: Moody's downgrade to 'Baa1'
- Nov. 18: LAO Releases 2010-11 Fiscal Outlook
- Feb. 20: 2009-10 Budget Package Signed
- $6.5 bn March GO Sale
- $6.9 bn April Taxable GO Sale
- $2.2 bn November GO Sale
- $4.1 bn October GO Sale
- $8.8 bn RAN Sale
- $8.8 bn RAN Sale
- $4.1 bn October GO Sale
- $2.2 bn November GO Sale
- $6.9 bn April Taxable GO Sale
- $6.5 bn March GO Sale
- Feb 3: S&P downgrade to 'A'
- March 19: Fitch downgrade to 'A-
- July 14: Moody's downgrade to 'A-
- Jan. 8: Release of 2010-11 Proposed Budget
- Jan. 13: S&P downgrade to 'A-'
Comparison of Pricing Spreads

Comparison of Various States
30-Year Spreads to 30-Year AAA MMD

- New York (Aa3/AA/AA-)
- Florida (Aa1/AAA/AA+)
- Texas (Aa1/AA+/AA+)
- California (Baa1/A-/BBB)
## State of California – Pricing Comparison

<table>
<thead>
<tr>
<th>Maturity</th>
<th>Yield</th>
<th>Spread (bps)</th>
<th>Yield</th>
<th>Spread (bps)</th>
<th>Difference (bps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>2.95%</td>
<td>92</td>
<td>3.62%</td>
<td>166</td>
<td>74</td>
</tr>
<tr>
<td>2016</td>
<td>3.37%</td>
<td>107</td>
<td>3.85%</td>
<td>163</td>
<td>56</td>
</tr>
<tr>
<td>2017</td>
<td>3.70%</td>
<td>118</td>
<td>4.07%</td>
<td>162</td>
<td>44</td>
</tr>
<tr>
<td>2018</td>
<td>3.93%</td>
<td>124</td>
<td>4.25%</td>
<td>162</td>
<td>38</td>
</tr>
<tr>
<td>2019</td>
<td></td>
<td></td>
<td>4.40%</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>4.28%</td>
<td>136</td>
<td>4.53%</td>
<td>166</td>
<td>30</td>
</tr>
<tr>
<td>2021</td>
<td>4.39%</td>
<td>136</td>
<td>4.64%</td>
<td>166</td>
<td>30</td>
</tr>
<tr>
<td>2022</td>
<td>4.47%</td>
<td>137</td>
<td>4.73%</td>
<td>168</td>
<td>31</td>
</tr>
<tr>
<td>2023</td>
<td></td>
<td></td>
<td>4.81%</td>
<td>169</td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td></td>
<td></td>
<td>4.89%</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>4.69%</td>
<td>138</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2029</td>
<td>4.90% - 5.00%</td>
<td>131 / 141</td>
<td>5.25%</td>
<td>171</td>
<td>30 / 40</td>
</tr>
</tbody>
</table>

- Folsom Redevelopment Agency carries the same S&P credit rating as the State

- On a spread to AAA MMD basis, the State priced 74 basis points better than Folsom in 2015, and 30-40 basis points better in later maturities

The Stimulus Package and BABs
Build America Bonds (BABs)

- Stimulus bill had a number of provisions for expanded bond powers
- The big winner proved to be Build America Bonds, taxable bonds for which the federal government provides an annual subsidy equal to 35% of interest to offset the increased cost
- About $75 billion issued since first issue April 15, 2009, about 20% of the municipal market
- Currently a significant advantage to the issuer for maturities in the 20 - 30-year range
- Typical strategy: traditional tax-exempt bonds in early maturities and longer maturities marketed as BABs (“hybrid” BABs)
- Added benefit: Diminished supply in tax-exempt municipal market
BAB Issuance Increases Tax-Exempt Demand

30 Yr AAA MMD Vs. BABs Issuance

Par Amount (In Millions) vs. 30 Year MMD

- Build America Bonds
- Traditional Tax-Exempt Bonds
- 30 Year AAA MMD

Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan
BABs Product Continues to Develop

- Early transactions dominated by mega deals with a traditional taxable structure
  - Large bullet maturities rather than level debt service

- Taxable investors favor “make-whole” calls, which are expensive and rarely (if ever) used
  - More transactions being marketed to traditional municipal buyers with municipal features.
  - 10 year par call at additional 50 bp in interest rate

- BABs spread to Treasuries have narrowed significantly since the first transactions in April 2009 from 365 bps to the 30-year Treasury to recent EBMUD at a 120 bps spread

- Decision should be based primarily on the numbers, but there are other considerations
  - Analyzing the cost/benefit of call optionality
  - Accepting some tax risk, including risk of audit and future elimination of subsidy
  - Accepting additional administrative responsibility
  - 35% subsidy level expires after 2010; 28% subsidy level is contemplated

<table>
<thead>
<tr>
<th>30-Year Treasury</th>
<th>Spread</th>
<th>BABs Rate</th>
<th>35% Subsidy</th>
<th>28% Subsidy</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.50%</td>
<td>1.50%</td>
<td>6.00%</td>
<td>3.90%</td>
<td>4.32%</td>
<td>0.42%</td>
</tr>
<tr>
<td>4.50%</td>
<td>2.00%</td>
<td>6.50%</td>
<td>4.23%</td>
<td>4.68%</td>
<td>0.46%</td>
</tr>
<tr>
<td>4.50%</td>
<td>2.50%</td>
<td>7.00%</td>
<td>4.55%</td>
<td>5.04%</td>
<td>0.49%</td>
</tr>
<tr>
<td>4.50%</td>
<td>3.00%</td>
<td>7.50%</td>
<td>4.88%</td>
<td>5.40%</td>
<td>0.53%</td>
</tr>
</tbody>
</table>
Conclusions

- Credit quality and credit ratings matter more than ever
  - Wider credit spreads for all transactions, especially those rated below “AA”

- Bond insurance/LOCs may not be available and more expensive when it is available
  - Particularly missed in BBB market and helping to homogenize pooled credits

- Lower Bonding Capacity
  - Higher borrowing cost in certain cases (e.g. redevelopment)
  - Debt Service surety bonds previously used to “boost” capacity generally no longer available
  - Investment rates of bond proceeds much lower than interest rates on your bonds

- Execution Risk
  - Everything is harder than it used to be
  - Negotiated sale may be preferable for most issuers
  - Allow for a longer planning horizon to receive funds

- Positive Factors for 2010
  - Attractive construction environment
  - Relatively low interest rates
  - BABs helped drive up demand for tax-exempt bonds (35% subsidy likely goes away after 12/31/10)