

How CDP Data Can Inform Investors about Risk and Opportunities in U.S. Municipal Bonds

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Executive Summary

- Climate change impacts can pose significant risks to U.S. municipalities that should be considered by municipal market analysts.
- CDP data gathered through an annual survey of 207 cities worldwide, of which 37 are in the United States, can be used to better assess long-term risks posed by climate change.
- Tax base, debt levels and management quality are three areas of analysis that can be better assessed by the addition of CDP data.
- Additional ESG data sources are needed to cover the 50,000 municipalities in the United States, as well as other non-government issuers such as utilities and water authorities.

Introduction

The U.S. municipal bond market had a rip-roaring 2014,¹ a year characterized by low interest rates and global instability according to many market analysts. But 2014 can also be characterized by a watershed that is missing from most municipal market analyses: it was the hottest year on earth ever recorded. Climate change continues, and its impacts can present significant risks for municipalities and municipal bond investors. Municipal bond analysts evaluating the likelihood of repayment for municipal bonds would be remiss to ignore an issuer's exposure to risks posed by climate-change impacts.

Very few investors in the \$3.7 trillion municipal bond market utilize data from city governments regarding their climate-change risk profiles. While significant progress has been made in recent years in incorporating environmental, social and governance (ESG) data, municipal bond analysis remains focused on traditional criteria in modeling debt repayment. Environmental data, in general, expands an investor's risk-assessment toolkit and provides insight into current climate-change and resiliency activities, areas missed by traditional financial-statement analysis. In the municipal market, ESG data provides an additional lens through which analysts can assess a city's adherence to regulations, debt incurred for mitigation, and climate-change preparedness. We examined climate-change data for a defined set of municipal issuers – large U.S. cities that report their climate data annually through CDP. **Our analysis suggests several ways in which the CDP dataset can provide a more comprehensive, ESG-informed approach to municipal bond analysis.**

CDP

CDP (formerly the Carbon Disclosure Project) uses an annual questionnaire to collect environmental indicators related to climate-change adaptation and mitigation from cities located around the world. The questionnaire includes questions about greenhouse gas (GHG) emissions, energy usage, climate risks, adaptation strategies and water scarcity. The 2014 survey included 207 cities globally, 37 of which are located in the United States.

CDP's annual questionnaire has its origins in listed companies. More than 5,000 major companies report climate change, water, and forestry-related data to CDP every year. CDP began working with cities after a number of

¹ US Municipal Bond Market is on a Tear, The Wall Street Journal, 28 December 2014.
<http://www.wsj.com/articles/u-s-muni-bond-market-is-on-a-tear-1419802340>



cities asked to go through the same annual reporting process as companies. In 2010, CDP launched a global cities program in partnership with C40, focusing initially on the largest cities in the world by population. In 2013, CDP received a major grant from Bloomberg Philanthropies to expand its program to 500 cities around the world by 2016.

For the purposes of this paper, we analyzed CDP data reported by U.S. cities to determine how this information might be relevant to municipal bond analysts interested in incorporating ESG factors in their assessments. **We suggest three areas of traditional municipal bond analysis where CDP information may shed more light: tax base, debt levels and management quality.**

Tax Base

One of the first things a municipal bond analyst typically evaluates is the tax base of the bond issuer. Among the questions analysts will ask are: How secure is the continued flow of income from taxpayers? Do demographic or macroeconomic factors threaten to reduce or curtail continued income? ESG data can help provide answers and prompt additional questions. For example, the CDP survey reveals that more than two-thirds of reporting U.S. cities have CO₂-reduction targets for their communities. These reduction targets range from a 10 percent reduction by 2020 to a 100 percent reduction by 2050. If all responders achieved their CO₂ reduction targets, it would eliminate an impressive 43 million tonnes in CO₂ emissions. However, achieving emission reductions can have significant negative as well as positive impacts on a city's tax base.

