CLIFFWATER

2022 Q2 Report on U.S. Direct Lending

Private debt is a rapidly growing asset class among institutional investors, a trend that is expected to continue. This report focuses on second quarter 2022 and long-term performance for one of the largest segments of private debt, U.S. middle market corporate lending.

Stephen Nesbitt
CIO
snesbitt@cliffwater.com

Fran Beyers
Managing Director
fbeyers@cliffwater.com

Gabrielle Zadra
Senior Managing Director
gzadra@cliffwater.com

Eli Sokolov
Managing Director
esokolov@cliffwater.com

Jeff Topor
Managing Director
jtopor@cliffwater.com

The Cliffwater Direct Lending Index

Our performance analysis relies upon the Cliffwater Direct Lending Index, or CDLI, an asset-weighted index of over 10,000 directly originated middle market loans totaling $247 billion as of June 30, 2022.[1] The CDLI assists investors to better understand private debt as an asset class and to benchmark manager performance. It is now used globally by institutional investors and asset managers as the index of choice for understanding the return and risk characteristics of U.S. middle market debt.

Launched in 2015, the CDLI was reconstructed back to 2004 using quarterly SEC filings required of business development companies, whose primary asset holdings are U.S. middle market corporate loans. Importantly, SEC filing and transparency requirements eliminate common biases of survivorship and self-selection found in other industry universe and index benchmarks. And finally, loan assets in the CDLI are managed for total return by independent asset managers, unlike similar loans within insurance companies where statutory and other regulatory requirements can result in non-performance objectives. See www.CliffwaterDirectLendingIndex.com for further information on the CDLI.

CDLI Returns[2]

	Second Quarter 2022	Trailing 1 Year	Trailing 5 Yrs.	Trailing 10 Yrs.	From Sep 2004 Inception*
Interest Income	1.99%	8.43%	9.66%	10.36%	10.76%
+ Net Realized Gains (Losses)	0.02%	0.33%	-1.10%	-0.90%	-1.06%
+ Net Unrealized Gains (Losses)	-1.48%	-1.20%	-0.16%	-0.16%	-0.27%
= CDLI Total Return**	**0.53%**	**7.50%**	**8.32%**	**9.22%**	**9.35%**

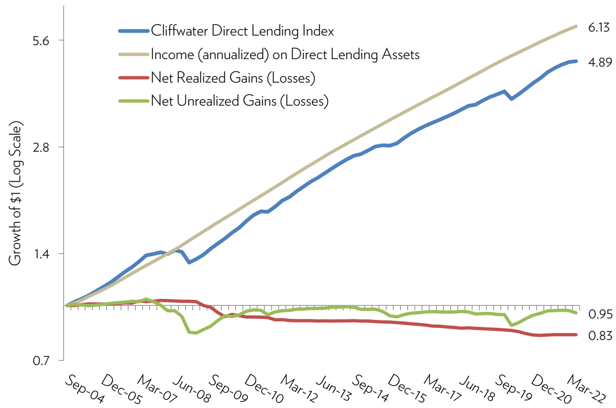
* Annualized returns through June 30, 2022.
** Return subcomponents may not add exactly to total return due to compounding effects.

CDLI produced a modest **0.53% total return** in the second quarter, bringing the trailing four-quarter CDLI total return to **7.50%**. Interest income of 1.99% (8.20% annualized[3]) was offset by a sizable 1.48% in unrealized losses for the quarter, mirroring losses across most asset classes, including Treasuries. Realized gains equal to 0.02% in the second quarter, and 0.33% for the trailing year suggest that COVID-induced principal impairments have ended and lenders are now refocusing on potential future realized losses from high inflation, rising interest rates, and recession. The high 1.48% in unrealized losses for the quarter reflect those concerns.

[1] The Cliffwater Direct Lending Index (the "CDLI") seeks to measure the unlevered, gross of fees performance of U.S. middle market corporate loans, as represented by the underlying assets of Business Development Companies ("BDCs"), including both exchange-traded and unlisted BDCs, subject to certain eligibility requirements. The CDLI is asset-weighted by reported fair value.
[2] Any information presented prior to the Launch Date (September 30, 2015) of the CDLI is back-tested. The CDLI performance has been prepared for informational purposes only. Past performance is not indicative of future returns. Please see additional CDLI disclosures at the end of this report.
[3] Compounded.

Exhibit 1 plots CDLI total return, in blue, together with its income, realized, and unrealized net gain (loss) components. Visual inspection shows that quarterly income drives total return over time, reduced periodically by net realized and unrealized losses.

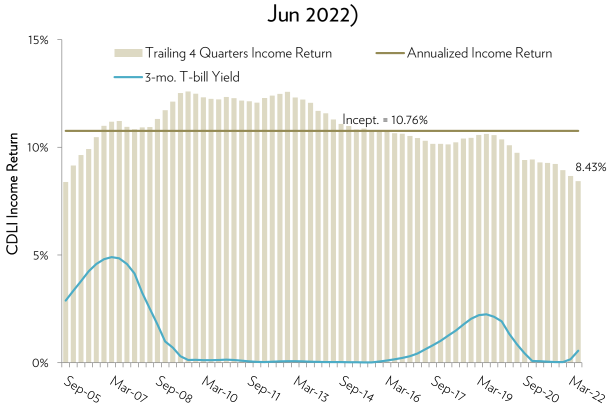
Exhibit 1: Components of CDLI Returns
(Sep 2004 to Jun 2022)



Income Return

Total returns have historically been driven by high single-digit or low double-digit interest income returns, averaging 10.76% over the lifetime of the CDLI, and with a historical range between 8% and 12%. Higher yields have been associated with economic distress and high Libor rates and lower yields associated with economic growth and low Libor rates. Exhibit 2 shows historical trailing four-quarter income returns for the CDLI, starting from its September 2004 inception. Also shown are four-quarter T-bill yields which helps explain some, but not nearly all of the variation in CDLI income.

Exhibit 2: CDLI Income Return (trailing four quarters ending Jun 2022)

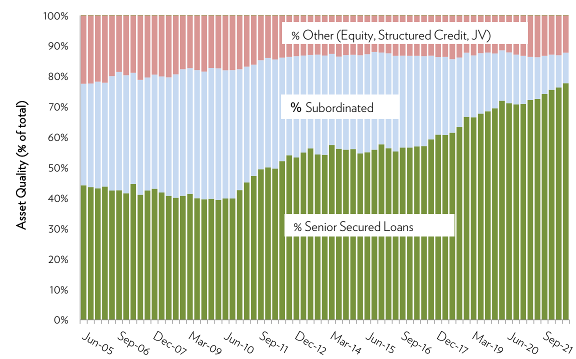


The decline in CDLI yield in recent years is the result of (1) a significant decline in Libor, (2) some yield spread compression, and (3) the growth of lower yielding senior loans within CDLI.

The percentage of senior loans in the CDLI has increased steadily from 38% at the end of 2009 to 78% on June 30, 2022, a two percentage-point increase over the second quarter and a five percentage-point increase over the last four quarters.

Exhibit 3 shows (in green) the jump in senior loans immediately after the 2008 Financial Crisis and its steady increase thereafter.[4]

Exhibit 3: Percentage of Senior Loans in CDLI

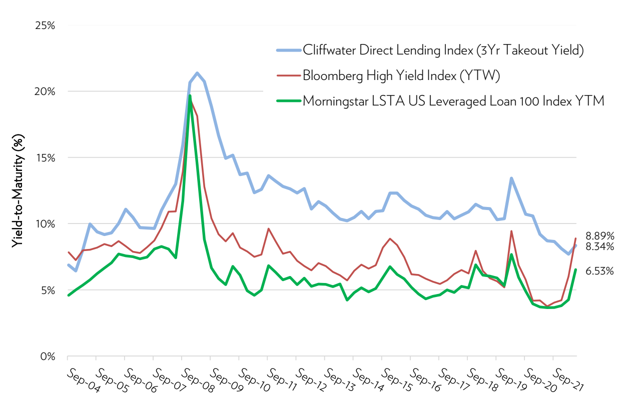


Yield-to-Maturity

Total return investors prefer to think of yield through the lens of "yield-to-maturity," reflecting current interest income plus the amortization of unrealized gains or losses. Unrealized gains or losses equal the difference between current fair value and principal paid at maturity (or cost value if the loan was not issued at par).

While most direct loans have a 5- to 7-year stated maturity, refinancing and corporate actions reduce their average life to approximately 3 years (see Exhibit 18). We calculate a "3Yr Takeout Yield" for the CDLI and compare it to an equivalent yield-to-worst calculation for broadly syndicated high yield bonds and leveraged loans in Exhibit 4. [5]

Exhibit 4: CDLI, High Yield Bond, and Leveraged Loan Yield-to-Maturity Comparisons, Sep 2004 to Jun 2022



[4] Senior secured loans include unitranche loans, which represent approximately one-half of total senior secured loans in CDLI.

[5] "3Yr Takeout Yield" is calculated by assuming loans will be repaid at par in three years, the average life of direct loans.

