NUVEEN ASSET MANAGEMENT

Coronavirus: potential impact on municipal bond sectors March 2020

IMPORTANT NOTICE

The following material is provided by a third-party strategist unaffiliated with AssetMark. The strategist is solely responsible for its content. Please read the risks and disclosures section for additional important information. AssetMark has not verified the accuracy of the information contained in this material.

For financial advisor use only.

C20-15718 | 03/2020 | EXP 03/31/2021

nuveen
A TIAA Company

MARKET UPDATE
11 March 2020

Coronavirus: potential impact on municipal bond sectors

How might municipal credit sectors weather the impact of coronavirus disruptions? The credit impact on individual borrowers will vary by sector, as well as the severity and duration of the outbreak in a particular location. Credit ratings are generally a good barometer of a borrower's ability to withstand unexpected financial stress. Most municipal issuers provide essential services and generally have a long history of functioning through varying economic cycles, credit cycles and temporary disruptions.

Insights from
Nuveen Municipal Credit Research

HEALTH CARE
Mixed impact

- Increased volume may help revenues initially, but a longer disruption may strain capacity at some providers and perhaps result in localized shortages in medical supplies. Smaller, stand-alone hospitals may be affected more than systems or larger medical centers.
- Larger stand-alone hospitals and multi-hospital systems are far less likely to suffer longer-term impact.
- Any impact on hospital financials will likely be temporary and should not materially impact overall credit quality or default risk.

CCRCS/SENIOR LIVING
Higher impact

- The senior living sector will likely be more directly affected than hospitals or most other municipal market sectors. While the impact will likely vary across the country, potential systemic risks exist.
- The elderly are more susceptible to serious complications from the virus, and prospective residents and their families will likely delay entry into senior living facilities when care is not essential. These facilities tend to be more densely populated than home environments, and staff moving from room to room may help to spread the virus. We believe many prospective residents, especially those that can afford home care, will choose to remain isolated in their homes until the threat has passed.
- Facilities currently in the fill-up stage may see far greater cash deficits before they reach stabilization. Reduced liquidity could compromise new projects.
- Local outbreaks and higher morbidity at specific facilities could adversely affect margins and revenues at those facilities. In certain Continuing Care Retirement Communities (CCRCs), we might even see a spike in immediate refund

liabilities, which could push bonds for lower-rated facilities into distress or default.

- In the long run, low rates benefit the senior living sector by providing greater flexibility for refinancing and increasing valuations.

HIGHER EDUCATION
Temporary impact

- Several universities have already canceled classes and moved to virtual learning as a precautionary measure. Positively, this is expected to somewhat insulate them from tuition losses. Endowment earnings may also be impacted due to market volatility.
- International student recruitment may be impacted for the 2020-2021 admissions cycle, depending on how the situation materializes over the next several months.
- For large institutions, diverse revenue sources (including state appropriations for public schools) and significant balance sheet resources protect against temporary revenue stress. Smaller, more vulnerable institutions already more susceptible to external shocks will experience greater disruption. Any impact on universities' financials will likely be temporary and should not materially impact overall credit quality or default risk.

CHARTER SCHOOLS
Low impact

- Charter schools are funded by per-pupil payments from a state or local school district. These payment streams are unlikely to be impacted in the near term. Charter school bonds are also typically secured by a debt service reserve fund and a mortgage on the school facility, two security features that would benefit bondholders in a credit stress scenario.
- Some schools may decide to cancel classes due to local outbreaks, but those cancellations are not expected to be long term and should not result in loss of revenue.
- Charter schools' revenues are based on enrollment levels, so individual schools may suffer if enrollment were to decline. Enrollment losses, while likely temporary, could have a short-term credit impact.

LAND SECURED
Mixed impact

- Mature, largely developed districts with diversified tax bases will largely be unaffected. However, newer developments could experience a slowdown in development to the extent that the economy is negatively affected for a prolonged period of time.
- The current low-mortgage interest rate environment will likely benefit the sector.