For example, efforts to reduce GHG emissions – such as energy-efficiency and conservation efforts – can lower energy consumption, which over time could lead to the decommissioning of a power plant. Yet power plants are often major contributors to the tax base needed to repay city bonds and school-district bonds. A recent Moody's publication² listed 10 local government ratings negatively affected by coal and nuclear power plant decommissioning, including Plymouth, Mass., and Mount Holly, N.C. To be sure, not every city's emission reductions will lead to reduced tax revenue. Current CDP responders are larger cities with a diverse tax base in which a power plant may represent an important but not disproportionate share. However, analysts should consider emissions targets and their potential to affect the tax base – especially as GHG-reduction targets become more widespread across the country. GHG-reduction plans are rarely if ever mentioned in Official Statements issued by cities in bond-offering documents, making CDP data a valuable addition to well-informed municipal bond analysis.

On a more positive note, about one-quarter of the cities in CDP's 2014 survey believe that their efforts to reduce emissions will lead to more economic opportunities in their cities. The most commonly anticipated economic benefits relate to the development of new industries such as clean technology. New revenues could offset any losses from power plant decommissioning and potentially drive incremental tax revenues. Significant projected economic growth from new industries could make new bond issuances from a city more attractive. With CDP data, analysts can more easily assess potential impacts on tax revenue – positive and negative – as cities transition to a carbon-constrained economy.

Debt Levels

Another critical element of municipal bond analysis is the debt level associated with each issuer. Municipal bond analysts look at the total obligations to understand both the direct debt of the borrower – the city government – as well as the burden on the taxpayer or resident from additional borrowing. Will a new bond place a city government under an unsustainable debt load? Will an inordinately high percentage of tax revenue go to service the issuer's debt? CDP data can help further illuminate answers to these questions.

CDP survey data includes a list of actions that cities are taking to increase their resiliency in the face of warming temperatures. Cities report on their efforts to construct higher sea walls and improve stormwater management,

² Moody's Special Comment: "US Nuclear and Coal-Fired Power Plant Retirements to Jolt Some Local Governments" June 18, 2014

among others. Municipal bond analysts might focus their attention, for example, on adaptation actions that are particularly capital intensive and examine how adaptation strategies correspond to Capital Investment Plans, Official Statements and Comprehensive Annual Financial Reports. If the additional debt burden from these projects is too high, the community may be less attractive for residents and businesses, and by extension, for municipal bond investors.

The issue of debt levels is also relevant for major GHG-reduction activities that cities are undertaking or plan to undertake. Many cities in the CDP survey report on their efforts to reduce overall GHG emissions through major capital projects. Washington, D.C., for example, reports on its plans to construct new streetcar infrastructure, and Atlanta calls its planned Beltline project “the most comprehensive revitalization effort ever undertaken in the city.” Capital-intensive projects such as these can have an impact on city debt level, making it important for analysts to understand any additional leverage to be incurred.

Management

Municipal bond analysts also look at management quality to ascertain whether a bond issue is riskier than average. In the corporate public-equity and fixed income investment space, investors are increasingly using ESG data as a proxy to determine management quality. If a company is managing ESG risks well, the thinking goes, it is likely to be managing other material risks well.³

In municipal finance, it is possible to apply a similar approach. For example, an analyst might consider whether or not a city takes the time to measure and report on its climate risk as a sign that city leadership is managing the city well. Additionally, analysts might ask: Does the city have a strong track record of timely repayments? Is the leadership new? Is the leadership subject to frequent changeover? ESG data can provide insight into a government’s plan to support its community, which can serve as a proxy for management ability.

For example, one indicator that analysts might assess as a proxy for management quality is a city’s engagement with businesses on climate change. Cities that are aware of the climate risks facing local businesses are much better positioned to take action to help protect their business communities. The CDP survey provides this additional lens. In fact, three quarters of responding cities report that businesses within their boundaries are susceptible to climate-change risks. Cleveland notes risks to the \$6.5 billion port industry, \$800 million sport-fishing industry and \$30 million annual bird-watching industry, which are centered on Lake Erie⁴. Baltimore notes,

“Climate change will affect every aspect of operations within a city, and businesses are not exempt from feeling these effects. Businesses will need to take their own steps to ensure that they are able to fully operate, or respond to climate and hazard events. Small businesses especially do not have the resources to effectively plan for how to mitigate losses as a result of climate change events.”⁵

Given the widespread impacts of climate change, an analyst might ask: which city governments are aware of climate risks to businesses and which are not? Are cities adequately preparing for these risks? And if they are not, does this lack of preparation suggest that the city government might be falling short in other, more immediate management priorities? A city’s annual response to CDP can help shed light on the quality of city management.

