GOLUB CAPITAL

Opposites Attract

Munis and Direct Lending as Portfolio Complements

Every part of the portfolio has a job to do. Stocks promise growth; bonds offer safety and yield—two characteristics often hard to find in a single package. For most of this century, traditional core bonds disappointed investors, causing them to search for higher and more stable income elsewhere, trading safety for yield. Direct lending, historically with low volatility and outsized yield, has emerged as an efficient way to solve for both. We compare the investment history of municipal bonds and middle market direct lending. Our findings suggest that whatever virtues each asset category has individually, investors may best harvest them through a blended allocation.

Opposites or Complements: Munis and Direct Lending

For taxable investors, municipal bonds—or "munis"—have long been a preferred core allocation. They offer an "anchor to windward" to offset equity volatility with greater tax efficiency than taxable fixed income.[1] But over the last two decades, munis have delivered only modest income and total returns.

We take a close look at the performance of munis compared to other higher-yielding debt alternatives—specifically, direct lending—and the comparison raises some questions. While generally considered "safe," munis carry relatively high interest-rate risk and only modest yield—characteristics that can leave the muni category particularly vulnerable to both rising rates and inflation.[2]

Direct lending has historically offered high income yield and robust total returns with little duration risk (as a floating-rate investment), making it more resistant to inflation. The two also have had very low correlations with one another and sit at either end of a tax-efficiency continuum (making direct lending a better fit for tax-deferred accounts). These two debt offerings, contrary in so many ways, can be attractive portfolio complements, balancing each other's virtues and liabilities.

Exhibit 1

Opposites Attract

A Marriage of Completeness: Munis and Direct Lending

Munis		Direct Lending
Low Income/High Duration	↔	High Income/Low Duration
Vulnerable to Inflation	↔	Rises with Inflation
Low Return and Sharpe	↔	High Return and Sharpe
High Correlation to Agg	↔	Low Correlation to Agg
Tax-Efficient	↔	Tax-Inefficient

Source: Golub Capital. For illustrative purposes only.

1. Munis face no federal tax and, in some cases, no state tax either.
2. As measured by the Bloomberg U.S. Aggregate Index.

Income and Duration: There's a Middle Way

This paper explores a comprehensive array of investment characteristics among two asset categories: intermediate-duration munis and middle market direct lending. We assess the results through the lens of pre-tax returns, presuming direct lending is properly "located" in a tax-deferred vehicle.[3]

We focus first on several bond-specific characteristics, particularly duration and yield.[4] Over the full 21-year period, munis have a duration of 5.5 years, in line with traditional core bonds (see Exhibit 2, left side, blue). At the other end of the duration spectrum is direct lending: It consists almost exclusively of floating-rate instruments that reset quarterly in line with the Secured Overnight Financing Rate (SOFR) and have a duration of just several months (see Exhibit 2, left side, green).

The higher duration of munis translates to potential price appreciation (or depreciation) as interest rates move down (or up). This generates substantial return volatility. The near-zero duration of direct lending means the "base rate" of the asset's income yield rises on the back of rate increases, an important defensive characteristic relative to traditional fixed income. The impact of interest rate changes on private direct lending tends to be both less volatile and less binary in nature.[5]

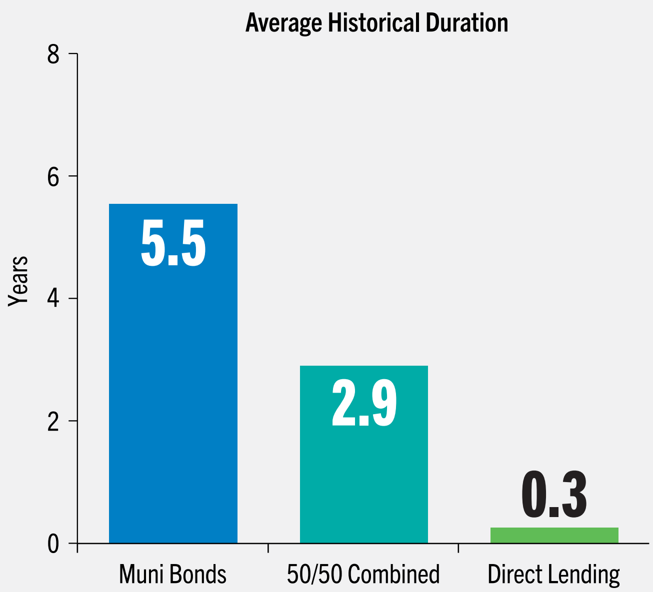
The difference in income yield also stands out: Direct lending delivered annualized income averaging 8.8% net of fees over the last 21 years, double what munis have offered over that time frame (see Exhibit 2, right side, 4.4%).[6]

