

November 2018

Understanding Tender Option Bonds

Tender Option Bonds are special purpose trust investments that create leverage by borrowing from money market funds to invest in high quality municipal bonds. Nuveen funds use Tender Option Bonds residual interests for portfolio management goals such as creating additional opportunistic exposure to a certain bond sector or part of the municipal bond yield curve, and/or to create long-term, strategic leverage exposure for the overall fund.

A Tender Option Bond (TOB) is the common phrase for a security issued by a special purpose trust (a Tender Option Bond Trust) into which bonds are deposited, and which then issues two types of securities. One of the securities — the floating rate security¹ — is typically sold to a money market fund that is only permitted to buy investments of high quality and short maturity. The other security — the inverse floating rate security² — is retained by the Nuveen fund. Only some bonds will qualify or make business sense for this structure, generally bonds that satisfy money market fund investment requirements, i.e., SEC Rule 2a-7.

Using inverse floaters effectively enables a fund to borrow (from money market funds) and then

use the money to purchase additional long-term, fixed-rate bonds for the fund's portfolio. The expectation is that the purchased long-term bonds will yield more than the borrowing rate paid on short-term floating rate securities issued by the trust.

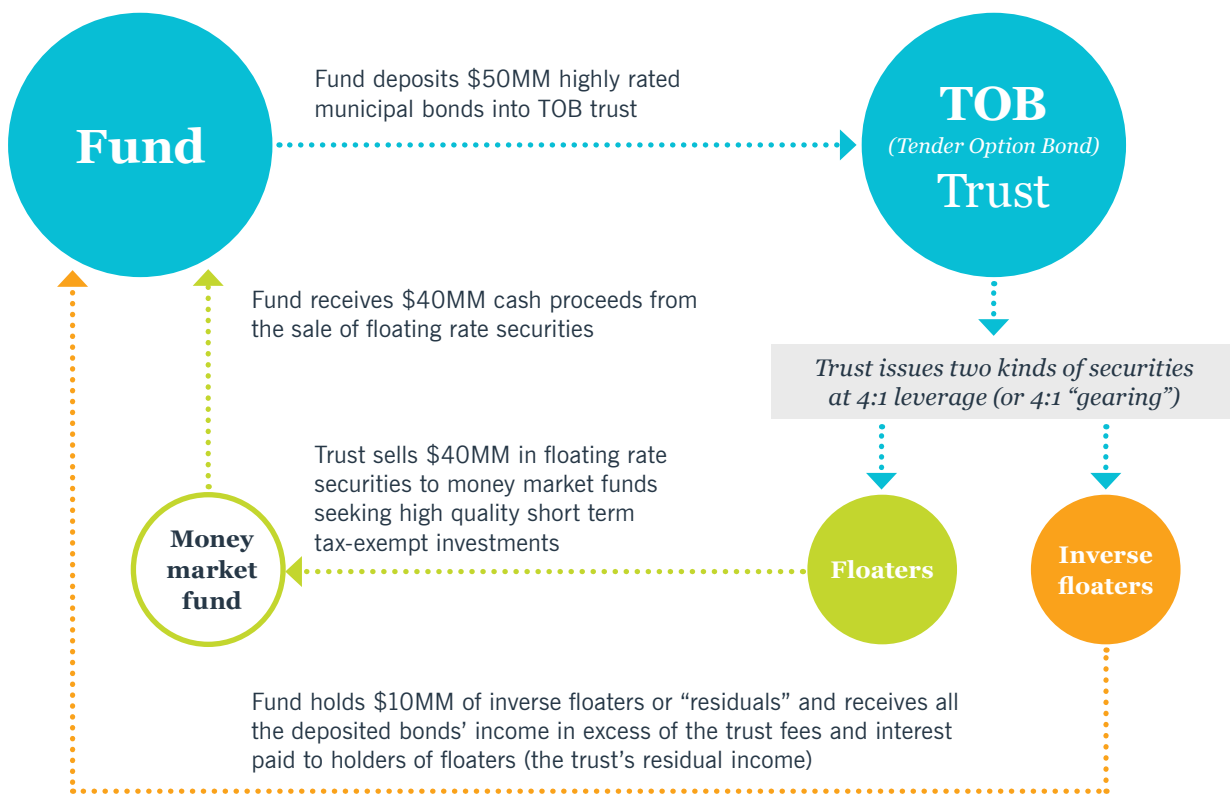
TENDER OPTION BOND TRUSTS ISSUE TWO SECURITIES

