Investment Management

# Understanding Bank Exposures in Municipal Money Market Funds

Municipal Money Market Funds (MMMFs) invest in a broad range of municipal securities with varying credit risks, including some risks which are often overlooked: specifically, exposure to domestic and international financial institutions. Although MMMFs invest in obligations of both local and state governments, a large portion of all MMMF investments are also supported in some way by banks. Understanding the specific nature of these investments is critical to gaining a more complete perspective of the risks inherent in MMMFs.

## Key Points

- Credit and liquidity enhancements can help strengthen municipal offerings, but also add exposure to banks and financial institutions.
- MMMFs invest primarily in two types of securities that may have exposure to financial institutions in addition to, or instead of, exposure to the municipal issuer:
  - Variable Rate Demand Notes (VRDNs)
  - Commercial Paper
- VRDNs generally represent the majority of holdings in MMMFs and include a subset of securities called Tender Option Bonds (TOBs).
- Most VRDNs and all TOBs have exposure to both an issuer and a second party, typically a bank, with the bank providing credit or liquidity enhancement.

**The MMMF Market**

The total U.S. MMMF market currently has approximately $132 billion in assets. As of April 30, 2018, Charles Schwab Investment Management (CSIM) managed $23 billion in MMMF assets, ranking 3rd in tax-free assets under management.*

In managing Schwab's Municipal Money Funds, CSIM focuses first on preservation of capital, next on liquidity, and finally on yield.

* Source: iMoneyNet, as of 04/30/2018.

## The Municipal Money Fund Market

MMMFs are mutual funds that aim to provide stability of capital, liquidity, and yield for investors. The interest income generated by MMMFs is exempt from Federal Income Taxes.[1] Investors wanting income that is exempt from income taxes in the state in which they reside typically invest in state-specific funds.

MMMFs invest in tax-exempt short-maturity securities issued by state and local government agencies and non-profit organizations like private universities and healthcare providers. These securities are typically issued to finance the cost of construction of highways, schools, hospitals, roads and other governmental infrastructure. MMMFs invest in these securities in an effort to limit interest rate risk and preserve capital. These securities often take one of three general forms:

**Variable Rate Demand Notes and Tender Option Bonds (VRDNs and TOBs):** These securities are issued with long-term maturities, but the addition of credit or liquidity enhancements, provided by financial institutions or corporations, provide investors with the ability to demand or tender for payment at any time, which shortens the effective maturity typically to one or seven days. State and local governments issue VRDNs to give themselves access to the lower cost financing offered by the short-term market. TOBs are created by third parties who purchase long-term municipal bonds, couple them with a liquidity or credit enhancement and sell the newly created security as a synthetic VRDN known as a Tender Option Bond (TOB). Commercial Paper (CP): Municipal issuers borrow money in the short-term market for the early stages of construction projects prior to issuing long-term bonds once the project is completed. CP may be issued for periods up to 270 days but most often is issued with maturities between 30 and 120 days. Municipal CP may carry either a liquidity or credit enhancement to support the repayment of the CP at its maturity, or the issuer may be solely responsible for CP repayment.

**Notes:** Issuers sell notes either to fund the early stages of construction projects, similar to CP, or to help smooth their cash flows, which can vary widely from month-to-month due to governments' reliance on tax revenues that are only received annually, like property and income taxes. Notes have varying maturities, but may only be purchased with maturities less than 13 months. Notes only occasionally carry liquidity or credit enhancements. Repayment is typically the sole responsibility of the issuer.

Because the majority of securities purchased by MMMFs are VRDNs and TOBs, it is important for investors to understand how these securities work, what their associated enhancements are designed to provide, and what potential risks they entail.

## Liquidity Enhancements

A VRDN or TOB is issued with a liquidity enhancement to allow a bondholder to sell the long-maturity security at par plus interest on that day or with seven days' notice. CP is issued with a liquidity facility to provide ready funds (from the facility provider) to pay the CP at maturity if the issuer is unable to roll its CP at maturity. The liquidity enhancement is contingent on the issuer maintaining its credit quality above a predetermined threshold (BBB-/Baa3 or better). Erosion of the issuer's credit rating below this threshold terminates the contractual obligation of the liquidity enhancement provider to purchase the security from the

### Disclosure of Enhancement Providers for MMMFs

Investments included in a MMMF portfolio are disclosed in fund annual and semiannual reports, as well as monthly portfolio holdings. Within these documents, investors can view the exposure funds have to individual municipal issuers, as well as any enhancement providers associated with a particular investment.

