U.S. Municipal Bond Market

2020 Municipal Bond Analyst Survey

Key Survey Findings

- Unsurprisingly, the coronavirus (COVID-19) pandemic was named (by 92% of those surveyed) the most important issue/trend influencing the municipal bond market in our April 2020 survey of 211 municipal bond credit analysts.

- Public pensions remained a key concern to municipal analysts as well, being named the second most important issue/trend. 51% of analysts named Public Pensions as one of the top five, down from 85% last year.

- The presence of public pensions as the second most important issue, in the midst of the current once-in-a-generation worldwide pandemic, emphasizes how vital the concern remains to municipal analysts.

- Analysts are watching D.C. action closely. 61% of municipal analysts believe there is a “Great deal” or “A lot” (of risk) that the federal government does not allocate enough relief for state and local governments.

- Almost one-third (31%) of credit analysts think $600 billion of additional relief is necessary to have a neutral impact on state and local govt. credit.

- Our survey of municipal analysts found the senior living (60%), mass transit (45%), and higher education (43%) sectors are most at risk as a result of the current economic downturn.

- Almost three-quarters (72%) of analysts consider a primary and secondary market U.S. Federal Reserve municipal bond purchasing policy is or will be necessary.

- Disclosure: Over half (55%) of analysts are “Somewhat dissatisfied,” “Dissatisfied,” or “Very dissatisfied” with the timing and amount of disclosure.

- Rating Agencies on COVID-19: 49.52% of analysts have a “Very favorable” or “Somewhat favorable” opinion of how Moody’s has covered COVID-19, the highest of all rating agencies. S&P Global came in at a very close second place, as 49.27% of analysts backed S&P in those categories.

- Analysts’ overall opinion of Moody’s remained the highest and the overall opinions of S&P Global, Fitch, and Kroll rose compared to last year.

Top Five Most Important Issues/Trends Facing the 2020 Municipal Bond Market

<table>
<thead>
<tr>
<th>Issue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronavirus pandemic (COVID-19)</td>
<td>92%</td>
</tr>
<tr>
<td>Public pensions (funding levels, POBs)</td>
<td>51%</td>
</tr>
<tr>
<td>Liquidity (level of)</td>
<td>44%</td>
</tr>
<tr>
<td>Defaults (Potential for them by municipal issuers)</td>
<td>42%</td>
</tr>
<tr>
<td>U.S. Federal government relief/ stimulus</td>
<td>39%</td>
</tr>
</tbody>
</table>

Source: HilltopSecurities.

Unsurprisingly, the coronavirus (COVID-19) pandemic was named (by 92% of those surveyed) the most important issue/trend influencing the municipal bond market in our April 2020 survey of 211 municipal bond credit analysts.
1. What do you think are the five most important issues/trends influencing the municipal bond market today, 2020?

Public pensions remained a key concern to municipal analysts as well, as it was named the second most important issue/trend. 51% of analysts named Public Pensions as one of the top five, down from 85% last year.

The remaining top five: 3) Liquidity-level of (44%); 4) Defaults - potential for them by municipal issuers (42%), and %) U.S. Federal government relief/stimulus (39%) are all directly related to COVID-19.

Defaults (42%) is the fourth-most important issue, and it was not even included in last year’s survey.

Source: HilltopSecurities.
2. How would your role as a municipal bond market analyst be best described?

Source: HilltopSecurities.

3. What municipal sectors are most at risk (choose three) for credit deterioration as a result of the economic downturn as a result of the steps taken to reduce the spread of the coronavirus?

Source: HilltopSecurities.

The senior living sector is most at-risk for credit deterioration according to the survey of municipal analysts (60%).

The mass transit (45%) and higher education (43%) sectors are in the next tier analysts believe are at risk for credit deterioration.
4. How would you describe U.S. state government credit quality currently?

Source: HilltopSecurities.

5. How prepared were U.S. state governments for this financial downturn?

Source: HilltopSecurities.

A little over half, or 56%, of analysts surveyed believed states were “Somewhat prepared” for the financial downturn.

Analysts felt U.S. State government were mostly prepared for the downturn, with 24% reported states were “Very prepared” or “Prepared.”
6. How would you describe U.S. local government credit quality currently?

[Bar chart showing 61% of analysts described U.S. local government credit quality as "Very strong," "Strong," or "Stable."]

Source: HilltopSecurities.

7. How prepared were U.S. local governments for this financial downturn?

[Bar chart showing Over half, or 57%, of analysts surveyed believe locals were “Somewhat prepared” for the financial downturn.]

Source: HilltopSecurities.
8. How significant is the risk that the U.S. federal government does not allocate enough relief for state and local government and other municipal entities to get them through the current COVID-19 related financial emergency?

Almost one-third (31%) of municipal credit analysts think $600 billion of relief is needed to have a neutral impact on state and local government credit quality.

