

## What Do We Mean by Yield?

*(A discussion of components and calculations underlying direct lending yield)*

*August 3, 2016*

*"Yield" at first seems the most intuitive of concepts, yet investors find that it can take on unexpected complexity when applied in practice. Since direct lending returns depend almost entirely on yield, we thought it important to explain our yield calculations, including a supplemental "Yield-to-3Yr-Takeout" calculation for the Cliffwater Direct Lending Index that will assist investors to better gauge relative value with publicly traded high yield bonds and bank loans.*

### ***Yield and the Cliffwater Direct Lending Index***

The Cliffwater Direct Lending Index (CDLI) has received significant interest from institutional investors looking for a resource to help proxy performance and risk in this growing asset class. One recurring question has been the CDLI gross yield, which was reported at 10.2% as of March quarter-end. Specifically, researchers have inquired why CLDI yields are more stable when compared to reported yields for other credit oriented asset classes, such as high yield bonds or bank loans.

The answer lies with how yields are calculated. We discuss below different methods for calculating yield and, in doing so, introduce a new yield calculation for direct lending assets that facilitates an "apples-to-apples" comparisons to traded credit instruments, such as high yield bonds.

#### ***Definition 1: Current Yield***

Our direct lending research<sup>1</sup> has referenced "current yield" to capture the immediate cash flow characteristics of direct loans. Current yield is calculated as the most recent quarter's interest payments divided by average assets over the quarter. For example, CDLI interest income during the quarter totaled \$1.9 billion on average assets valued at \$76.7 billion. Dividing income by assets gives a quarterly yield equal to 2.54%. We multiply the 2.54% quarterly yield by four, to get a 10.2% annualized yield, which we report as the CDLI yield at March 31. We utilize this measure of yield for strategic allocation purposes as this reflects the actual income distribution available for investors in the asset class.

#### ***Definition 2: Yield-to-3Yr-Takeout***

Total return investors prefer to think of yield through the lens of "yield-to-maturity" or "yield-to-worst", reflecting current income and amortization of the difference between current value and principal paid at maturity or call date. These alternative calculations include both current yield and the amortization of unrealized gains and losses.

Our second yield calculation for direct loans follows this convention and adds the amortization of loan discounts or premiums towards par value to current yield. While most direct loans have a 5 year stated maturity, loan refinancings, prepayments and corporate actions reduce the weighted

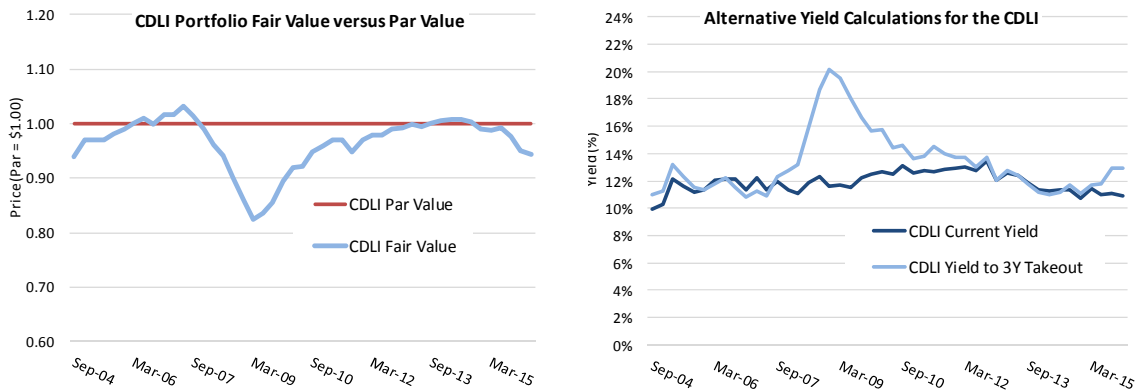
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<sup>1</sup> See "U.S. Direct Lending & the Cliffwater Direct Lending Index, January 2, 2016" that can be found at [www.CliffwaterDirectLendingIndex.com](http://www.CliffwaterDirectLendingIndex.com).

average life of direct loans to approximately 3 years.<sup>2</sup> As such, we calculate a “yield-to-3yr-takeout,” accreting the pull to par value for the CDLI when priced at a discount, or amortizing the CDLI roll down when priced at a premium to par, both in a linear fashion over a 3 year horizon.

Our yield-to-3yr-takeout calculation requires both par and current value for the CDLI. We calculate these values by aggregating individual portfolio par and current asset values<sup>3</sup> reported quarterly in BDC financial statements. Exhibit 1 illustrates how differences between fair and par value create differences between current yield and yield-to-3yr-takeout for the CDLI.