**Sample Disclosure**

In the example below, the issuer is Wisconsin Health & Educational Facilities Authority. The security has an LOC issued by JPMorgan Chase Bank, NA.

**Portfolio Holdings** (Unaudited) continued

| Issuer<br>Type of Security, Series | Footnotes | Rate | Effective Maturity | Maturity Date | Face Amount ($) | Value ($) |
|---|---|---|---|---|---|---|
| **Wisconsin Health & Educational Facilities Authority** | | | | | | |
| RB (Aurora Health Care) Series 2008A (LOC: JPMorgan Chase Bank, NA) | | 1.32% | 08/03/18 | 10/01/36 | 10,000,000 | 10,000,000 |

- **Type of Enhancement (Letter of Credit)**
- **Enhancement provider (JPMorgan Chase Bank, NA)**

Note: The example above is hypothetical and provided for illustrative purposes only. It is not intended to represent a specific investment product.

MMMF. While MMMF credit analysts closely monitor the credit strength of issuers to reduce the risk that a liquidity enhancement on a security held by a MMMF terminates due to credit erosion, money fund regulations require a MMMF to stop buying securities from an issuer long before its rating reaches these low levels. (See credit analysis discussion on page 4)

While the inclusion of a liquidity enhancement benefits a MMMF by decreasing interest rate risk and increasing liquidity, a MMMF is introduced to credit exposure from the financial institution providing the enhancement in addition to the credit risk of the original issuer of the security.

## Credit Enhancements

Credit-enhanced securities, such as VRDNs, TOBs or CP, are structured to allow full credit substitution, meaning the financial institution providing the enhancement takes full responsibility for buying the security from the MMMF when it wants to sell, without regard to the credit quality of the issuer. With this type of enhancement, the MMMF's only credit exposure is to the financial institution providing the credit enhancement. The most frequently used types of credit enhancement are letters of credit (LOC) and guaranty agreements (GTY).

## Corporate Obligors

Some tax-exempt VRDNs and CP programs are issued on behalf of corporations, typically for pollution-control or other environmental projects. The corporations are solely responsible for repaying the securities when they mature or when the MMMF wants to sell their VRDNs.

## Risk Exposure Created by Liquidity and Credit Enhancements, and Corporate Obligors

Including securities that have credit exposure to institutions that are not municipalities in a MMMF provides portfolio managers with tools to manage interest rate, credit and liquidity risk, but also introduces exposure to institutions providing the securities' enhancements. Deterioration in the financial strength of these institutions, including ratings downgrades, could impact the credit and liquidity profile of the MMMF.

Although liquidity and credit enhancements generally performed as expected during the stresses of the most recent financial crisis, the risk does exist that a bank under financial stress might not be able to honor its commitments. For this reason, evaluating the strength of the participating financial institutions is equally important as analyzing the municipal issuers themselves when considering securities for purchase into MMMFs.

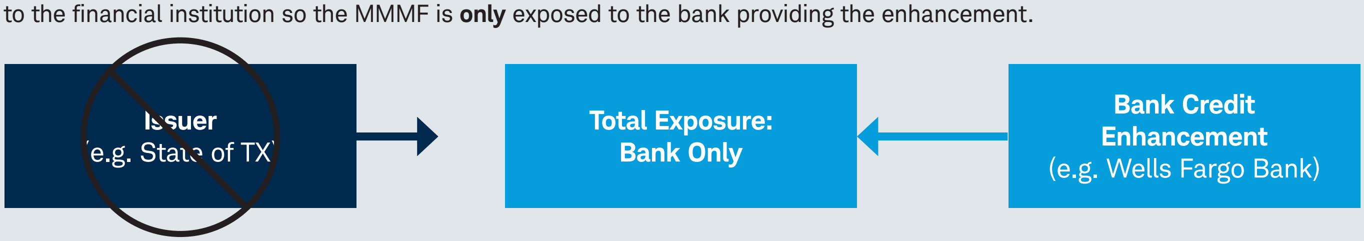
## Conclusion

Many securities included in MMMFs carry enhancements from banks and financial institutions. While these enhancements can benefit investors, they require additional credit analysis and expose investors to entities beyond state and local government issuers. While the structure of some MMMF securities differs from those of taxable money market fund securities, the goals of preservation of capital, liquidity, and yield are consistent across all money market funds.