The CDLI 3yr takeout yield rose from 7.70% on March 31, 2022, to 8.34% on June 30, 2022, primarily due to Libor increases and middle market spread widening. In contrast, the yield on the Morningstar LSTA US Leveraged Loan 100 Index jumped from 4.26% to 6.53% over the quarter and the yield on the Bloomberg High Yield Bond Index jumped even further from 6.01% on March 31, 2022, to 8.89% on June 30, 2022. The Morningstar LSTA US Leveraged Loan 100 Index yield rose due to both spread widening and an increase in Libor. The Bloomberg High Yield Bond Index yield-to-maturity rose from greater spread widening – high yield bonds are generally subordinated to senior secured loans – and a rise in Treasury bond yields, reflecting their higher 6-year duration.

The spread tightening between private and public debt is not unusual in early stages of a credit sell-off when investors seek liquidity from public debt putting downward pressure on leveraged loans and high yield bonds beyond what is justified from a fundamental (credit loss) perspective. Investors wanting to provide liquidity to the public markets today (buy loans and bonds) may receive a premium return that closes the yield gap or exceeds the long-term risk premiums offered to private debt investors, as shown in Exhibit 11.

On June 30 high yield bonds offered a 55 basis-point higher yield than private debt, as measured by CDLI. Yield hungry investors might be attracted to the public markets for this apparent yield advantage. But consider:

a. The CDLI yield is understated by about 75 to 100 basis points as Libor/Sofr increases during the second quarter are not fully reflected in the quoted CDLI yield. The same is not true for the yield-to-maturity on the Bloomberg High Yield Bond Index.
b. Adjusted for an upward sloping yield curve, the high yield bond spread over the equivalent duration Treasury equaled 5.69% on June 30.[6] That was also up from 3.25% on March 31, but still well below the 8.26% equivalent spread for CDLI (8.43% Q2 CDLI yield minus 0.17% Q2 T-bill yield).
c. High yield bonds have a credit loss rate that averages approximately 50 basis points higher than the CDLI.

In other words, high yield bonds are more likely a 'value trap' than a fundamentals-based opportunity.

Net Gains (Losses)

While the CDLI income return component largely drives long term total return, net gains (losses) can impact returns over shorter time periods and can be very important in differentiating individual manager (lender) performance.[7] Net gains (losses) are defined as the periodic change in loan valuation. It is the equivalent of price change for traded securities. We divide net gains (losses) into two components, realized and unrealized.

Realized gains (losses) represent the component of valuation change for completed transactions. In the case of a portfolio of loans, such as the CDLI, realized gains (losses) mostly come in the form of realized losses generated by write-downs of loan principal that result from borrower default. The amount of the write-down depends upon the value of the post-default collateral or new principal amount.

Unrealized gains (losses) represent the component of valuation change that is sourced by a change in market price or, in the case of a portfolio of loans, such as the CDLI, a change in "fair value" not attributable to a transaction.[8]

It is instructive to review the mechanisms by which gains and losses for direct loans typically are generated, as well as the linkage between realized and unrealized gains and losses.

- Loan values are established quarterly based upon a fair value assessment as to what the loan is worth. Fair value takes account of the probability and size of future loan impairments based upon individual loan circumstances.
- Price changes in the broader traded credit markets, including high yield bonds and bank loans, help guide expectations for future loan impairments and fair values.
- Quarterly changes in fair value create unrealized net gains (losses) which cause fair value to differ from cost (par) value. Most likely, fair value will be below cost value to reflect some probability of impairment.[9]
- Unrealized losses from reductions in fair value usually occur in advance of actual loan impairments as the certainty of loss increases as default approaches.
- A subsequent default event triggers a realized loss which is a permanent reduction in the cost value of the loan.
- The realized loss (from a default or restructuring) replaces the existing unrealized loss through an offsetting unrealized gain. The new unrealized gain equals the prior unrealized loan loss if the default event and realized loss was correctly anticipated.
- Over time, investors observe a build-up in net realized losses, as defaults accumulate. These realized losses are

[6] Option-adjusted spread.
[7] Long term net gains (losses) will almost always be negative for loans.
[8] ASC 820 (previously FAS 157) defines "fair value" as "*the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.*" Assets with a value that cannot be determined by observable measures, which would include the direct loans in the CDLI, are considered Level 3 assets (illiquid) and where valuation models are used to determine fair value. Best practice is to use an outside valuation firm to independently set or recommend fair value.
[9] An exception might be venture debt, where equity and warrants are offered by borrowers as enhancements.

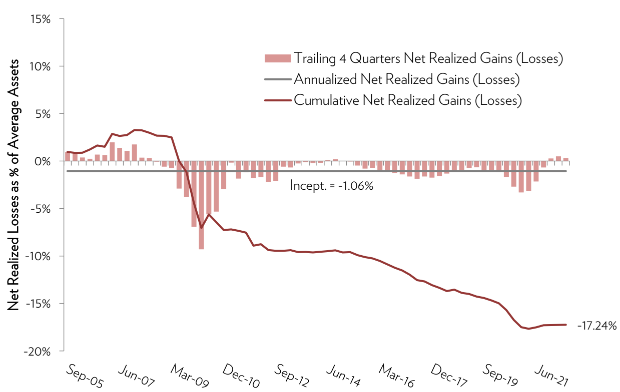
similar in construct to loss rates[10] reported by rating agencies and banks for high yield bonds and bank loans.

- Unrealized losses generally build in the early stages of a credit downturn and reverse in later stages as realized losses from defaults replace them.

Net Realized Gains (Losses)

The CDLI reported realized gains of 0.02% in the second quarter and 0.33% for the trailing four quarters. Recent realized gains are largely attributable to gains on warrants held by venture lenders. More realistic is the CDLI annualized realized loss from its 2004 inception, equal to -1.06%. We continue to expect the direct lending market to produce losses equal to 1% annualized over full market cycles. Exhibit 5 reports CDLI trailing four quarter net realized gains (losses) and since inception cumulative net realized gains (losses).

Exhibit 5: CDLI Net Realized Gains (Losses)
(Trailing 4 quarters and since inception ending Jun 2022)



CDLI realized losses can be divided into four subperiods. The 2004-2007 period saw strong economic growth that produced modest realized gains largely from equity stubs and warrants attached to direct loans, particularly second lien and mezzanine loans which were a greater fraction of the CDLI prior to 2008.

The second period includes the three years from 2008 through 2010 and is defined by the 2008 Financial Crisis and its aftermath. During that time, cumulative realized losses for the CDLI equaled -10.16%. We frequently use this 3-year -10.16% cumulative loss as a basis to stress test direct loan portfolios.[11]

CDLI realized losses were relatively non-existent during the three-year 2012 to 2014 period following the Financial Crisis. But the 2015 Oil Crisis and a disruption in traditional retail caused realized losses to increase. These realized losses peaked at -1.86% for the four quarters ending June 2017 but declined over the subsequent two and three-quarter years ending March 31, 2020 to -1.00%, not too different from the -1.17% since inception realized loss ratio.

With the cessation of COVID and below-average realized losses in the first quarter, the third period of realized losses related to the COVID recession equals -3.30%, encompassing all realized losses during calendar year 2020.

In summary, during the three most troubled periods for the CDLI realized loss rates equaled -10.16% (Financial Crisis), -1.86% (Oil Crisis) and -3.30% (COVID).

A new fifth subperiod may be underway with the onset of recession (two-quarter negative GDP growth) and outsized unrealized Q2 losses. Those unrealized losses may or may not increase in future quarters and may or may not translate into actual unrealized losses. Based upon past data, unrealized losses generally overstate subsequent actual realized losses.

Net Unrealized Gains (Losses)

As discussed above, unrealized gains or losses will reflect changes in overall market credit spreads or will harbinger expected but uncertain future credit losses in the same way that banks book reserves against future realized losses. CDLI unrealized gains or losses come from quarter-to-quarter changes in (independent) valuations of existing loans.

The CDLI experienced significant -6.80% net unrealized losses during the first quarter of 2020, the largest since the fourth quarter of 2008 when net unrealized losses totaled -9.71%. Those first quarter 2020 unrealized losses of -6.80% were entirely reversed and more so with 10.33% in unrealized gains over the subsequent seven quarters ending December 31, 2021.

Unrealized losses began anew in Q2, equal to -1.48%. The loan markdowns producing this loss may or may not harbinger further future unrealized losses and future realized losses.

Exhibit 6 reports rolling four quarter and cumulative net unrealized gains (losses) for the CDLI. Cumulative and annualized net unrealized losses equaled -4.70% and -0.27%, respectively, since inception.