Exhibit 1: Current Yield and Yield-to-3Yr-Takeout for the Cliffwater Direct Lending Index



Source: Cliffwater, public disclosures

When CDLI fair value is at a discount to par value, the yield-to-3yr-takeout calculation is above the current yield calculation. This difference was very significant in 2008 when the CDLI yield-to-3yr-takeout rose to 20% while CDLI current yield rose to just 12%.

Both yield calculations are useful. The 20% yield-to-3yr-takeout in 2008 is indicative of what an existing portfolio would return over 3 years if no realized losses were to occur. The 12% current yield might be a better representation of total return if realized losses materialized. Neither yield measure is an accurate proxy for yields on new loan origination, which likely would fall somewhere between the two yield measures.

### Comparing CDLI Loan Yields with High Yield Bonds

Having introduced the yield-to-3yr-takeout calculation for direct loans, we can now address questions raised by investors comparing CDLI yields with high yield bonds.

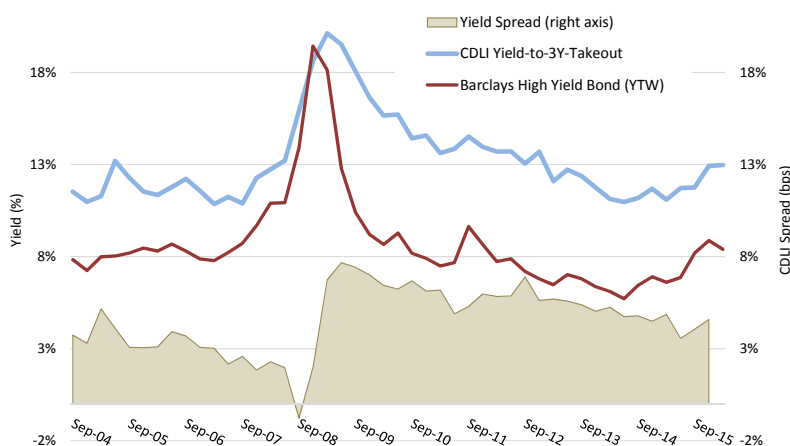
The most quoted yield for high yield bonds is “yield-to-worst,” a measure akin to yield-to-3yr-takeout because it also amortizes differences between current price and par value over the expected life of the bond.<sup>4</sup> Exhibit 2 provides our best “apples-to-apples” comparison of direct loans (represented by the CDLI) and high yield bonds (represented by the Barclays High Yield Bond Index). In addition to absolute yield levels, the yield spread between the two asset classes is displayed as a possible indication of relative value.

<sup>2</sup> Portfolio turnover, equal to the value of loan maturities plus sales, divided by loan assets, averaged a 35% annual rate for the CDLI for the 2005 to 2016 (Q1) periods.

<sup>3</sup> Current loan values are “fair value” quarterly determinations by management and independent valuation firms.

<sup>4</sup> “Worst” refers to the closest date the bond can be called by the issuer.

Exhibit 2: Yield Comparison between Direct Loans and High Yield Bonds



Source: Cliffwater, public disclosures

The blue line in Exhibit 2 reflects the newly calculated yield-to-3yr-takeout for the CDLI, and the red line plots the yield-to-worst for the Barclays High Yield Bond Index. As expected, due to the inclusion of the pull to par contribution, the CDLI yield-to-3yr-takeout now spikes during the Financial Crisis in a pattern very similar to the Barclays High Yield Bond Index yield-to-worst calculation. In general, we believe that the yield-to-3yr-takeout is more accurate than current yield when making comparisons to the Barclays High Yield Index.

However, we still observe the effects of a lagged valuation process for direct loans, something also found in other non-traded asset classes. For example, high yield bond yields advanced sooner than equivalent CDLI yields during the Financial Crisis, causing yield spreads to turn negative temporarily, but corrected soon thereafter.

## Conclusion

In this paper, we adjust the CDLI current yield to account for the accretion/amortization of loan prices towards par to develop a “yield-to-3yr-takeout” calculation that is similar to the “yield-to-worst” measure commonly used in public credit indices. We observe that the CDLI yield-to-3yr-takeout measure fluctuates more than CDLI current yield and its direction and rate of change is in line with yield-to-worst measures for traded high yield credit, though with a lag attributable to the valuation process for direct loans.

We conclude by reiterating the academic nature of this approach and re-emphasize the practical use of the CDLI and CDLI current yield as representative of the actual income distribution achievable from investing in direct loans. While the yield-to-3yr-takeout time series is helpful for benchmarking yields to bond market indices, it is important to remember that the CDLI is not directly investable as it is not possible to transact at loan fair values.

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*When Cliffwater was unable to determine the nature of a BDC's investments because of limited information included in historical SEC filings, Cliffwater did not apply the portfolio composition criteria (at least 75% of total investments represented by direct loans) to the BDC. All other eligibility criteria were applied to determine whether to include the BDC in the historical Index composition and return. All Index returns and characteristics are reported with a 2.5 month lag to allow sufficient time for SEC filings.*

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