1. Floating rate securities or “floaters”
 - Sold to money market funds; the trust pays a liquidity provider to guarantee weekly liquidity.
 - Interest paid on floaters is usually a short-term weekly rate.
2. Residual interest securities or “inverse floaters”
 - Owner (typically a fund) has “full” exposure to each underlying bond's market opportunity and risk, creating a leveraged investment.
 - Inverse floaters receive the interest equal to the interest from the underlying bonds, less the interest paid to floating rate security holders (and less certain expenses).

- The inverse floater value usually represents less than half the value of the underlying bonds. The relative fraction between the value of the floater and the value of the inverse floater is termed “gearing,” which relates to the amount of leverage inherent in the TOB structure.
- The holder of an inverse floater bears substantially all of the underlying bond’s downside risk, and also benefits disproportionately from any appreciation of the underlying bond’s value.

THE TOB LIFE CYCLE

The following diagram shows a hypothetical Tender Option Bond example, using a \$50 million group of bonds held by a fund, and 4:1 gearing (the ratio of the floater value to the inverse floater value).



Hypothetical example; for illustration purposes only.



*The trust is created based on the expectation that the **borrowing rate is less than the yield of the underlying bonds** the trust purchases.*

THINGS TO CONSIDER ABOUT TENDER OPTION BONDS

For a fund shareholder, TOB inverse floaters offer the fund’s portfolio manager more flexibility in managing portfolio investments, as well as increased income and return potential from increased leverage. Leverage has a multiplying effect — it magnifies returns, both positive and negative, and it increases fund risk by magnifying the volatility of returns.

There are certain risks associated specifically with TOBs, however. Most of these risks lead to terminating a TOB trust. If that happens, the fund may choose to sell other assets to buy back the trust’s floating rate security, which could negatively affect fund performance, or liquidate the trust assets. Nuveen has several processes, procedures and people in place to try to mitigate these risks for fund shareholders. It is not possible for individuals to invest directly in securities issued by TOB trusts.

Nuveen strategies for mitigating TOB-specific risk

Risks associated with TOB trusts	Nuveen’s risk-management strategies
<p>Liquidity</p> <ul style="list-style-type: none"> • In certain circumstances, a trust may be terminated and trust assets liquidated. • The risks below may lead to early or inconvenient termination of a TOB trust, which also exposes the fund to liquidity risk. 	<p>Nuveen manages liquidity risk by including all TOB trusts in its complex-wide liquidity risk assumptions and management.</p>
<p>Counterparty</p> <ul style="list-style-type: none"> • The financial condition of the liquidity provider may lead to early or inconvenient termination of a TOB trust. 	<p>Nuveen has adopted counterparty policies to help mitigate this risk as well as credit surveillance on liquidity providers.</p>
<p>Credit</p> <ul style="list-style-type: none"> • The financial condition of the underlying bond may lead to early or inconvenient termination of a TOB trust. 	<p>Nuveen’s municipal bond research team, through its credit surveillance methodologies, seeks to mitigate credit risks.</p>
<p>Interest rate</p> <ul style="list-style-type: none"> • A decrease in the value of the underlying bond may trigger an early or inconvenient termination of TOB trust. 	<p>Nuveen’s rigorous forecasting and sensitivity analysis seeks to mitigate these interest rate risks.</p>

Fund shares are subject to investment and market risks, including the possible loss of principal invested. Municipal bond securities are subject to interest rate risk (as interest rates rise bond prices usually fall); call risk; reinvestment risk; issuer credit risk; and tax risk. A fund’s use of inverse floaters creates effective leverage. Leverage creates the risk that the fund could lose more than its original investment and also increases the fund’s volatility and exposure to interest rate risk and credit risk.