9. How much additional direct federal assistance (above the $150 billion of direct support allocated in the March 2020 CARES Act) do you think it will take to have a neutral impact on U.S. state and local government credit quality?

Many, or 72% of analysts consider a primary and secondary market U.S. Federal Reserve municipal bond purchasing policy is or will be necessary.

Source for all page 6 charts: HilltopSecurities.
11. How would you describe your level of satisfaction about aspects such as timing and amount of disclosure in the municipal bond market right now?

Source: HilltopSecurities.

12. What is the likelihood that recent events related to the COVID-19 pandemic will cause you to require municipal issuers to disclose more information on a more regular basis?

Source: HilltopSecurities.

Disclosure was a top 10 issue in 2018 and 2019, but not in 2020.

Analyst opinions about disclosure remain obvious despite the drop. 55% of analysts are “Somewhat dissatisfied,” “Dissatisfied,” or “Very dissatisfied” with the timing and amount of disclosure in the municipal market right now.

85% of analysts are “Very likely,” “Likely,” or “Somewhat likely” to require municipal issuers to disclose additional information on a more regular basis.
13. What is your opinion of how prepared state and local governments and other municipal market participants are currently for climate change?

Source: HilltopSecurities.

14. What is your opinion of how prepared state and local governments and other municipal market participants are currently for cyber attacks?

Source: HilltopSecurities.
15. What is your opinion of how the municipal bond credit rating agencies have covered recent COVID-19 related events and handled sector-wide and individual issuer rating actions (choose one per rating agency)?

<table>
<thead>
<tr>
<th>Rating Agency</th>
<th>Very Favorable</th>
<th>Somewhat Favorable</th>
<th>Neutral</th>
<th>Somewhat Unfavorable</th>
<th>Very Unfavorable</th>
<th>Undecided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moody's</td>
<td>12.50%</td>
<td>37.02%</td>
<td>25.48%</td>
<td>11.54%</td>
<td>3.85%</td>
<td>9.62%</td>
</tr>
<tr>
<td>S&amp;P Global</td>
<td>10.14%</td>
<td>39.13%</td>
<td>23.19%</td>
<td>14.49%</td>
<td>4.35%</td>
<td>8.70%</td>
</tr>
<tr>
<td>Fitch</td>
<td>8.65%</td>
<td>30.29%</td>
<td>32.69%</td>
<td>8.65%</td>
<td>2.88%</td>
<td>16.83%</td>
</tr>
<tr>
<td>Kroll</td>
<td>7.84%</td>
<td>25.98%</td>
<td>27.45%</td>
<td>6.37%</td>
<td>5.39%</td>
<td>26.96%</td>
</tr>
</tbody>
</table>

Source: HilltopSecurities.

16. What is your overall opinion of municipal ratings from the following credit rating agencies (choose one per rating agency)?

<table>
<thead>
<tr>
<th>Rating Agency</th>
<th>Very Favorable</th>
<th>Somewhat Favorable</th>
<th>Neutral</th>
<th>Somewhat Unfavorable</th>
<th>Very Unfavorable</th>
<th>Undecided</th>
<th>Do Not Consider Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moody's</td>
<td>14.76%</td>
<td>46.19%</td>
<td>23.81%</td>
<td>8.10%</td>
<td>3.81%</td>
<td>0.48%</td>
<td>2.86%</td>
</tr>
<tr>
<td>S&amp;P Global</td>
<td>8.10%</td>
<td>42.38%</td>
<td>28.10%</td>
<td>14.76%</td>
<td>3.33%</td>
<td>0.48%</td>
<td>2.86%</td>
</tr>
<tr>
<td>Fitch</td>
<td>7.62%</td>
<td>39.05%</td>
<td>35.71%</td>
<td>8.57%</td>
<td>2.38%</td>
<td>0.48%</td>
<td>6.19%</td>
</tr>
<tr>
<td>Kroll</td>
<td>3.86%</td>
<td>16.43%</td>
<td>33.33%</td>
<td>10.63%</td>
<td>8.70%</td>
<td>2.90%</td>
<td>24.15%</td>
</tr>
</tbody>
</table>

Source: HilltopSecurities.

Description and Methodology of the 2020 Municipal Bond Analyst Survey

The results are based on a survey conducted between Thursday, April 16, 2020 and Monday, April 27, 2020. The survey was conducted by HilltopSecurities. The above data was collected from 211 municipal bond credit analysts/specialists. Analysts from the rating agencies were not asked to participate in the survey.

Please email Tom Kozlik at tom.kozlik@hilltopsecurities.com if you are a municipal bond credit analyst/specialist and would like to participate in the 2021 survey.

We would like to thank everyone who participated in this year’s Municipal Bond Analyst Survey, 2020.