It is also interesting for analysts to examine voluntary disclosures like CDP to assess whether various branches of city leadership are coordinated in their approach to risk mitigation. For example, most municipal electric utilities are separate legal entities from city governments, but their economic fates are often directly linked. Similarly, a city may not directly own the water system, but may demonstrate that it is working with the utility to reduce risk of

³ See Kiernan, Matthew, [Investing in a Sustainable Future](#), 2008.

⁴ City of Cleveland, Survey Response, 2014 CDP Cities Survey question #2.2a Please explain your response to the question 2.2. “Do you consider that the physical impacts of climate change could threaten the ability of businesses to operate successfully in your city?”

⁵ City of Baltimore, Survey Response, ibid



default from supply shortages. Does city leadership demonstrate a coordinated approach in its assessment of climate-change risks? It would be helpful for an analyst to know that the risk of managing climate change is coordinated across all branches of government and essential-service providers.

An Investor’s Approach to ESG

One of CDP’s partners, Breckinridge Capital Advisors based in Boston, has integrated ESG into its credit research process for both tax-efficient and taxable fixed-income portfolios. A mainstream fixed-income investment advisor with \$20 billion of assets under management, Breckinridge has employed ESG factors in its investment strategies for more than four years. The company considers its ESG investment process to be a forward-looking risk mitigation strategy that can identify material risks not captured in traditional financial analyses. Breckinridge has found that ESG integration enhances its efforts to mitigate and appropriately price risk, which helps the firm achieve its goals of preserving capital, building sustainable sources of income and seeking to opportunistically improve total return.⁶

Breckinridge also believes that a municipality that works to manage its material ESG risks, including those posed by climate change, may be a more stable credit. A recent profile of Grand Rapids, Mich. in *Governing* magazine illustrates how proactive sustainability efforts focused on climate change have had a positive impact on the community. The city has expanded the use of renewable energy, boosted ridership on mass transit and enhanced its parks. Sustainability and climate-change mitigation efforts are “weaved into the basic culture of the community”.⁷ Breckinridge believes this is reflective of an engaged management team with a focus on maintaining the livability and viability of its city, which could have a favorable long-term effect on its creditworthiness.

Conclusion

Climate change and other ESG risks present important material issues on the horizon for investors. More municipal bond investors are beginning to ask for information on climate risks, as noted in recent articles in *The Bond Buyer* and *Governing* magazine^{8 9} But ESG data from municipal bond issuers does not yet sit at the heart of traditional municipal bond analysis. Rating criteria cover necessary aspects of liquidity, leverage, tax base and other financial risks, but may not cover certain ESG risks that tend to be longer term and more difficult to quantify. Investors who own –longer term bonds are particularly exposed to greater risks such as those related to climate change. We have shown several ways in which environmental data from one source—CDP’s cities program—can provide valuable additional insight.

More research—and more ESG data—is needed. CDP data does not currently provide a comprehensive overview of ESG risks in city governments. Of the 50,000 U.S. municipalities, CDP processed annual disclosures from just 37 cities in 2014. Though this list includes most of the 20 largest cities by population, it does not cover non-government issuers like utilities or water authorities. Investors will need much more data to fully evaluate their municipal bond portfolios as well as investing opportunities in the municipal market. We look forward to the introduction of additional ESG data from these issuers and more disclosures by cities to CDP.

⁶ Breckinridge Capital Advisors, Inc., “ESG Integration in Corporate Fixed Income”, January 2015.

⁷ “What can cities really do about Climate Change?” *Governing*, Wogan, J.B, December 2014.

⁸ “Environmental Risks Becoming Part of Bond Assessments”, *Governing*, Marlowe, Justin, December 2014.

⁹ “Climate Change’s Challenge for Muni Disclosure” *Bond Buyer*, Webster, Kelly, Oct 9, 2014



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