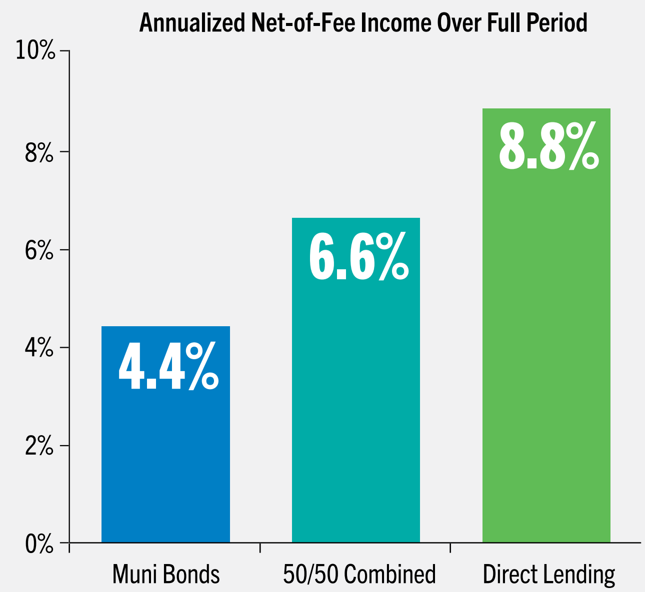
A balanced allocation across the two assets offers a middle ground. A 50/50 blend results in a 6.6% average annualized income yield, net of fees and a duration of just under three years, well below that of munis (see Exhibit 2, teal).[7] The combination offers a more balanced exposure to both the liabilities and virtues associated with interest rate movements and income yield.

Exhibit 2

Higher Income, Lower Duration

Finding the Sweet Spot





Note: This analysis runs from Q1 2005–Q4 2025. Direct Lending is represented by the Cliffwater Direct Lending Index (CDLI); Muni Bonds are represented by the Bloomberg Intermediate Municipal Bond Index; 50/50 is represented as a blended version of the aforementioned indices. Annualized income represents the yearly income generated by an investment, after deducting fees. All returns are construed on a net-of-fee basis. For further details, see Appendix.

Source: Bloomberg, CDLI. Data as of December 31, 2025.

3. This analysis runs from Q1 2005–Q4 2025. The indices include the Bloomberg Intermediate Municipal Bond Index and the CDLI. The fees applied on munis (47 bps) represent the average asset-weighted fees on intermediate-duration munis based on the Investment Company Institute (ICI) 2025 Handbook; the fees applied to the Cliffwater Index (193 bps) are based on the August 19, 2024, analysis by Cliffwater regarding their recommended fee calculations. The CDLI is based on gross-of-fee returns and includes no leverage. For net-of-tax results, use a capital gains tax rate of 23.8% and the highest category of ordinary income tax of 40.8%. Assets are modeled with a 5% quarterly turnover rate for the purposes of calculating capital gains taxes.
4. In terms of credit risk, we acknowledge that munis tend to be default-remote, with a default rate over the last 10 years of under 0.1%, as per Moody's U.S. Public Finance Report, US Municipal Bond Defaults and Recoveries, 1970–2022. This compares to a direct lending credit loss rate over the same period of 1.04%. That said, muni defaults, while rare, can affect a large dollar volume of debt when they do occur, as recent examples in Detroit and Puerto Rico make clear. Interestingly, speculative grade municipal default rates were higher (0.6%) in this period and, during periods of stress, often exceeded those of speculative grade corporates.
5. For a long-term analysis of interest rate movements and the impact on both core bonds and direct lending, see "Cut and Run: Direct Lending and Interest Rates," Golub Capital Insights.
6. The average annual tax-equivalent yield of intermediate-duration municipal bonds over the 21-year period was 7.4%, using the 40.8% ordinary income tax rate.
7. The 50/50 blended allocation assumes quarterly rebalancing.

