

## Understanding Leverage in Closed-End Funds

**The concept of leverage seems simple:** borrowing money at a low cost and using it to seek higher returns on an investment.

Leverage as it applies to a closed-end fund is more complex, and the landscape in which leverage operates has changed dramatically in the past few years. This makes it important for financial advisors and investors to refresh their understanding of leverage and leveraged closed-end funds.

**LIKE ARCHIMEDES' LEVER,**  
leverage in an investment offers the opportunity  
to effectively magnify one's initial input.



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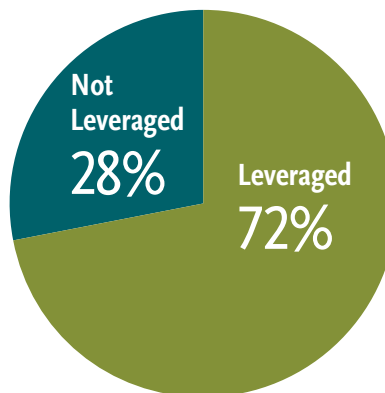
## Why are so many closed-end funds leveraged?

A closed-end fund is a publicly-traded entity that invests in a variety of securities, such as stocks and bonds. A closed-end fund raises capital by selling a fixed number of shares at one time, during an initial public offering (IPO). Once the capital is raised, the fund is “closed” and no longer directly offers its shares for sale. Instead, following its IPO, the fund’s shares trade on a secondary market such as the NYSE or the NASDAQ. Unlike a typical mutual fund, the closed-end fund is not required to buy its shares back from investors at any time. This means the fund is better able to maintain a steady asset base.<sup>1</sup>

Because regulations limit the ratio of a fund’s leverage to its total assets, this expected relatively steady asset base makes managing to that ratio easier and more consistent, and makes applying leverage in a closed-end fund a generally sound decision. For this reason, leverage is generally more prevalent in closed-end funds than in other retail investment products. Roughly three-quarters of all closed-end funds use some kind of leverage.

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### Leveraged Closed-End Funds



As of 12/31/2012  
Number of funds with more than 5% effective leverage  
Source: Morningstar

<sup>1</sup> Relative to investments that receive new cash and redemption requests each day.

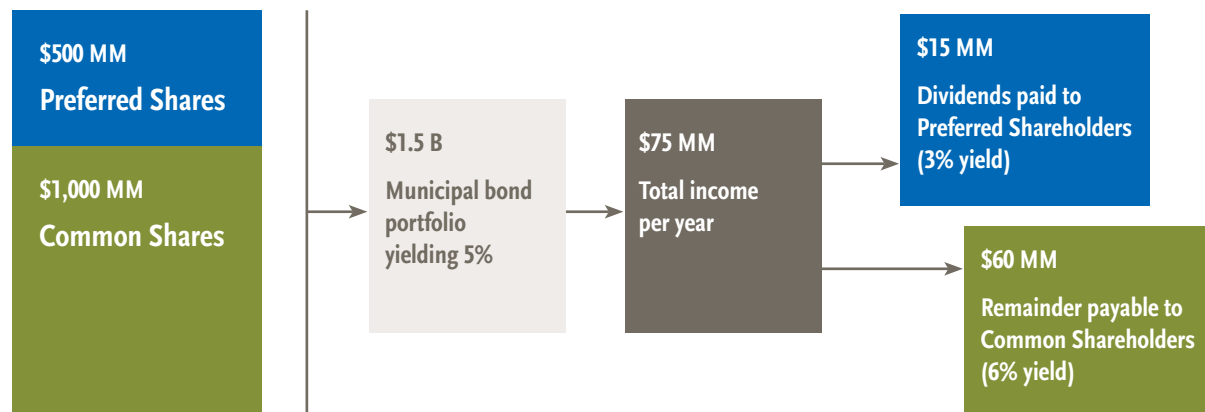
## How does a closed-end fund leverage itself?

Following its IPO, a closed-end fund typically leverages itself by borrowing at short-term rates—usually by issuing short-term senior securities, or by borrowing from a bank—and then using the proceeds to buy additional investments for its portfolio. When a fund issues senior securities, such as preferred shares or debt, it is often referred to as “structural” leverage. In other words, the fund’s capital structure now includes more than just common shares. Funds may also create leverage by holding certain investments within the portfolio; this is referred to as portfolio leverage. The costs associated with leveraging include offering costs to issue the debt or equity, as well as ongoing interest, dividend and administrative expenses.