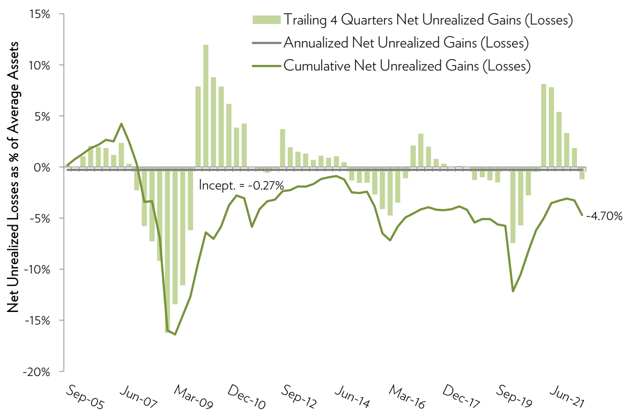
We would expect a long-term cumulative return for unrealized gains (losses) close to zero because, as discussed earlier, unrealized losses will either convert to net realized losses upon a credit default, or they will be reversed when principal is fully repaid. For example, unrealized losses expanded in 2007-08, again in 2013-14 and most recently in 2020, anticipating rising realized losses ahead. During all three periods unrealized losses reversed to unrealized gains as markets recovered and some

[10] Default and recovery rates are frequently reported for high yield bonds and loans. The credit loss rate equals the default rate multiplied by one minus the recovery rate.

[11] The largest four quarter (one year) realized loss was -6.91% in 2009.

portion of those unrealized losses converted into realized losses.

Exhibit 6: CDLI Net Unrealized Gains (Losses)
(Trailing 4 quarters and since inception ending Jun 2022)



An important observation related to unrealized losses and loan valuation is that unrealized loan write-downs in times of severe stress, like 2008 and 2020, have exceeded subsequent realized losses by more than two-fold. Said differently, if unrealized losses reflect expected future realized loan losses, then valuations have been very conservative (high unrealized losses) relative to subsequent realized loan impairments.

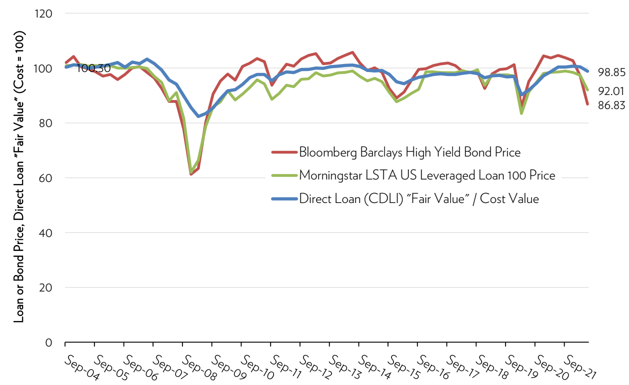
Loan Valuation

Expected future gains or losses, realized or unrealized, are partially telegraphed by the ratio of loan "fair value" to amortized cost, the latter representing remaining principal value.[12] This ratio of fair value to cost is shown in Exhibit 7 for the CDLI together with similar ratios for high yield bonds, represented by the Bloomberg High Yield Bond Index, and broadly syndicated bank loans, represented by the Morningstar LSTA US Leveraged Loan 100 Index, covering the entire CDLI history beginning Sep 30, 2004.

Exhibit 7 shows that valuations for all three indices fell sharply in Q2. The CDLI dropped -1.60% in price from 100.46 to 98.85, reflecting unrealized losses for the quarter.[13] The public credit markets dropped much further, with leveraged loan and high yield bond index prices dropping -8.71% and -5.49%, respectively. The drop in high yield bonds was also impacted by their long six-year duration and the rise in interest rates.

Exhibit 7 shows the similarity in valuation over time between direct loans, high yield bonds, and bank loans. The direct loans in the CDLI are valued quarterly using "fair value" accounting rules while high yield bonds and bank loan prices are market determined. Despite differing sources for price, Exhibit 7 shows that direct loan valuation follows the high yield bond and bank loan markets though with somewhat less volatility.

Exhibit 7: Comparison of Market Value versus Cost (Principal) Value for CDLI with High Yield Bond and Bank Loan Prices, Sep 2004 to Jun 2022[14]

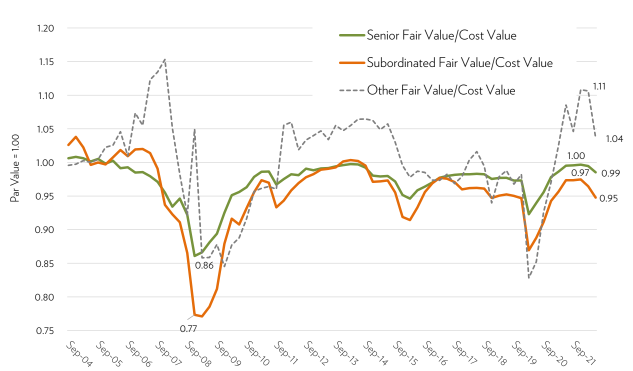


Senior versus Subordinated Loan Pricing[15]

Exhibit 8 takes a closer look at middle market loan values by grouping loans into senior and subordinated subsets to better understand pricing and volatility associated with credit seniority. Loan values for each subset are plotted from the 2004 CDLI inception. The green line represents the asset-weighted average price for senior loans (including unitranche) and the orange line represents the same for second lien and subordinated loans. The dashed line represents the asset-weighted price for equity-related holdings (equity, warrant, CLO equity, other) within CDLI.

Clear valuation differences exist between senior and subordinated middle market loans within the CDLI. Senior loans are less volatile and hold their value better in down markets compared to subordinated loans.

Exhibit 8: Comparison of Market Value versus Cost (Principal) Value for Senior and Subordinated Loans within the CDLI, Sep 2004 to Jun 2022



[12] Most loans in the CDLI are directly originated, not secondary purchases, so cost value equates to principal value.
[13] CDLI price drop won't exactly match unrealized losses for the quarter due to technical reasons but should always be close.

[14] "Direct Loan (CDLI) "Fair Value" / Cost Value" is calculated based on the SEC filings of the BDCs that comprise the CDLI.
[15] See "*The Valuation of Middle Market Loans*", Cliffwater Research Report (June 2020) for a fuller discussion of loan valuation.

Senior loans dropped 14 points to 0.86 (86% of par) in 2008 compared to a 23-point drop for subordinated loans. In the first quarter of 2020 senior loans dropped 5 points from 0.97 to 0.92, where subordinated loans fell 8 points from 0.95 to 0.87. These fair value changes also inform risk calculations. The standard deviation of return (excluding interest income) measures 2.94% for senior loans and 5.20% for subordinated loans. The standard deviation of the Other category measures 9.51%, much closer to the 16.58% standard deviation of the Russell 3000 Index.

Loan values increased in the subsequent seven quarters for both senior and second lien loans. The 7-quarter rebound ended December 31, 2021 and totaled 8 points, to 1.00, for senior loans and 11 points, to 0.98 for second lien loans. Since year-end, prices for senior, second lien, and other categories have declined.

Total Return

Exhibit 9 reports trailing four quarter CDLI total return, combining income (Exhibit 2), net realized gain(loss) (Exhibit 5), and net unrealized gain(loss) (Exhibit 6) components.

Exhibit 9: CDLI Total Return (trailing four quarters)
Sep 2004 to Jun 2022

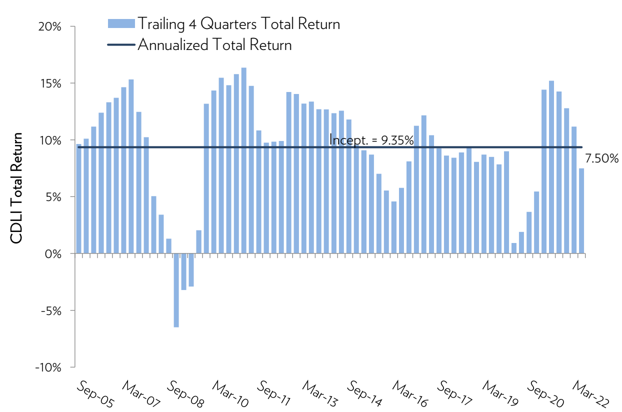


Exhibit 10 compares CDLI calendar year returns with returns for broadly syndicated high yield bonds and loans. The asset class with the highest calendar year return is highlighted.

The CDLI outperformed the two public debt indices in 12 of the 17 calendar years. In four of the five years CDLI did not outperform, broadly syndicated high yield bonds and loans were rebounding from stressed credit conditions from the prior year. In 2020 high yield bonds outperformed due to a decline in overall interest rates which benefitted fixed-rate high yield bonds. In contrast, the CDLI has demonstrated greater consistency in calendar year performance.