Higher Highs, Softer Blows: A Total Returns Perspective

Turning from income yield and duration to total return reveals another contrast: Annualized net-of-fee returns for direct lending over the 21-year period were 7.5%, more than twice the level of munis at 3.0% (see Exhibit 3). Annually and over time, direct lending has historically had both higher and more consistently positive returns. In some periods, exposure to it would have provided a timely counterweight for the overall portfolio, buoying total returns when muni performance was low or negative.[8]

Several performance characteristics stand out from the analysis (see Exhibit 3):

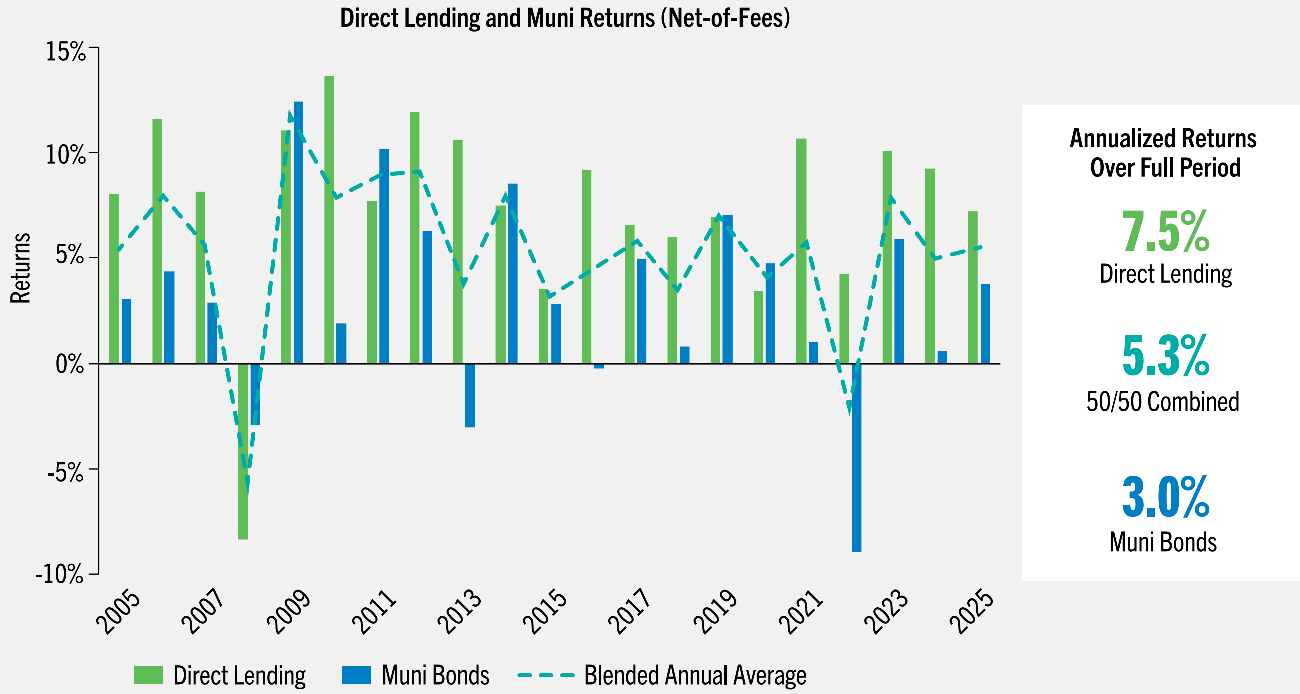
- Direct lending returns outpaced munis in 15 of 21 full calendar years.
- Direct lending outperformed on average by 7 percentage points; in the six years when munis led, they did so, on average, by almost 2 percentage points.
- Munis had negative returns in four calendar years; direct lending experienced just one down year (2008).
- In the three years when munis were negative but direct lending positive, direct lending provided a timely and substantial counterweight, with higher-than-usual positive performance (8 percentage points).
- In only one year did munis and direct lending both experience simultaneous negative returns (2008).

A blended 50/50 allocation delivered annualized performance of 5.3% over the full period (in teal)—higher than munis alone with less downside risk and greater consistency over time.