INDUSTRY DEVELOPMENT REVENUE (IDR)/ POLLUTION CONTROL REVENUE (PCR)
Mixed impact

- Corporate-backed municipal bond credit quality generally correlates with the strength of the U.S. economy. To the extent the economy contracts, certain credits may experience stress, particularly those that depend on consumer spending.
- Declining oil prices will likely have a negative ripple effect on the handful of oil and gas companies that have issued municipal debt. This is a relatively small municipal market sector, but it bears watching.

AIRPORTS
Temporary impact

- Airports are large organizations with significant revenue bases and balance sheet resources. While revenue will decline temporarily due to reduced air travel, we don't anticipate a long-term impact on traffic. Most airports should have the ability to withstand short-term demand shocks, as evidenced by the sector's ability to navigate both 9/11 and the 2008-2009 financial crisis.
- Over time, as the virus passes, travel should resume with the return of previously postponed business and leisure travel.

- Large coastal airports with significant international travel bases will likely be most negatively impacted by traffic erosion in the near-term. Inland regional airports will likely feel the impact to a lesser degree.

AIRLINES
Temporary impact

- Airline-backed municipal bonds are typically issued for essential facilities that are needed for even downsized airline operations.
- Compared to the post-9/11 period, airlines have increased levels of liquidity today that should help them navigate a short-term disruption.
- Airlines have already been very responsive in addressing the coronavirus issue, including proactively canceling flights, modifying cancellation policies and enhancing cleaning procedures.

GENERAL OBLIGATION BONDS
Low impact

- General obligation (GO) bonds are viewed as relatively stable, with many tools available to adjust to economic disruptions. GO bonds are largely secured by ad valorem taxes, historically a reliable source of revenue.
- Many issuers have built up reserves since the prior recession, providing some cushion for potential revenue and expenditure fluctuations.
- Although the sector is not expected to see widespread disruption, some areas of vulnerability may include areas that depend on tourism or oil/gas, or those with increased public health care costs or declining pension assets

ESSENTIAL PUBLIC SERVICE REVENUE BONDS
Low impact

- Essential public service revenue bonds, such as water/sewer bonds are unlikely to face a credit impact. Their revenues are tied to user fees that would not be expected to be disrupted.

DEDICATED TAX BONDS
Temporary impact

- Bonds backed by dedicated taxes such as sales taxes, hotel taxes and tourism taxes, may experience short-term declines from decreased economic activity (reduced travel, conference cancellations, consumers staying home).
- These bonds are generally well-positioned to recover, similar to a recession or other slowdown in economic activity.

TOLL ROADS
Temporary impact

- Toll roads could face temporary nominal revenue declines, as people may drive less for a period of time. However, this decline could be partially mitigated by people choosing to drive rather than fly.
- We are closely watching toll roads that rely heavily on commuter traffic, given the likelihood of interim office closures. Impact to toll roads catering to commercial traffic will likely be similar to a typical recession. Overall, mature toll-roads should not see significant impact to credit quality given their relatively strong debt service coverage ratios and history or surviving prior downturns.

PUBLIC POWER
Low impact

- Public power bonds is one of the most stable municipal market sectors, as these essential systems provide safe and reliable electricity to their service areas. These entities typically have rate setting autonomy, allowing them to pass on higher costs to their customers and thereby maintain debt service coverage at covenanted levels.
- We expect little to no impact on the credit quality of these bonds during this disruption.

PORTS

Mixed impact

- The American Association of Port Authorities expects first quarter year-over-year U.S. cargo volumes to be down at least 20% due to supply chain disruption.
- We expect port volumes to be impacted, although ports with minimum annual guarantees (MAGs) and fixed lease agreements are largely protected from extreme revenue volatility.
- U.S. ports may be affected by supply disruption, as well as a reduction in cruise travel.

The municipal bond market is made up of a diverse group of industries and sectors, each requiring in-depth, diligent credit research from an experienced team of analysts. We will continue to monitor the situation closely and invite you to contact your relationship manager with questions.

For more information, please visit us at nuveen.com.

GPE-CORSEC-0320P
GCM-1114463PR-Y0320P