### Understanding Exposure in Credit/Liquidity Enhancements

Two of the most common bank enhancements are depicted below:

**Credit Enhancement:** Credit enhancements represent a complete substitution of credit risk from the original municipal issuer to the financial institution so the MMMF is **only** exposed to the bank providing the enhancement.




**Liquidity Enhancement:** Liquidity enhancements alter a security so that MMMFs are exposed to aspects of both the credit strength of the municipal issuer **and** the bank providing the enhancement.


Note: The example above is hypothetical and provided for illustrative purposes only. It is not intended to represent a specific investment product.

## Credit Analysis Process

At Charles Schwab Investment Management (CSIM), the portfolio management and credit analyst teams work independently. CSIM's credit team conducts independent analysis, assessing each issuer and security for credit quality, liquidity, and appropriateness for Schwab Money Funds.

### Financial Institution Credit Analysis Process

Many credit analyst teams, including CSIM's, use a C-A-M-E-L-S methodology for evaluating financial institutions. In this process, 'C' is for capital adequacy, and evaluation of the firm's capital; 'A' is for the asset quality of the bank; 'M' is an evaluation of management quality; 'E' stands for earnings quality; 'L' is an evaluation of liquidity; and, 'S' refers to market sensitivity, or other exposure to interest rate risk or other market movements.

CSIM believes its credit analysis process is designed to continue to meet the goals of capital preservation and liquidity. Schwab Money Funds only invest in securities that CSIM credit analysts have independently deemed to be of minimal credit risk. All the financial institutions that provide credit and liquidity enhancement, as well as all corporate obligors, to which the Schwab MMMFs have exposure, are approved by CSIM analysts and are surveilled on a regular basis.

### Municipal Credit Review Process

Prior to purchase, each security in a Schwab Municipal Money Fund is reviewed by a credit analyst to determine that it meets regulatory requirements for eligibility, as well as internal credit requirements. The specifics of the security (its credit characteristics, maturity, and structure) are also reviewed. If the security includes a credit or liquidity enhancement, an analysis of the mechanics of the enhancement is conducted to ensure it meets regulatory and internal requirements.

Issuers may include a city, county, water system, hospital, museum, or other non-profit organizations. A CSIM credit analyst completes a full analysis of the issuer's financial capacity for repayment of debt that includes a review of local economic conditions, its revenue streams and on-going expenses, its capital needs and the amount and type of debt it has outstanding, as well as the legal structure under which it issues debt. An internal rating is assigned to the security based on CSIM's assessment of the issuer's strength and the level of participation by any other entity (such as a bank or corporation).

Once held in the portfolio, a security is reviewed periodically to determine whether it continues to meet internal credit risk guidelines. This surveillance includes the review of financial updates and pertinent news that may affect its credit quality.



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**Investors should consider carefully information contained in the prospectus, or if available, the summary prospectus, including investment objectives, risks, charges and expenses. You can request a prospectus by visiting schwabfunds.com/prospectus. Please read it carefully before investing.**

**You could lose money by investing in the Schwab Municipal Money Funds. All Schwab Municipal Money Funds seek to preserve the value of your investment at $1.00 per share, but cannot guarantee they will do so. All Schwab Municipal Money Funds may impose a fee upon the sale of your shares or may temporarily suspend your ability to sell shares if the Fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the Schwab Municipal Money Funds is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Schwab Municipal Money Funds' sponsor has no legal obligation to provide financial support to the Funds, and you should not expect that the sponsor will provide financial support to the Fund at any time.**

**Not FDIC insured No bank guarantee May lose value**

[1] Some income generated by MMMFs can be subject to the alternative minimum tax. Potential capital gains are not exempt from taxation. For information on a particular MMMF's tax implications, please refer to the fund's prospectus or contact your tax professional.

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