Exhibit 3

Higher, Tighter, Smoother

A Blended Allocation Offers Higher, More Consistent Total Returns



Note: This analysis runs from Q1 2005–Q4 2025. Direct Lending is represented by the Cliffwater Direct Lending Index; Muni Bonds are represented by the Bloomberg Intermediate Municipal Bond Index; 50/50 represents a blended version of the aforementioned indices. All returns are construed on a net-of-fee basis. For further details, see Appendix.

Source: Bloomberg, CDLI. Data as of December 31, 2025.

8. Looking at a post-tax or tax-equivalent analysis would show substantially different results.

The Alchemy of Complementary Assets

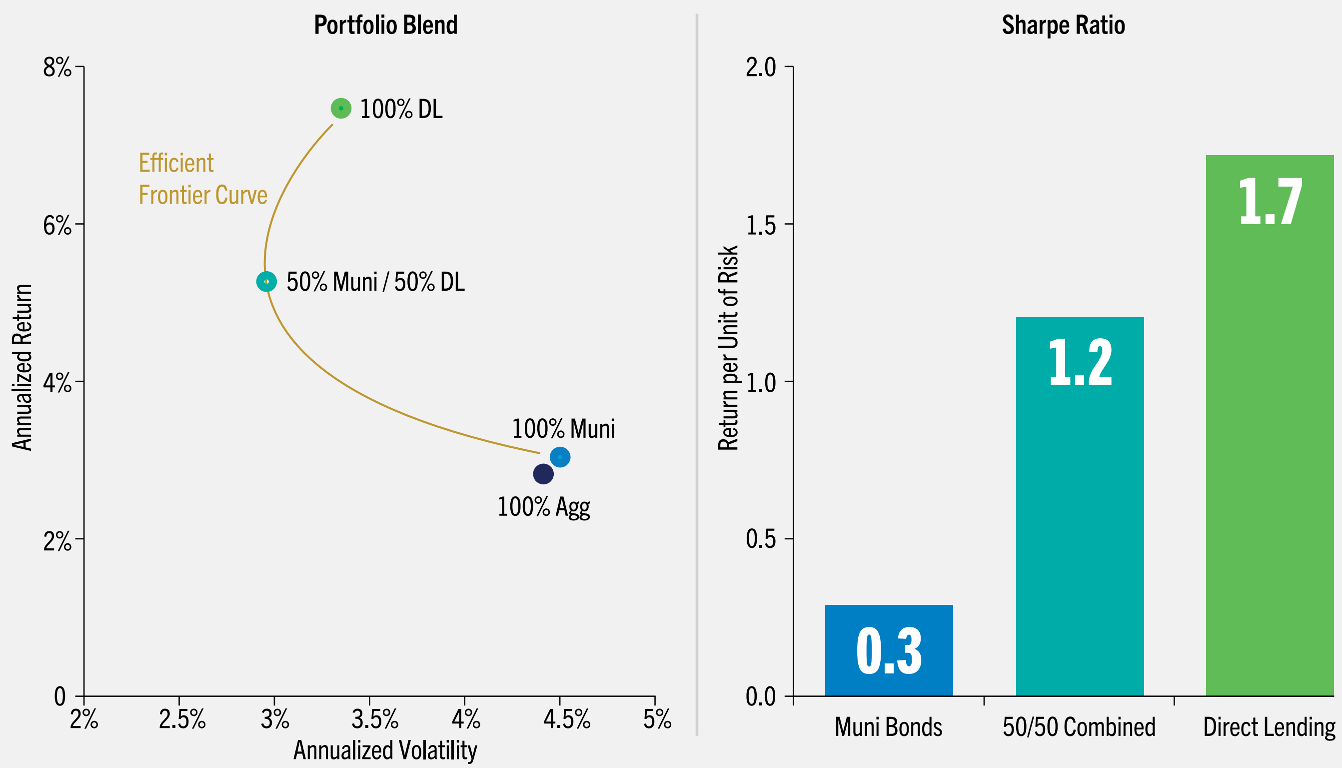
The appeal of combining low-correlated assets is a basic principle of portfolio construction. Over the past 21 years, munis and direct lending had a correlation of just 0.1. The alchemy of diversification suggests a mix of munis and direct lending would produce a single composite whole with more attractive risk and return characteristics than the two assets would individually.