Exhibit 10: Calendar Year Return Comparison: 2005-2021

Calendar Year	CDLI	Bloomberg High Yield Bond Index	Morningstar LSTA US Leveraged Loan Index
2005	10.10%	2.74%	5.06%
2006	13.70%	11.87%	6.74%
2007	10.23%	1.88%	2.08%
2008	-6.50%	-26.15%	-29.10%
2009	13.18%	58.21%	51.62%
2010	15.79%	15.11%	10.13%
2011	9.75%	4.98%	1.51%
2012	14.03%	15.81%	9.67%
2013	12.68%	7.46%	5.29%
2014	9.57%	2.46%	1.59%
2015	5.54%	-4.46%	-0.70%
2016	11.24%	17.14%	10.11%
2017	8.62%	7.50%	4.14%
2018	8.07%	-2.08%	0.46%
2019	9.00%	14.20%	8.65%
2020	5.45%	7.11%	3.12%
2021	12.78%	5.28%	5.20%

Risk Premiums

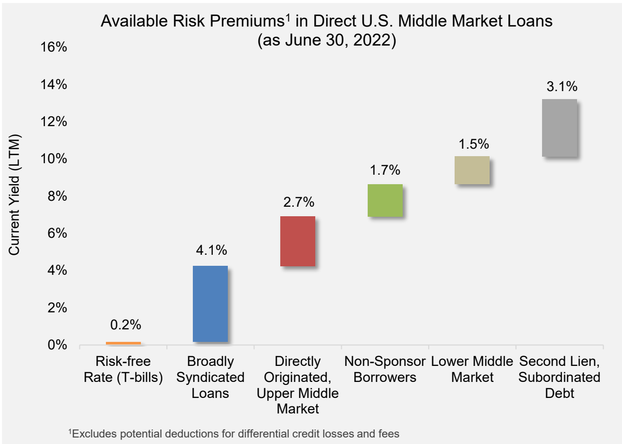
Cliffwater decomposes gross yields for the CDLI into five major risk factors, excluding the risk-free rate. Yield premiums associated with each of these five risk factors are calculated quarterly. We calculate these yield premiums through a cross-sectional regression where the dependent variable is total portfolio yield[16] and the three independent variables are: (1) expected/actual share of sponsor/non-sponsor lending (measured by percentage allocations to sponsor or non-sponsor lending); (2) expected/actual portfolio company size (measured by average EBITDA); and (3) loan seniority (measured by percentage allocations to senior or subordinated debt). The independent variables are scaled such that higher values represent higher expected risk (e.g., non-sponsor borrower, smaller borrower, and more junior debt).

By design, the intercept term is the yield on private direct loans that are larger sized, sponsor-backed, and senior. The yield on a broadly syndicated loan, measured by the Morningstar LSTA U.S. Leveraged Loan Index yield, is subtracted from the intercept yield to separately capture the "Directly Originated, Upper Middle Market" yield premium, or what is also commonly called the "liquidity premium." The yield on the broadly syndicated loan is further divided into the risk-free T-bill rate and a liquid credit premium for non-investment grade broadly syndicated loans.

[16] Yield for middle market loans is defined as trailing four quarter interest income.

Exhibit 11 reports our findings for the five yield premiums, measured and averaged over the four quarters ending June 30, 2022.

Exhibit 11: Available Risk Premiums in Direct US Middle Market Loans[17]



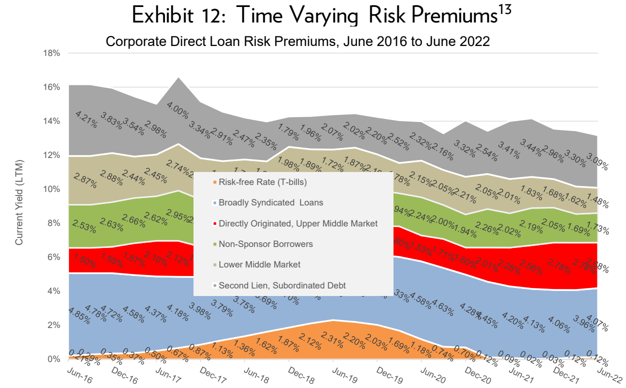
The bars displayed are additive, where total yield equals the sum of each bar's value multiplied by the portfolio exposure to the risk factor, which can be fractional. This allows investors to estimate the yield for a direct lending portfolio by multiplying portfolio exposure to each factor by the factor's yield premium.

The left-most starting point in Exhibit 11 is the risk-free rate, which measured 0.2% for the trailing four quarters. The five risk premiums shown from left to right are:

1. *Broadly Syndicated Loans*. The additional yield from credit risk found in broadly syndicated loans ("BSL"), measured by the Morningstar LSTA U.S. Leveraged Loan Index over the trailing four quarters, equaled 4.1% on June 30, 2022.[18]
2. *Directly Originated, Upper Middle Market*. There was a 2.7% yield premium for moving from liquid BSL to illiquid direct senior loans backed by upper middle market, sponsor-driven borrowers. We view this yield premium as mostly a "liquidity premium" because underlying loan characteristics are most like BSL.
3. *Non-Sponsor Borrowers*. A 1.7% yield premium existed for holding debt of companies not controlled by private equity firms, something we refer to as the "governance premium." Non-sponsor borrowers might be viewed as riskier because management behavior, particularly under corporate distress, could be less predictable and costlier to lenders compared to sponsor-backed borrowers. Additionally, these deals may be more difficult to source and/or may involve less sophisticated borrowers which can drive more lender-friendly terms and pricing.
4. *Lower Middle Market*. We found a 1.5% yield premium for lending to lower middle market borrowers, companies with EBITDA less than \$10 million, compared to upper middle market borrowers with EBITDA over \$100 million. This could be the "size premium" often found in other asset classes.
5. *Second Lien, Subordinated Debt*. Subordinated loans had a 3.1% higher yield when compared to senior loans within the U.S. middle market.

Exhibit 12 plots the measured risk premiums over the last six years, the period over which Cliffwater has been conducting these measurements.

Exhibit 12: Time Varying Risk Premiums[13]



Several observations are worth noting:

1. Overall, the time period has been characterized by yield compression. Disregarding the risk-free rate, the sum of all five premiums declined from 15.95% on June 30, 2016 to a low of 12.09% on June 30, 2019. However, spread compression has reversed with risk premiums collectively rising to 13.05% on June 30, 2022. The average total spread for the entire period (excluding the risk-free rate) equals 13.58%.
2. Only the "Directly Originated, Upper Middle Market" premium increased, from 1.50% to 2.68% over the measurement period. We interpret this risk premium as the traditional "liquidity premium."
3. The largest decline came in the risk premium for "Second Lien, Subordinated Debt" where the risk premium fell from 4.21% to 2% levels in 2018 and 2019. Risk premiums for

[17] Cliffwater research based on public information and confidential responses of direct lending managers to Cliffwater inquiries. Source information may be over a year old and subject to interpretation by direct lending manager respondents. Risk premiums are estimates only and estimated using a cross-sectional three-factor regression of public and private BDCs' four quarter gross yields against Cliffwater's best estimates of each manager's loan seniority, expected/actual portfolio company size by average EBITDA and expected/actual share of sponsor vs. non-sponsor lending. Broadly syndicated loan yield as reported by the interest return of the S&P/LSTA U.S. Leveraged Loan Index. See Chapter 9, Private Debt: Opportunities in Corporate Direct Lending, Stephen L. Nesbitt (Wiley 2019) for a detailed description of this analysis.

[18] Yield for broadly syndicated loans is defined as trailing 12-month interest income.

second lien have increased over the past year and currently equal 3.09%.

Senior-Only Direct Loans (CDLI-S)

CDLI-S is comprised of only senior loans within the CDLI and was created in 2017 to address the comparative performance of senior middle market loans and the entire universe of middle market loans represented by CDLI.

CDLI-S follows the same construction methodology as CDLI but only includes loans held by managers of BDCs that have an investment style that Cliffwater has determined clearly focuses on senior secured loans. Cliffwater generates the same quarterly performance and portfolio data for CDLI-S as is available for CDLI, except that the beginning date is September 30, 2010 for CDLI-S compared to September 30, 2004 for CDLI. The shorter historical series for CDLI-S is attributable to the post-2008 introduction of most senior-only direct lending BDC strategies. As with the CDLI, CDLI-S should not suffer from biases (backfill and survivorship) found in other databases because all source data comes from required SEC filings.

Exhibit 13: CDLI, CDLI-S Comparison as of Jun 2022

	CDLI-S	CDLI
#Loans	3,508	10,868
Total Assets	$98b	$247b
EBITDA (median)	$81m	$48m
Non-Accrual (as % of Cost)	0.3%	1.3%
Implied Recovery Rate	63%	51%
%Sponsor	90%	79%
%Senior	92%	78%

Exhibit 13 provides some key differences between the CDLI and CDLI-S indices. Loans in the CDLI-S are generally represented by larger, sponsored borrowers with a track record of lower realized losses and lower rate of non-accrual status.

Exhibit 14 reports performance for CDLI-S over its entire 11.75-year history with comparisons to the broader CDLI.

The 7.89% inception return for CDLI-S is attractive but remains 1.75% below the 9.64% CDLI return for the same time period. CDLI-S interest income (yield) was 2.52% below that for the CDLI. However, that deficit was partially offset by -0.11% realized losses for the CDLI-S compared to the -1.04% CDLI realized loss rate from the September 2010 CDLI-S inception.

CDLI-S comparisons improve when risk is considered. The 2.46% annualized standard deviation for CDLI-S from inception was below the 2.97% CDLI standard deviation for the same time period, making the return-to-risk ratio approximately the same for CDLI-S and CDLI. Benefits from lower CDLI-S risk materialized in 2020 as CDLI-S outperformed CDLI during COVID. One final point is that senior loans are much more likely to secure better financing terms when leverage is used in portfolio construction.