A successful leverage scenario is one in which a leveraged closed-end fund generates additional returns (relative to not being leveraged) for its shareholders, with a total rate of return including expenses that exceeds the cost of the leverage.

It is important to note that leverage is a tool that multiplies not only potential gains; it also multiplies losses on an investment portfolio. While it helps create higher return and yield potential for the fund, it also increases the volatility of the fund’s net asset value (NAV), and potentially of its distribution and market price as well.

### An Example of Leverage\*



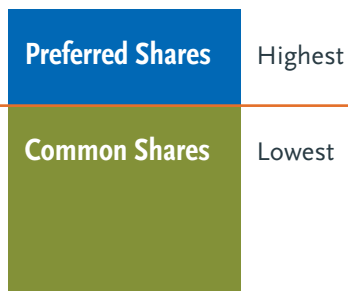
\* Hypothetical example for illustrative purposes only. Example does not include fund expenses and does not represent the leverage of any Nuveen closed-end fund.

## A broad spectrum of leverage strategies

Closed-end funds can be leveraged in a variety of ways. Historically, closed-end funds primarily used one form of leverage—auction-rate preferred shares (ARPs). Following the 2008 failure of ARPs, a new suite of leverage strategies emerged. One of the ways Nuveen initially responded was to replace ARPs with Tender Option Bonds (TOBs) in municipal bond funds. TOBs are derivative investments created to offer leveraged exposure to a high quality bond. TOBs had been used, and continue to be used, for portfolio positioning choices, to emphasize certain sectors or maturities. Nuveen funds began using this leveraged portfolio investment in a new way, as a substitute for what had been part of the fund’s capital structure.

Nuveen uses a variety of leverage strategies in closed-end funds. Each type of leverage has certain attributes and characteristics that can make it well suited to specific products and environments. Each is part of Nuveen’s “palette” and we consider all of these options when we are designing and managing a fund for our clients, sometimes using more than one type for a single fund. Structural leverage, which consists of preferred shares and debt, is limited by the Investment Company Act of 1940 (the ‘40 Act) to a maximum of 50 percent and 33⅓ percent of overall fund assets for preferred shares and debt, respectively. Leverage resulting from portfolio investments in certain derivatives is not limited in this way. These three key strategies form the core of our approach to leverage:

### Priority of Payment



### Structural Leverage: Preferred Shares

Preferred shares are issued by closed-end funds and are senior to common shares in a fund’s capital structure. This seniority means that preferred shareholders have priority when payments are made either as dividends or in cases where shares are liquidated.

The cost associated with preferred-share leverage is determined by the dividend rate demanded by preferred shareholders, which is intended to be similar to other short- to intermediate-term rates. These rates may be floating (typically changing weekly) or fixed, and the shares may have different maturities of 3, 5, or 30 years, for example. Additional costs are also incurred to offer the shares, publicly or privately, whether through a remarketing agent or another method.

Preferred shares often seek ratings from national rating agencies, which can impact preferred share dividend rates: higher rated shares typically pay lower dividend rates than lower rated shares. Consequently, higher ratings are more favorable, since they typically lead to lower borrowing costs for the fund. This means the potential benefit of the leveraging strategy may be greater to common shareholders.

**Structural Leverage: Borrowing**

This type of leverage is a loan or other debt arrangement with a bank or financial institution. The fund may also publicly issue debt securities, or issue debt in a private placement.

The cost of leverage through borrowing is considered interest expense. Unlike dividend payments, interest expense is part of the fund’s overall expenses. Therefore, a closed-end fund using this type of leverage may appear to have higher expenses than a fund using preferred shares, even if actual short-term rates paid in interest to lenders are identical to the dividend rates for the preferred shareholders. However, because this interest is a fund expense, its cost can be matched against certain types of fund income and gains, reducing or cancelling out tax liabilities associated with that income or those gains.

Debt leverage may be suitable if the fund’s strategy is expected to grow the NAV over time, since borrowings are relatively easy to adjust. If the closed-end fund’s NAV is volatile, borrowing leverage can be implemented alone or in combination with preferred share leverage.