The resulting portfolio blend delivers higher total returns—a more than 200 bps improvement in performance—and lower volatility than munis (see Exhibit 4, left side, teal). A classic efficient frontier capturing risk and return together illustrates the greater efficiency of the combined allocation: The 50/50 blend results in a Sharpe Ratio of 1.2 vs. 0.3 for munis alone (see Exhibit 4, right side, teal).

Exhibit 4

Better Together

Seeking Frontiers of Greater Efficiency



Note: This analysis runs from Q1 2005–Q4 2025. Direct Lending is represented by the Cliffwater Direct Lending Index; Muni Bonds are represented by the Bloomberg Intermediate Municipal Bond Index; 50/50 represents a blended version of the aforementioned indices. Agg is represented by the Bloomberg U.S. Aggregate Bond Index.

Sharpe ratio measures risk-adjusted return by comparing an investment's excess return over the risk-free rate to its volatility. All results are construed on a net-of-fee basis. For further details, see Appendix.

Source: Bloomberg, CDLI. Data as of December 31, 2025.

Extending the Tax-Efficiency Frontier

We close by moving from optimizing risk and return to an efficient frontier of a different kind—tax efficiency.

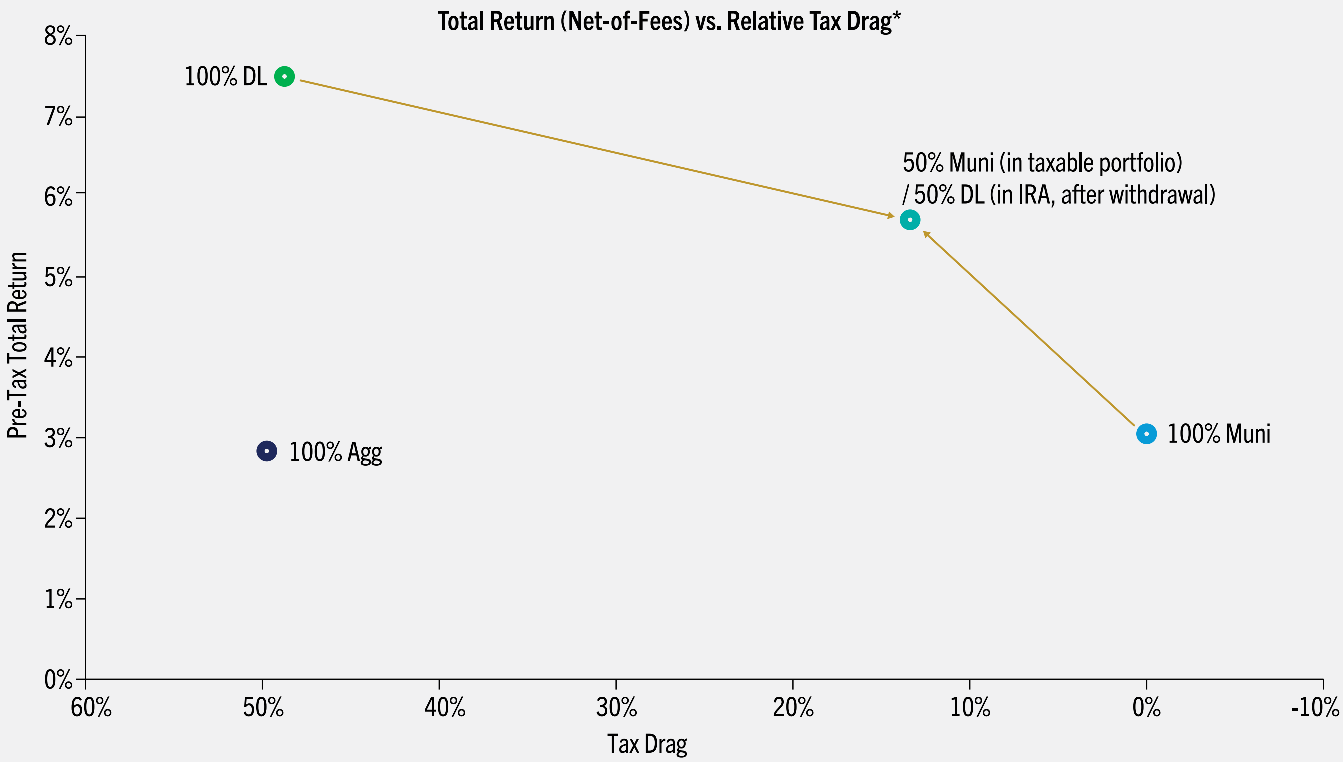
Over the 21-year period under review, munis stand out as arguably the most tax-efficient asset available to investors, with a "tax drag" of almost zero (see Exhibit 5, light-blue dot). Meanwhile, direct lending suffers relative tax headwinds on par with taxable core bonds, reaching just under 50% (see green and dark-blue dots).