Exhibit 14: Senior Direct Loan Performance

CDLI-S(enior) Returns	Q2 2022	Last Four Quarters	Last 5 Years*	From CDLI-S Incep. Sept 2010
CDLI-Senior Total Return**	**0.20%**	**5.93%**	**7.59%**	**7.89%**
= Income	1.74%	7.28%	8.09%	8.12%
+/- Net Realized Gains(Losses)	-0.01%	0.08%	-0.28%	-0.11%
+/-Net Unrealized Gains(Losses)	-1.54%	-1.35%	-0.19%	-0.15%

CDLI Returns	Q2 2022	Last Four Quarters	Last 5 Years*	From CDLI-S Incep. Sept 2010
CDLI Total Return**	**0.53%**	**7.50%**	**8.32%**	**9.64%**
= Income	1.99%	8.43%	9.66%	10.64%
+/- Net Realized Gains(Losses)	0.02%	0.33%	-1.10%	-1.04%
+/-Net Unrealized Gains(Losses)	-1.48%	-1.20%	-0.16%	0.10%

* Annualized return.
** Return subcomponents may not add to total return due to compounding effects.

Venture-Only Direct Loans (CDLI-V)

CDLI-V is comprised of only venture-backed loans within the CDLI, to investigate the comparative performance of this lesser-known type of lending against the entire universe of middle market loans represented by CDLI.

CDLI-V follows the same construction methodology as CDLI but only includes loans held by managers of BDCs that have an investment style that Cliffwater has determined clearly focus on venture lending. Cliffwater generates the same quarterly performance and portfolio data for CDLI-V as is available for CDLI, except that the beginning date is March 31, 2005 for CDLI-V compared to September 30, 2004 for CDLI. As with the CDLI, CDLI-V should not suffer from biases (backfill and survivorship) found in other databases because all source data comes from required SEC filings.

Exhibit 15 provides some key differences between the CDLI and CDLI-V indices.

Exhibit 15: CDLI, CDLI-V Comparison as of Jun 2022

	CDLI-V	**CDLI**
#Loans	**640**	10,868
Total Assets	**$6.4b**	$247b
EBITDA (median)	**n/a**	$48m
Non-Accrual (as % of Cost)	**2.3%**	1.3%
Implied Recovery Rate	**25%**	51%
%Sponsor	**100%**	79%
%Senior	**92%**	78%

Exhibit 16 reports performance for CDLI-V over its entire 17.25-year history with comparisons to the broader CDLI for the same time period.

Exhibit 16: Venture Direct Loan Performance

CDLI-V Returns	Q2 2022	Last Four Quarters	Last 5 Years*	From CDLI-V Incep. Mar 2005
CDLI-V Total Return**	**1.04%**	**9.30%**	**11.91%**	**11.84%**
= Income	2.93%	12.07%	12.64%	13.01%
+/- Net Realized Gains(Losses)	-0.22%	0.44%	-0.90%	-0.83%
+/-Net Unrealized Gains(Losses)	-1.67%	-2.97%	0.21%	-0.27%

CDLI Returns	Q2 2022	Last Four Quarters	Last 5 Years*	From CDLI-V Incep. Mar 2005
CDLI Total Return**	**0.53%**	**7.50%**	**8.32%**	**9.37%**
= Income	1.99%	8.43%	9.66%	10.86%
+/- Net Realized Gains(Losses)	0.02%	0.33%	-1.10%	-1.12%
+/-Net Unrealized Gains(Losses)	-1.48%	-1.20%	-0.16%	-0.29%

* Annualized return.
** Return subcomponents may not add to total return due to compounding effects.

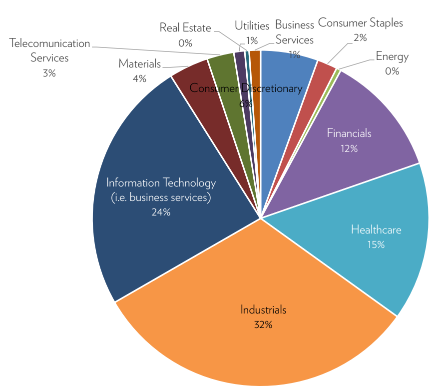
Venture lending, as represented by CDLI-V, has performed well from its inception, achieving a 11.84% total return compared to 9.37% for the CDLI for the same time period. The reason for the higher return primarily lies with higher interest income which equaled 13.01% from inception compared to 10.86% for CDLI. This higher interest income for CDLI-V, however, did not come with higher realized losses, which total -0.83% from inception for CDLI-V, compared to a -1.12% realized loss rate for CDLI for the same period.

Unfortunately, our CDLI-V return series does not include the period from 2000 to 2003 when venture capital was hardest hit from the Internet Bubble. We would expect much higher realized losses from venture lending for that period, which is not captured by our data.

Diversification

Exhibit 17 displays industry diversification for the over 10,000 loans in the CDLI as of June 30, 2022. Weights are determined by aggregate fair value of the loans.

Exhibit 17: CDLI Industry Weights as of Jun 2022



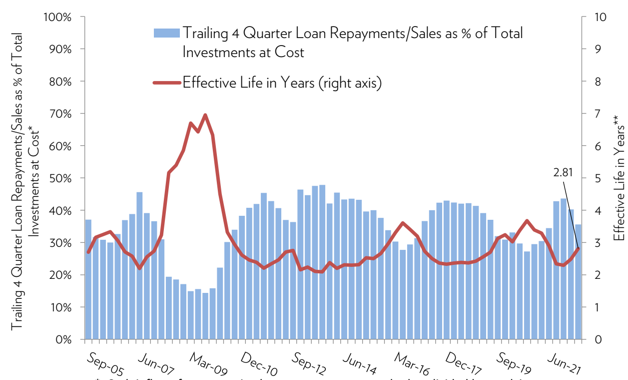
The CDLI remains very diversified by industry group with the weights not dissimilar from market capitalization weights for the Russell 2000 Equity Index, but for the absence of a banking sector.

Effective Loan Life

Exhibit 18 updates the effective life of direct loans in the CDLI.

The blue bars measure loan repayment activity through the second quarter, primarily from maturities, prepayments and, to a lesser extent, sales as a percent of loan cost. The inverse of this ratio measures effective loan life which is represented by the red line and measured by the right axis. The effective loan life on June 30 equaled 2.81 years, up from 2.49 years last quarter.

Exhibit 18: Loan Repayment and Effective Life (Sep 2005 to Jun 2022)



* Cash inflows from maturing loans, prepayments, and sales, divided by total investments at cost
** Equal to the reciprocal of first footnote

The rise in effective loan life during the second quarter is consistent with a lower level of principal repayments experienced in a slower M&A quarter. Despite the quarter-over-quarter increase in value, the current 2.81-year effective loan life remains below the 3.09-year historical average.

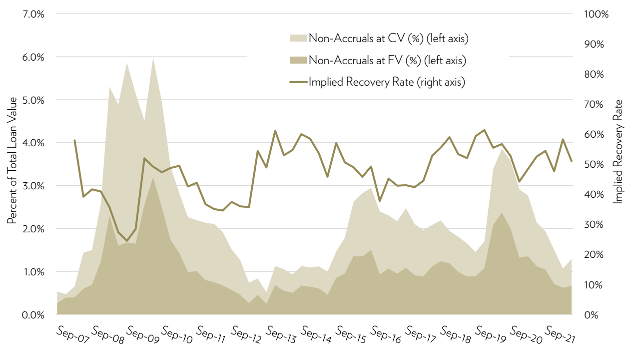
Non-Accruals and Implied Recoveries

Another useful indicator of future realized loss is the percent of loans on non-accrual status, meaning loans that are no longer current in paying interest income and would be considered in default.

Exhibit 19 provides non-accrual loan amounts both as a percentage of cost value and fair value. Also shown in Exhibit 19 is the implied recovery rate, equal to the fair value of loans on non-accrual divided by the cost (par) value of those same loans. It is this implied recovery rate that should be compared to the often-cited recovery rates for high yield bonds and bank loans. As Exhibit 19 shows, non-accruals have come down sharply from their 2020 COVID highs and equaled 1.29% on June 30. Non-accruals average 2.12% of assets at cost over the 14.75-year period Cliffwater has measured this statistic for CDLI.

Recovery rates have been consistent over the measurement period, averaging around 50% as shown in Exhibit 19 (right axis). These recovery rates seem right given that senior broadly syndicated loan recovery rates average close to 70% and subordinated high yield bond recovery rates average 40%.

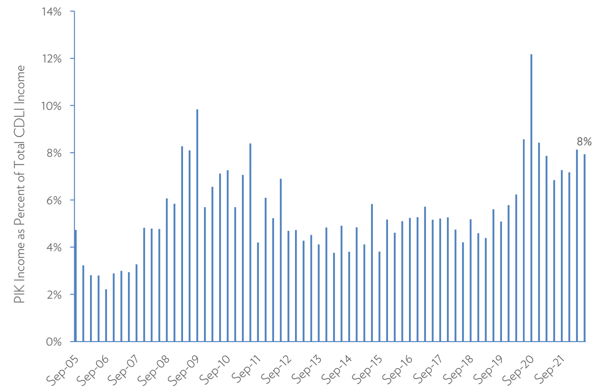
Exhibit 19: CDLI Non-Accruals and Recovery Rates (Sep 2007 to Jun 2022)



Payment-In-Kind (PIK) Income

Interest income from a loan portfolio is mostly comprised of quarterly cash payments. However, in some situations interest is paid in additional non-cash principal, referred to as payment-in-kind or PIK income. Generally, PIK income is less desirable than cash interest income and high proportions of PIK can indicate a deterioration in loan quality. Exhibit 20 shows the history of CDLI PIK income as a percent of total CDLI Income.