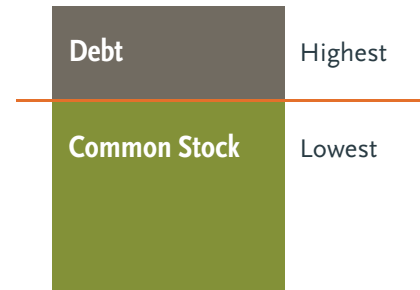
It is important to note that debt is not perpetual, so this type of leverage introduces the risk that new debt may not be available on terms as economically attractive as the leverage it replaces.

**Portfolio Leverage**

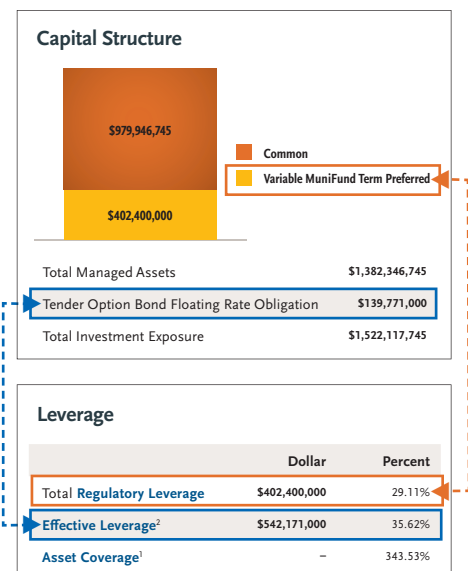
Certain derivative investments inherently create leverage. This is referred to as portfolio leverage. Examples include Tender Option Bonds in municipal bond portfolios, and certain futures, forwards and swaps. These investments give the closed-end fund portfolio economic investment exposure that is greater than the investment amount.

Nuveen publishes information regarding both regulatory—preferred and debt—leverage, and effective leverage, which is the combined economic leverage effects of regulatory leverage plus those derivative investments that are intended to persistently create additional investment exposure.

**Priority of Claims**



Find us at [www.nuveen.com/cef](http://www.nuveen.com/cef)



Hypothetical example for illustrative purposes only, and does not represent the capital structure of any Nuveen closed-end fund.

## Higher return potential over time

The primary benefit of a leveraged closed-end fund is that it potentially magnifies portfolio return, thereby yielding greater rewards if return is positive. While leverage also magnifies volatility and risk, existing data underscores that over time, leverage has historically increased returns relative to an identical, but unleveraged, investment strategy. Time is important—over a longer period, such as three or five years, leverage has historically delivered enough incremental income to more than compensate for its cost and its volatility.

The following graph demonstrates this, using hypothetical returns based on municipal bond market indexes. Municipal bonds represent the largest single closed-end fund asset class. This graph shows incremental returns of a leveraged municipal bond strategy versus an unleveraged strategy over rolling monthly one-, three- and five-year time periods between July 1989 and December 2012.

In all cases, the *average* incremental return was positive. The leverage strategy added positive return in:

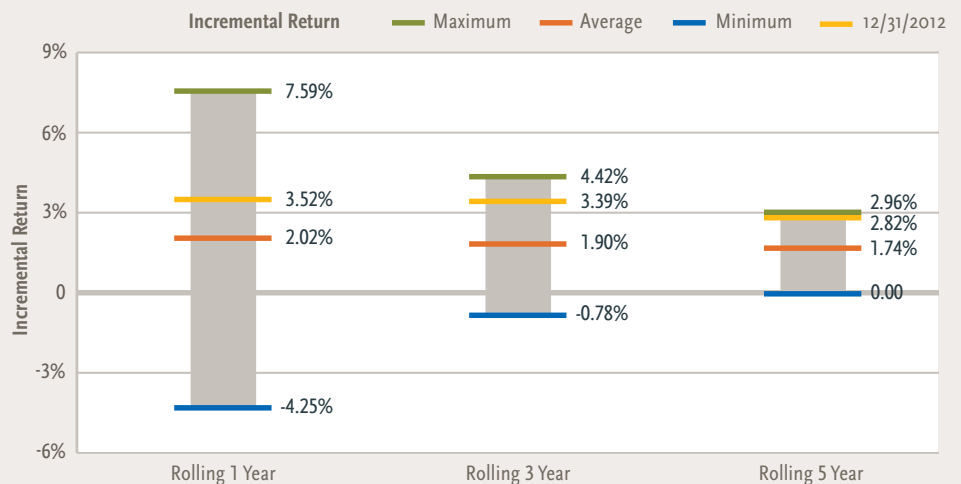
- 83.40% of all rolling 1-year time periods,
- 97.02% of all rolling 3-year time periods, and
- 99.53% of all rolling 5-year time periods.