Before investing, consider each fund’s investment objectives, risks, charges and expenses. For additional information, please contact your financial advisor or Nuveen at 800.257.8787 or visit nuveen.com

WHAT IS LEVERAGE IN A FUND?

- Financial leverage is created whenever a common share holder in a fund has investment exposure (both reward and risk) equivalent to more than 100% of his or her investment capital.
- Funds create leverage by borrowing at short-term rates or issuing preferred shares that pay dividends at short-term rates, then using that money to invest in strategies or instruments providing longer-term returns, or by investing in leveraged securities.
- The intent is to create a positive difference between the longer-term return and the short-term cost of borrowing. A positive difference between the two could help increase fund common share returns and distributions. If the difference is negative, or even close to level, leverage may hurt common share returns and distributions.
- At Nuveen, we distinguish between categories of leverage:
 - **Regulatory leverage**, which is leverage that is a strategic part of the fund’s capital structure and design, intentionally used to create additional systematic long-term investment exposure. Regulatory leverage is typically regulated by the Investment Company Act of 1940. Closed-end funds are more likely to use regulatory leverage; open-end funds do not typically employ regulatory leverage.
 - **Portfolio leverage**, which is leverage that results from certain portfolio investments, including TOBs. These investments also can be used to create persistent leverage for the fund, or they may be used to position the portfolio based on the portfolio manager’s investment convictions, without intending to create long-term systematic leverage. An example would be using an investment that creates additional exposure to bonds in a certain maturity range, because the manager believes bonds of those maturities are poised to perform well.
 - The total of all types of leverage is termed **effective leverage**.

CLOSED-END FUND TOBs ON NUVEEN.COM

Because closed-end funds often use TOB inverse floaters as a persistent form of leverage, Nuveen shows TOB exposure for closed-end funds and the resulting effective leverage in the Fund Data tab of each fund’s page on nuveen.com/cef.

The leverage created by TOB inverse floaters may be the only leverage exposure for a fund, or can be in addition to regulatory leverage from preferred shares or debt.

Capital structure

As of 30 Sep 2018

Common net assets	\$2,969,250,847
Variable rate remarketed preferred	\$632,000,000
Variable rate preferred	\$1,152,500,000
Total managed assets	\$4,753,750,847
Tender option bond floating rate obligation	\$147,465,000
Total investment exposure	\$4,901,215,847

Leverage

As of 30 Sep 2018

	Dollar	Percent
Total regulatory leverage	\$1,784,500,000	37.54%
Effective leverage	\$1,931,965,000	39.42%
Asset coverage		266.39%
Average leverage costs		2.61%

Asset coverage is the ratio of total assets of the Fund, less all liabilities that are not outstanding borrowings or outstanding preferreds, at par, to the sum of the Fund’s outstanding borrowings and outstanding preferreds, at par. The average leverage costs are the annualized ratio of the sum of leverage costs to the average leverage amount for a given time period.

For more information, please visit nuveen.com.

1 Floating rate securities are bonds whose coupon rates adjust periodically based on a specified reset mechanism. Floating rate securities include most bank loans and some preferred stock.

2 Inverse floating rate securities refers to a type of security with income that may vary inversely to the rate of a specified underlying bond held in a tender option bond trust.

This material is not intended to be a recommendation or investment advice, does not constitute a solicitation to buy, sell or hold a security or an investment strategy, and is not provided in a fiduciary capacity. The information provided does not take into account the specific objectives or circumstances of any particular investor, or suggest any specific course of action. Investment decisions should be made based on an investor's objectives and circumstances and in consultation with his or her advisors

A word on risk

Past performance is no guarantee of future results. Prospective clients should review their investment objectives, risk tolerance, tax liability and liquidity needs before choosing a suitable investment style or manager. There are risks inherent in any investment, including the possible loss of principal. There can be no assurance that fund objectives will be achieved. Closed-end funds frequently trade at a discount to their net asset value.

This report is for informational purposes only and is not intended to predict or depict performance of any investment. The statements contained herein are based upon the opinions of Nuveen, LLC, and the data available at the time of publication of this report, and there is no assurance that any predicted results will actually occur.

Nuveen Securities, LLC, Member FINRA and SIPC.

nuveen

A TIAA Company