Exhibit 20: CDLI PIK Income as % of Total Income, Sep 2005 to Mar 2022



PIK income is another indicator of market stress, rising during periods of economic strain and falling during periods of economic growth. PIK income had been on the rise, reaching 12% at September 2020, but declined to 7% on December 31, 2021. PIK increased to 8% on March 31, 2022 and has remained at approximately the same level over Q2.

Appendices

Appendices A-H follow, providing quarterly data on CDLI, CDLI-S, and CDLI-V for their entire histories, including a breakdown of total return into its interest income, realized gains(losses), and unrealized gains(losses) components.

Appendix A: CDLI and CDLI-S Total Return

	Cliffwater Direct Lending Index (CDLI)					Cliffwater Direct Lending Index-Senior Only (CDLI-S)				
	Q1	Q2	Q3	Q4	Calendar Year	Q1	Q2	Q3	Q4	Calendar Year
2004				2.35%						
2005	1.90%	2.37%	2.68%	2.78%	10.10%					
2006	2.89%	3.50%	3.52%	3.14%	13.70%					
2007	3.74%	4.12%	0.95%	1.10%	10.23%					
2008	-1.14%	2.50%	-1.12%	-6.68%	-6.50%					
2009	2.32%	2.82%	3.94%	3.49%	13.18%					
2010	3.38%	3.83%	3.36%	4.37%	15.79%				2.18%	
2011	3.88%	2.41%	-0.18%	3.35%	9.75%	1.82%	1.80%	0.40%	2.39%	6.56%
2012	3.97%	2.45%	3.74%	3.19%	14.03%	3.08%	1.92%	2.55%	2.12%	10.03%
2013	3.20%	2.62%	3.13%	3.18%	12.68%	2.48%	2.02%	2.16%	2.27%	9.23%
2014	2.90%	2.81%	2.42%	1.12%	9.57%	2.11%	1.98%	1.94%	1.58%	7.82%
2015	2.45%	2.46%	0.82%	-0.28%	5.54%	2.08%	1.86%	1.32%	1.14%	6.56%
2016	1.52%	3.62%	3.05%	2.61%	11.24%	1.65%	2.28%	2.51%	1.94%	8.63%
2017	2.36%	2.00%	1.97%	2.02%	8.62%	1.88%	1.76%	1.54%	2.03%	7.39%
2018	2.18%	2.44%	2.38%	0.84%	8.07%	2.29%	1.77%	2.08%	1.25%	7.60%
2019	2.78%	2.25%	1.77%	1.91%	9.00%	1.91%	1.96%	2.33%	1.87%	8.43%
2020	-4.84%	3.25%	3.53%	3.67%	5.45%	-4.75%	4.73%	3.70%	3.15%	6.69%
2021	3.24%	3.96%	2.68%	2.34%	12.78%	2.89%	2.57%	2.22%	1.88%	9.90%
2022	1.76%	0.53%				1.52%	0.20%			

Appendix B: CDLI and CDLI-S Income Return

	Cliffwater Direct Lending Index (CDLI)					Cliffwater Direct Lending Index-Senior Only (CDLI-S)				
	Q1	Q2	Q3	Q4	Calendar Year	Q1	Q2	Q3	Q4	Calendar Year
2004				1.57%						
2005	1.92%	2.36%	2.28%	2.29%	9.15%					
2006	2.38%	2.62%	2.79%	2.78%	10.99%					
2007	2.56%	2.65%	2.54%	2.68%	10.84%					
2008	2.63%	2.67%	2.89%	3.05%	11.72%					
2009	3.00%	3.03%	2.96%	2.95%	12.49%					
2010	2.85%	2.96%	2.93%	3.06%	12.33%				2.02%	
2011	2.80%	2.86%	2.91%	3.00%	12.08%	1.67%	1.67%	1.85%	2.03%	7.42%
2012	2.99%	2.96%	2.98%	3.09%	12.54%	2.07%	2.16%	2.18%	2.39%	9.09%
2013	2.74%	2.88%	2.85%	2.74%	11.69%	2.23%	2.22%	2.09%	1.97%	8.79%
2014	2.64%	2.62%	2.65%	2.65%	10.99%	1.92%	1.93%	1.99%	2.04%	8.12%
2015	2.49%	2.66%	2.55%	2.62%	10.72%	1.87%	1.89%	1.84%	1.89%	7.71%
2016	2.54%	2.55%	2.52%	2.52%	10.52%	1.96%	1.94%	2.05%	1.83%	8.00%
2017	2.45%	2.43%	2.39%	2.52%	10.16%	1.79%	1.88%	1.99%	1.91%	7.79%
2018	2.43%	2.52%	2.55%	2.55%	10.43%	1.91%	2.02%	2.14%	2.09%	8.41%
2019	2.56%	2.56%	2.50%	2.36%	10.36%	2.14%	2.27%	2.10%	1.98%	8.88%
2020	2.31%	2.23%	2.19%	2.39%	9.44%	1.89%	1.89%	2.00%	2.01%	8.02%
2021	2.18%	2.21%	2.14%	2.12%	8.93%	1.86%	1.90%	1.93%	1.76%	7.66%
2022	1.93%	1.99%				1.66%	1.74%			

Appendix C: CDLI and CDLI-S Realized Net Gains(Losses)

	Cliffwater Direct Lending Index (CDLI)					Cliffwater Direct Lending Index-Senior Only (CDLI-S)				
	Q1	Q2	Q3	Q4	Calendar Year	Q1	Q2	Q3	Q4	Calendar Year
2004				-0.02%						
2005	0.52%	0.47%	-0.01%	-0.09%	0.89%					
2006	0.01%	0.35%	0.42%	-0.13%	0.63%					
2007	1.33%	-0.21%	0.10%	0.52%	1.74%					
2008	-0.05%	-0.25%	-0.29%	-0.02%	-0.59%					
2009	-0.18%	-2.43%	-1.17%	-3.29%	-6.91%					
2010	-2.74%	1.54%	-0.87%	-0.88%	-2.96%				0.19%	
2011	0.07%	-0.17%	-0.20%	-1.49%	-1.78%	0.19%	0.05%	0.02%	-0.24%	0.02%
2012	0.16%	-0.66%	-0.10%	0.01%	-0.60%	-0.19%	0.16%	-0.01%	0.05%	0.01%
2013	0.08%	-0.23%	0.02%	-0.07%	-0.19%	0.09%	0.12%	-0.09%	-0.44%	-0.32%
2014	0.09%	0.06%	0.11%	-0.24%	0.01%	0.01%	0.03%	0.41%	0.03%	0.49%
2015	0.03%	-0.36%	-0.22%	-0.16%	-0.70%	0.14%	-0.10%	0.25%	0.03%	0.32%
2016	-0.29%	-0.40%	-0.40%	-0.32%	-1.41%	-0.13%	-0.41%	0.21%	0.05%	-0.28%
2017	-0.50%	-0.65%	-0.17%	-0.44%	-1.75%	-0.26%	-0.11%	0.22%	-0.17%	-0.32%
2018	-0.34%	-0.38%	0.18%	-0.39%	-0.93%	0.00%	-0.46%	0.09%	-0.06%	-0.42%
2019	-0.14%	-0.31%	-0.19%	-0.30%	-0.94%	-0.02%	-0.16%	-0.08%	-0.04%	-0.31%
2020	-0.35%	-0.84%	-1.22%	-0.93%	-3.30%	-0.28%	-0.10%	-0.16%	-0.13%	-0.68%
2021	-0.19%	0.18%	0.27%	0.01%	0.27%	-0.20%	0.08%	0.01%	0.07%	-0.04%
2022	0.03%	0.02%				0.02%	-0.01%			

Appendix D: CDLI and CDLI-S Unrealized Net Gains(Losses)