But with the aid of tax-deferred portfolios and smart asset location (see teal dot), the combination of munis and direct lending could deliver many of the benefits discussed already (higher income and total return, as well as lower duration and less vulnerability to inflation) with less erosion (under 15%) from taxes.

Exhibit 5

A Tax-Efficient Blend

Mitigating the Tax Headwinds of Direct Lending



Note: This analysis runs from Q1 2005–Q4 2025. Direct Lending is represented by the Cliffwater Direct Lending Index; Muni Bonds are represented by the Bloomberg Intermediate Municipal Bond Index; Agg is represented by the Bloomberg U.S. Aggregate Bond Index. For the 50/50 portfolio, the DL allocation is held in a tax-deferred account and liquidated at the end of the 21-year period at a 20% implied federal tax rate.

*Relative Tax Drag is defined as the ratio of absolute tax drag to pre-tax returns, representing the reduction in an investment's return due to taxes on income distributions and realized gains. All returns are construed on a net-of-fee basis. For further details, see Appendix.

Source: Bloomberg, CDLI. Data as of December 31, 2025.

Appendix

The analysis runs from Q1 2005–Q4 2025, a full 21 years. The indices include the Bloomberg Intermediate Municipal Bond Index, Bloomberg U.S. Aggregate Index, S&P500 for equities and the Cliffwater Direct Lending Index (CDLI). We pull total return, price return and income return for each. For net-of-fee analysis, the fees applied on municipal bonds (47 bps), U.S. Agg (37 bps) and equities (42 bps) represent the average asset-weighted fees on each asset class based on the Investment Company Institute 2025 Handbook; the fees applied to the Cliffwater Index (193 bps) are based on the August 19, 2024, analysis by Cliffwater regarding their recommended fee calculations. The CDLI is gross of fees and includes no leverage. For net tax results, we use capital gains tax of 23.8% and the highest category of ordinary income tax of 40.8%. Assets are modeled with 5% quarterly turnover rate for the purpose of calculating capital gains taxes. We calculate and pay taxes on a quarterly basis, and we assume that tax liability is paid in the quarter it has occurred. Bonds and CDLI income are taxed at federal top marginal ordinary income + NII rate of 40.8% and equities income is taxed as qualified dividends + NII rate of 23.8%. Capital gains/losses arising from turnover or rebalancing are assumed to be long-term. Any unused capital loss is carried forward for future periods. Capital gains are taxed at the top marginal rate + NII of 23.8%. Cash arising from turnover and income is used to pay taxes at the end of the quarter, and the remaining amount is redeployed at the beginning of the next quarter in the target portfolio weights. Retirement accounts follow the same assumptions as taxable without taxes, which is equivalent to weighted pre-tax net-of-fees asset returns in a given quarter. When we compare retirement accounts to taxable accounts to capture the effect of the taxes at withdrawal, we withdraw the full amount and tax it at 20% rate (presuming a lower effective tax rate in retirement). When we show allocations of 50% taxable/50% retirement, we do not rebalance between retirement and taxable accounts. We purchase 50% in the beginning in each account and let the two accounts proceed independently subject to their own internal allocations; therefore, actual allocation will tend to drift slightly over the period. CDLI over the period has produced both income and net capital losses; therefore, total return is lower than income return. We subtract fees of 1.93% from the income return. In our model, the net-of-fee annualized income return is approximately 8.8%, annualized price return is -1.3% and total pre-tax return is 7.5%. We pay taxes on 8.8% at a 40.8% ordinary income rate, which amounts to roughly 3.6% in taxes and represents the absolute tax drag on direct lending. To find the relative tax drag, we divide absolute tax drag by pre-tax returns, resulting in 48% relative tax drag, higher than the 40.8% ordinary income rate used throughout. Direct lending over the period suffers a 1.3% loss on price return but realized capital losses do not offset ordinary income.

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