### Incremental Benefits of Leverage

Hypothetical Leveraged Municipal Bond Strategy vs. Unleveraged Strategy  
Rolling investment horizons  
July 1989 to December 2012

Leverage benefited this hypothetical strategy, offering:

- an average of additional 1.74% to 2.02% return vs. an unleveraged strategy
- more consistent positive benefits over longer rolling time periods



Source: Nuveen, Bloomberg. Past performance does not guarantee future results. The hypothetical example is for illustrative purposes only, and is not intended to represent the results of any Nuveen closed-end fund.

The chart shows the range of return variation over the time period indicated, in percentage terms, of a hypothetical leveraged investment strategy versus a hypothetical unleveraged strategy. The illustration uses the Barclays Municipal Bond Index as a proxy for a hypothetical investment portfolio; the SIFMA Municipal Swap Index, which began in July 1989, as a proxy for a hypothetical portfolio's cost of leverage; and a 35% leverage ratio.

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## Managing risks associated with leverage

A leveraged closed-end fund carries inherent risks. While these risks can never be completely eliminated, Nuveen is dedicated to using consistent and careful management approaches and techniques designed to mitigate them and to be a foundation for potential long-term success of the leveraged fund. While leveraging can often be additive, optimal results will depend on a fund manager's understanding and using the right tools and strategies that can increase the fund's likelihood of success.

Nuveen's approach to managing leverage and its risks includes integrated dynamic asset/liability management processes, such as

- Targeting asset classes that Nuveen believes offer the greatest potential, over the long term, to benefit from leverage in a fund.
- Setting internal operating guidelines for leverage, including leverage target levels and internal minimum and maximum levels that are well within regulatory and rating agency requirements.
- Monitoring Nuveen closed-end fund leverage levels daily.
- Managing leverage costs via swaps and hedges, seeking to smooth out fund earnings volatility.

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## In summary

Leverage is a multiplier. Therefore, one of the consequences of employing a leverage strategy in a closed-end fund is that it may generate greater benefits and rewards in a rising market, and greater disadvantages in a declining market. Historically, the incremental income that can be captured through leverage has more than offset the incremental price risk over time. However, in shorter investment horizons, or in periods of economic downturn or higher volatility, leverage will typically magnify down-trend outcomes. In the end, when applied with proven principles and managed consistently, we believe leverage is a strategy that is both sound and additive to many closed-end fund strategies.

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Before investing, consider each fund's investment objectives, risks, charges and expenses. For additional information, please contact your financial advisor or Nuveen Investments at 800.257.8787 or visit [www.nuveen.com/cef](http://www.nuveen.com/cef).

## Leverage Glossary

<b>Regulatory Leverage</b>	Leverage created by the fund's issuance of preferred shares or taking on debt. This type of leverage, which changes a fund's capital structure, is regulated by the Investment Company Act of 1940, as amended.
<b>Effective Leverage</b>	Effective leverage measures the extent to which the return and risk of an investment in a fund's shares is magnified through the use of certain forms of leverage. These may include regulatory leverage (e.g., preferred shares, bank borrowings), portfolio investments with embedded leverage (e.g., residual interests of tender option bond trusts), and certain derivative investments (e.g., total return swaps, forward currency contracts).
<b>Tender Option Bonds</b>	Inverse floating rate security issued by a special purpose trust for the purpose of creating a leveraged bond security.

### Risks and other important information

This discussion is provided for informational purposes only and contains no investment advice or recommendations to buy or sell any specific securities. The discussion is based on the opinion of Nuveen Investments and the data available at the time of publication of this report. Neither Nuveen nor any of its affiliates, directors, employees or agents accepts any liability for any loss of damage arising out of the use of all or any part of this report. Nuveen is not a tax advisor. Investors should consult their professional advisors before making any tax or investment decisions.

There are risks inherent in any investment including, but not limited to, market risk and the possible loss of principal. Leverage creates the risk of higher volatility for a fund's net asset value, market price, and distributions. There is no assurance that a fund's leveraging strategy will be successful.

Shares of closed-end funds frequently trade at a discount from the net asset value. When sold, shares may be worth more or less than the purchase price or the net asset value. It is important to consider the objectives, risks, charges and expenses of any fund before investing.

For more information about closed-end funds in general, visit: [www.nuveen.com/closed-end-funds](http://www.nuveen.com/closed-end-funds)