	Cliffwater Direct Lending Index (CDLI)					Cliffwater Direct Lending Index-Senior Only (CDLI-S)				
	Q1	Q2	Q3	Q4	Calendar Year	Q1	Q2	Q3	Q4	Calendar Year
2004				0.80%						
2005	-0.54%	-0.47%	0.42%	0.59%	-0.01%					
2006	0.50%	0.53%	0.32%	0.49%	1.86%					
2007	-0.15%	1.69%	-1.69%	-2.10%	-2.28%					
2008	-3.73%	0.08%	-3.72%	-9.71%	-16.25%					
2009	-0.50%	2.22%	2.16%	3.83%	7.89%					
2010	3.26%	-0.68%	1.30%	2.19%	6.17%				-0.03%	
2011	1.01%	-0.28%	-2.89%	1.84%	-0.38%	-0.04%	0.08%	-1.47%	0.60%	-0.83%
2012	0.82%	0.16%	0.86%	0.10%	1.94%	1.21%	-0.39%	0.38%	-0.32%	0.87%
2013	0.38%	-0.02%	0.25%	0.50%	1.11%	0.16%	-0.32%	0.15%	0.74%	0.73%
2014	0.17%	0.13%	-0.33%	-1.29%	-1.32%	0.18%	0.01%	-0.47%	-0.50%	-0.76%
2015	-0.07%	0.16%	-1.51%	-2.74%	-4.12%	0.07%	0.07%	-0.77%	-1.33%	-1.95%
2016	-0.72%	1.47%	0.93%	0.41%	2.10%	-0.17%	0.75%	0.25%	0.06%	0.88%
2017	0.41%	0.22%	-0.25%	-0.05%	0.33%	0.34%	-0.01%	-0.67%	0.29%	-0.06%
2018	0.10%	0.30%	-0.34%	-1.32%	-1.26%	0.38%	0.22%	-0.16%	-0.78%	-0.34%
2019	0.36%	0.00%	-0.54%	-0.15%	-0.34%	-0.20%	-0.15%	0.31%	-0.07%	-0.11%
2020	-6.80%	1.87%	2.55%	2.22%	-0.47%	-6.36%	2.94%	1.86%	1.27%	-0.57%
2021	1.25%	1.57%	0.26%	0.21%	3.32%	1.23%	0.59%	0.28%	0.05%	2.16%
2022	-0.19%	-1.48%				-0.15%	-1.54%			

Appendix E: CDLI and CDLI-V Total Return

	Cliffwater Direct Lending Index (CDLI)					Cliffwater Direct Lending Index-Venture (CDLI-V)				
	Q1	Q2	Q3	Q4	Calendar Year	Q1	Q2	Q3	Q4	Calendar Year
2004				2.35%						
2005	1.90%	2.37%	2.68%	2.78%	10.10%		4.23%	3.08%	2.06%	
2006	2.89%	3.50%	3.52%	3.14%	13.70%	4.33%	3.25%	2.44%	3.34%	14.04%
2007	3.74%	4.12%	0.95%	1.10%	10.23%	3.14%	3.51%	2.81%	5.38%	15.67%
2008	-1.14%	2.50%	-1.12%	-6.68%	-6.50%	3.23%	2.97%	3.36%	0.03%	9.91%
2009	2.32%	2.82%	3.94%	3.49%	13.18%	2.31%	-1.03%	4.18%	3.11%	8.76%
2010	3.38%	3.83%	3.36%	4.37%	15.79%	2.50%	1.38%	1.31%	4.69%	10.23%
2011	3.88%	2.41%	-0.18%	3.35%	9.75%	1.87%	5.01%	2.49%	3.42%	13.39%
2012	3.97%	2.45%	3.74%	3.19%	14.03%	3.55%	1.72%	2.28%	3.12%	11.10%
2013	3.20%	2.62%	3.13%	3.18%	12.68%	2.82%	3.00%	4.31%	2.77%	13.52%
2014	2.90%	2.81%	2.42%	1.12%	9.57%	3.37%	2.70%	3.04%	3.27%	12.96%
2015	2.45%	2.46%	0.82%	-0.28%	5.54%	3.11%	2.42%	2.52%	2.25%	10.70%
2016	1.52%	3.62%	3.05%	2.61%	11.24%	1.90%	2.09%	3.08%	2.28%	9.69%
2017	2.36%	2.00%	1.97%	2.02%	8.62%	1.89%	3.13%	3.12%	2.50%	11.06%
2018	2.18%	2.44%	2.38%	0.84%	8.07%	2.26%	3.94%	3.51%	1.74%	11.93%
2019	2.78%	2.25%	1.77%	1.91%	9.00%	1.91%	4.08%	2.21%	2.64%	11.27%
2020	-4.84%	3.25%	3.53%	3.67%	5.45%	0.52%	3.97%	3.01%	5.51%	13.55%
2021	3.24%	3.96%	2.68%	2.34%	12.78%	3.47%	3.82%	3.27%	2.10%	13.26%
2022	1.76%	0.53%				1.51%	1.04%			

Appendix F: CDLI and CDLI-V Income Return

	Cliffwater Direct Lending Index (CDLI)					Cliffwater Direct Lending Index-Venture (CDLI-V)				
	Q1	Q2	Q3	Q4	Calendar Year	Q1	Q2	Q3	Q4	Calendar Year
2004				1.57%						
2005	1.92%	2.36%	2.28%	2.29%	9.15%		2.74%	2.60%	2.59%	
2006	2.38%	2.62%	2.79%	2.78%	10.99%	3.23%	3.19%	3.26%	3.18%	13.48%
2007	2.56%	2.65%	2.54%	2.68%	10.84%	2.82%	3.26%	3.47%	3.20%	13.36%
2008	2.63%	2.67%	2.89%	3.05%	11.72%	2.86%	3.25%	2.97%	3.42%	13.09%
2009	3.00%	3.03%	2.96%	2.95%	12.49%	3.53%	3.70%	3.51%	3.29%	14.79%
2010	2.85%	2.96%	2.93%	3.06%	12.33%	2.48%	3.76%	4.16%	3.90%	15.07%
2011	2.80%	2.86%	2.91%	3.00%	12.08%	3.06%	3.15%	2.78%	2.96%	12.50%
2012	2.99%	2.96%	2.98%	3.09%	12.54%	3.04%	2.97%	2.83%	2.81%	12.16%
2013	2.74%	2.88%	2.85%	2.74%	11.69%	2.69%	2.94%	3.34%	2.95%	12.46%
2014	2.64%	2.62%	2.65%	2.65%	10.99%	2.92%	3.03%	3.17%	3.13%	12.83%
2015	2.49%	2.66%	2.55%	2.62%	10.72%	2.83%	3.10%	3.39%	3.10%	13.01%
2016	2.54%	2.55%	2.52%	2.52%	10.52%	3.17%	3.31%	3.29%	3.22%	13.64%
2017	2.45%	2.43%	2.39%	2.52%	10.16%	3.13%	3.23%	2.99%	3.09%	13.03%
2018	2.43%	2.52%	2.55%	2.55%	10.43%	2.95%	3.15%	3.55%	3.35%	13.66%
2019	2.56%	2.56%	2.50%	2.36%	10.36%	2.14%	3.67%	3.09%	3.13%	12.57%
2020	2.31%	2.23%	2.19%	2.39%	9.44%	3.12%	2.96%	3.10%	3.04%	12.75%
2021	2.18%	2.21%	2.14%	2.12%	8.93%	2.74%	2.84%	2.93%	2.84%	11.84%
2022	1.93%	1.99%				2.66%	2.93%			

Appendix G: CDLI and CDLI-V Realized Net Gains(Losses)

Cliffwater Direct Lending Index (CDLI)

	Q1	Q2	Q3	Q4	Calendar Year
2004				-0.02%	
2005	0.52%	0.47%	-0.01%	-0.09%	0.89%
2006	0.01%	0.35%	0.42%	-0.13%	0.63%
2007	1.33%	-0.21%	0.10%	0.52%	1.74%
2008	-0.05%	-0.25%	-0.29%	-0.02%	-0.59%
2009	-0.18%	-2.43%	-1.17%	-3.29%	-6.91%
2010	-2.74%	1.54%	-0.87%	-0.88%	-2.96%
2011	0.07%	-0.17%	-0.20%	-1.49%	-1.78%
2012	0.16%	-0.66%	-0.10%	0.01%	-0.60%
2013	0.08%	-0.23%	0.02%	-0.07%	-0.19%
2014	0.09%	0.06%	0.11%	-0.24%	0.01%
2015	0.03%	-0.36%	-0.22%	-0.16%	-0.70%
2016	-0.29%	-0.40%	-0.40%	-0.32%	-1.41%
2017	-0.50%	-0.65%	-0.17%	-0.44%	-1.75%
2018	-0.34%	-0.38%	0.18%	-0.39%	-0.93%
2019	-0.14%	-0.31%	-0.19%	-0.30%	-0.94%
2020	-0.35%	-0.84%	-1.22%	-0.93%	-3.30%
2021	-0.19%	0.18%	0.27%	0.01%	0.27%
2022	0.03%	0.02%			

Cliffwater Direct Lending Index-Venture (CDLI-V)

	Q1	Q2	Q3	Q4	Calendar Year
2004					
2005		0.00%	0.00%	0.29%	
2006	0.77%	0.75%	-1.07%	-0.83%	-0.40%
2007	0.08%	-0.08%	0.01%	0.56%	0.58%
2008	0.54%	0.33%	0.02%	-0.37%	0.52%
2009	-0.20%	-0.80%	-2.81%	-2.23%	-5.92%
2010	0.07%	0.67%	-3.77%	-1.61%	-4.61%
2011	0.57%	0.71%	-0.18%	0.00%	1.09%
2012	0.30%	0.83%	-0.84%	0.10%	0.38%
2013	0.12%	0.14%	0.10%	0.20%	0.48%
2014	-0.14%	0.10%	0.42%	0.38%	0.77%
2015	0.08%	-0.07%	0.19%	-0.17%	0.03%
2016	-0.34%	-0.94%	0.22%	-0.67%	-1.72%
2017	-0.60%	-0.37%	-0.88%	-0.33%	-2.15%
2018	-0.17%	-0.34%	0.07%	-0.50%	-0.94%
2019	-0.02%	-0.02%	-0.01%	-0.43%	-0.48%
2020	0.05%	-0.03%	-0.97%	-0.65%	-1.59%
2021	-0.29%	-0.42%	0.43%	0.25%	-0.04%
2022	-0.13%	-0.22%			

