U.S. Municipal Market – The View From the Markets
Presentation to the Federal Reserve Banks of Chicago, New York and Philadelphia
Unprecedented financial stress across municipal sectors

- Municipal market is broad and has diversity of credit risks
- Economic recession is tepid – state and local governments are lagging in recovery
- End of federal stimulus makes 2011 an even more stressful year for state and local governments
- Moody’s has had negative outlooks on state and local governments for 3 years
- Downgrades have outpaced upgrades for 9 consecutive quarters

Source: Moody’s
Very few rated municipal bonds have defaulted

- From 1970 to 2009, 54 Moody’s rated municipal issuers defaulted
  - Nearly 80% were in non-profit hospital or housing project sectors
- Average recovery on defaulted municipal bonds has been 59% of par, compared to 37% for defaulted corporate bonds

### Default Counts by Purpose

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Ratings Outstanding</th>
<th>Defaults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>1,041</td>
<td>21</td>
</tr>
<tr>
<td>Health Care</td>
<td>650</td>
<td>21</td>
</tr>
<tr>
<td>Electric, Water or Sewer Enterprise</td>
<td>1,645</td>
<td>3</td>
</tr>
<tr>
<td>Higher Education</td>
<td>843</td>
<td>1</td>
</tr>
<tr>
<td>Recreation</td>
<td>93</td>
<td>1</td>
</tr>
<tr>
<td>City, Town, County – Non-General Obligation</td>
<td>2,342</td>
<td>4</td>
</tr>
<tr>
<td>General Obligation</td>
<td>8,610</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15,224</strong></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

Source: Moody’s
Defaults are higher among unrated bonds

» Only 2 Moody’s rated municipal issuers defaulted in 2010
» No rated defaults year to date in 2011

### Recent US Municipal Defaults

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011 YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Issuers (#)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated by Moody's</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Unrated and Rated by Moody's</td>
<td>167</td>
<td>207</td>
<td>82</td>
<td>14</td>
</tr>
<tr>
<td><strong>Volume ($millions)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated by Moody's</td>
<td>$3,678</td>
<td>$24</td>
<td>$40</td>
<td>-$</td>
</tr>
<tr>
<td>Unrated and Rated by Moody's</td>
<td>$8,518</td>
<td>$1,688</td>
<td>$3,233</td>
<td>$605</td>
</tr>
</tbody>
</table>

*Source: Moody’s and Income Securities Advisor, Inc.*
Rated defaults expected to increase in 2011

• Rated municipal defaults expected to increase in 2011
  • Could be 2-3x 2008 level
  • No state is expected to default
  • Consistent with defaults implied by our rating distribution
  • Depends on willingness to make tough choices

Source: Moody’s
States face a revenue and spending crisis, not a debt crisis

State and local government quarterly tax revenue performance
State revenues improving, but will not solve problem alone

Year over year % change in state quarterly tax revenue performance

State revenues still below pre-recession peak

Source: Bureau of Census
State reserves are half of pre-recession levels

Fiscal Year-End Balances + Reserves as Percentage of General Fund Expenditures

Source: National Association of State Budget Officers
States face difficult choices

Annual Percentage Change in State General Fund Spending by Fiscal Year

Source: National Association of State Budget Officers
Pensions are growing problem, but not a short-term issue for most

Combined Liabilities as Share of GDP – Top 10 States

Source: Moody’s Investors Service
Despite credit pressures, state and local governments have inherent strengths

- Governments exist in perpetuity
- Federal monetary policies benefit state and local economies
- State economies and those of some large cities are broad-based and diverse
- State and local governments have strong incentives to pay bond debt
- Debt service, even when combined with unfunded pension liabilities, is a small share of expenses
- State and local governments have a variety of powerful fiscal management tools at their disposal
Moody’s views are based on certain assumptions

- State and local governments will:
  - honor their contractual obligations to make bond payments because of strong incentives to do so
  - be able to continue accessing financial markets on roughly the same terms currently available
  - continue to have sufficient budget flexibility to meet the contractual obligations associated with their bonds (e.g., cutting costs and/or increasing revenues)
- Bankruptcy laws will not change
- The economic recovery will not be derailed by, e.g., an oil price shock
What are we watching? What could change?

» **States:** Revenues still below pre-recession levels. Most will manage by adjusting revenues and spending, and using reserves and any remaining federal stimulus money
   – **Risks:**
     » Expiration of federal stimulus funds in June 2011 creates large gaps
     » Entitlement spending for pension, OPEBs, Medicaid continues to grow
     » Material shift in market confidence
     » Economic recovery is fragile
     » Impact of federal debt ceiling / deficit reduction plans

» **Local Governments:** Small, weaker issuers will be most stressed, some distressed
   – **Risks:**
     » Further state aid cuts
     » Some have exposure to enterprise risk with outsized debt levels
     » Exposure to financial institutions, liquidity and credit facilities expiring
     » Breakdown in political process that results in failure to pay debt, bankruptcy filing
     » Impact of federal debt ceiling / deficit reduction plans
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