Appendix H: CDLI and CDLI-V Unrealized Net Gains(Losses)

Cliffwater Direct Lending Index (CDLI)

	Q1	Q2	Q3	Q4	Calendar Year
2004				0.80%	
2005	-0.54%	-0.47%	0.42%	0.59%	-0.01%
2006	0.50%	0.53%	0.32%	0.49%	1.86%
2007	-0.15%	1.69%	-1.69%	-2.10%	-2.28%
2008	-3.73%	0.08%	-3.72%	-9.71%	-16.25%
2009	-0.50%	2.22%	2.16%	3.83%	7.89%
2010	3.26%	-0.68%	1.30%	2.19%	6.17%
2011	1.01%	-0.28%	-2.89%	1.84%	-0.38%
2012	0.82%	0.16%	0.86%	0.10%	1.94%
2013	0.38%	-0.02%	0.25%	0.50%	1.11%
2014	0.17%	0.13%	-0.33%	-1.29%	-1.32%
2015	-0.07%	0.16%	-1.51%	-2.74%	-4.12%
2016	-0.72%	1.47%	0.93%	0.41%	2.10%
2017	0.41%	0.22%	-0.25%	-0.05%	0.33%
2018	0.10%	0.30%	-0.34%	-1.32%	-1.26%
2019	0.36%	0.00%	-0.54%	-0.15%	-0.34%
2020	-6.80%	1.87%	2.55%	2.22%	-0.47%
2021	1.25%	1.57%	0.26%	0.21%	3.32%
2022	-0.19%	-1.48%			

Cliffwater Direct Lending Index-Venture (CDLI-V)

	Q1	Q2	Q3	Q4	Calendar Year
2004					
2005		1.49%	0.48%	-0.82%	
2006	0.34%	-0.69%	0.26%	0.99%	0.89%
2007	0.24%	0.34%	-0.67%	1.62%	1.52%
2008	-0.17%	-0.60%	0.37%	-3.02%	-3.41%
2009	-1.02%	-3.93%	3.48%	2.05%	0.40%
2010	-0.05%	-3.05%	0.92%	2.41%	0.15%
2011	-1.76%	1.15%	-0.11%	0.46%	-0.28%
2012	0.21%	-2.08%	0.29%	0.21%	-1.37%
2013	0.01%	-0.09%	0.88%	-0.30%	0.50%
2014	0.59%	-0.44%	-0.55%	-0.24%	-0.65%
2015	0.20%	-0.61%	-1.07%	-0.68%	-2.14%
2016	-0.93%	-0.28%	-0.42%	-0.27%	-1.89%
2017	-0.65%	0.27%	1.01%	-0.26%	0.36%
2018	-0.52%	1.13%	-0.12%	-1.12%	-0.64%
2019	-0.20%	0.43%	-0.87%	-0.07%	-0.71%
2020	-2.65%	1.04%	0.89%	3.11%	2.32%
2021	1.01%	1.40%	-0.08%	-0.99%	1.33%
2022	-1.03%	-1.67%			

Disclosures

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There can be no assurance that any expected rates of return will be achieved. Expected rates of return are subjective determinations by Cliffwater based on a variety of factors, including, among other things, investment strategy, prior performance of similar strategies, and market conditions. Expected rates of return may be based upon assumptions regarding future events and conditions that prove to be inaccurate. Expected rates of return should not be relied upon as an indication of future performance and should not form the primary basis for an investment decision. No representation or assurance is made that the expected rates of return will be achieved.

The Cliffwater Direct Lending Index (the "CDLI") seeks to measure the unlevered, gross of fees performance of U.S. middle market corporate loans, as represented by the underlying assets of Business Development Companies ("BDCs"), including both exchange-traded and unlisted BDCs, subject to certain eligibility requirements. The CDLI is an asset-weighted index that is calculated on a quarterly basis using financial statements and other information contained in the U.S. Securities and Exchange Commission ("SEC") filings of all eligible BDCs. Cliffwater believes that the CDLI is representative of the direct lending asset class. The CDLI is owned exclusively by Cliffwater, and is protected by law including, but not limited to, United States copyright, trade secret, and trademark law, as well as other state, national, and international laws and regulations. Cliffwater provides this information on an "as is" and "as available" basis, without any warranty of any kind, whether express or implied.

The CDLI: Senior-Only (CDLI-S) is comprised of six BDC direct loan portfolios within the CDLI that Cliffwater has determined focus on investing in senior secured direct corporate loans. Data begins on September 30, 2010. Total return is comprised of income return, net realized gains (losses), and net unrealized gains (losses). Other industry participants may make different determinations regarding the focus of these BDC portfolios.

The CDLI-V is comprised of only venture-backed loans within the CDLI held by managers of BDCs that have an investment style that Cliffwater has determined clearly focus on venture lending. Other industry participants may make different determinations regarding the focus of these BDC portfolios.

Past performance of the CDLI, CDLI-S or CDLI-V is not an indication of future results. It is not possible to invest directly in the CDLI, CDLI-S or CDLI-V. The CDLI, CDLI-S and CDLI-V returns shown are not based on actual advisory client returns and do not reflect the actual trading of investible assets. The performance of the CDLI, CDLI-S and CDLI-V have not been reviewed by an independent accounting firm and has been prepared for informational purposes only.

Index returns do not reflect payment of any sales charges or fees a person may pay to purchase the securities underlying the CDLI, CDLI-S, CDLI-V or a product that is intended to track the performance of the CDLI, CDLI-S or CDLI-V. The imposition of these fees and charges would cause the actual and back-tested performance of these securities or products to be lower than the CDLI, CDLI-S or CDLI-V performance shown.

Any information presented prior to the Launch Date of the CDLI (September 30, 2015), CDLI-S (September 30, 2017) and CDLI-V (June 30, 2020) is back-tested. Back-tested performance is not actual performance but is hypothetical. The back-tested calculations are based on the same methodology that was in effect when the CDLI and CDLI-S were officially launched. Please refer to the methodology paper for the CDLI (available at www.CliffwaterDirectLendingIndex.com) for more details about the CDLI, including the Base Date/Value (September 30, 2004 at 1,000) and the Launch Date of the CDLI and the manner in which the CDLI is reconstituted and the eligibility criteria for the CDLI.

Prospective application of the methodology used to construct the CDLI, CDLI-S and CDLI-V may not result in performance commensurate with any back-tested returns shown. The back-test period does not necessarily correspond to the entire available history of the CDLI, CDLI-S and CDLI-V. Another limitation of back-tested hypothetical information is that generally the back-tested calculation is prepared with the benefit of hindsight. Back-tested data reflect the application of the CDLI, CDLI-S and CDLI-V methodology and selection of the CDLI, CDLI-S and CDLI-V constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the financial markets in general which cannot be, and have not been, accounted for in the preparation of the CDLI, CDLI-S and CDLI-V information set forth, all of which can affect actual performance.

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 (a substantial majority (approximately 75%) of reported total assets are represented by direct loans made to corporate borrowers, as categorized by each BDC and subject to Cliffwater's discretion) to the BDC. In addition, the criteria regarding the timing of SEC filings was not applied for periods prior to the Launch Date. All other eligibility criteria were applied to determine whether to include the BDC in the historical CDLI, CDLI-S or CDLI-V, as applicable, composition and return. Index returns generally are published 75 days after calendar quarter-end.

The CDLI, CDLI-S and CDLI-V may include inaccuracies or typographical errors. Due to various factors, including the inherent possibility of human or mechanical error, the accuracy, completeness, timeliness and correct sequencing of such information and the results obtained from its use are not guaranteed by Cliffwater.

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If a BDC meets the eligibility criteria, but has not filed its report on Form 10-K or 10-Q with the SEC at the time the index is reconstituted, asset information from its report will be included in the index at the time of the next reconstitution.

References to market or composite indices (such as the S&P 500), benchmarks or other measures of relative market performance over a specified period of time (each, an "index") are provided for information only. Reference to an index does not imply that a portfolio will achieve returns, volatility, or other results similar to the index. The composition of an index may not reflect the manner in which a portfolio is constructed in relation to expected or achieved returns, portfolio guidelines, restrictions, sectors, correlations, concentrations, volatility or tracking error targets, all of which are subject to change over time.

The Bloomberg Barclays U.S. High Yield Index (Bloomberg Barclays High Yield Bond) covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The Morningstar LSTA US Leveraged Loan 100 Index is a market value-weighted index designed to measure the performance of the U.S. leveraged loan market. The index consists of 100 loan facilities drawn from a larger benchmark – the Morningstar LSTA U.S. Leveraged Loan Index.

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