



LSDI

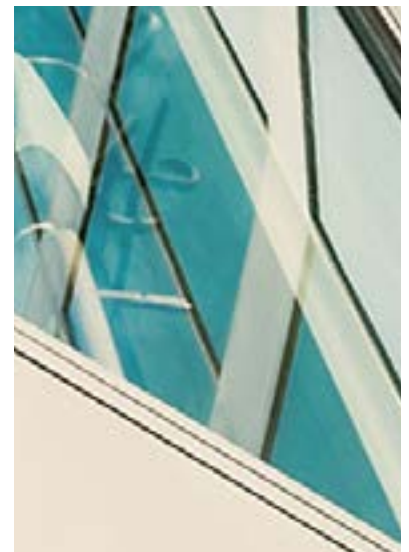
**LINCOLN SENIOR
DEBT INDEX**

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INTRODUCING: The Lincoln Senior Debt Index

Lincoln International is pleased to release the quarterly Lincoln Senior Debt Index (LSDI). The LSDI represents years of research and analysis of data and was developed by professionals from Lincoln's Valuations & Opinions Group in collaboration with Professor Pietro Veronesi of The University of Chicago Booth School of Business.

The first quarter of 2024 continued the momentum of the trends noted at the end of 2023. The LSDI yielded 11.3%, a relatively stable yield as compared to yields as of Q4 2023 given SOFR rates remained flat through the first quarter of the year. As a result of the minor movements in yields and SOFR rates, the first quarter of the year finished with a fair value of 98.4, up 50 basis points (bps) since the end of 2023. Finally, the rate of companies defaulting on covenants continued to improve, with the default rate decreasing by 80 bps since Q4 2023. This represented the fourth continued quarter of declines in the default rate, and the 2.7% rate of default remained well below the average default rate from the last two years. Over the last 12 months, amendment activity remained healthy with more than 740 amendments executed, of which over 180 amendments were completed in the first quarter of 2024 alone. Of the companies with recent amendments, 14.6% included covenant holidays and 33.7% included sponsor infusions. We continue to believe the decline in default rates demonstrates that borrowers and lenders anticipated defaults and proactively addressed the issue by amending the loan documents. Despite the decreased rates of default, 26.5% of the recent amendments included maturity extensions, up from 21.8% of amendments in Q4 2023, hinting at increased liquidity concerns amongst the portfolio companies Lincoln values.

In the first quarter of 2024, the direct lending and broadly syndicated loan (BSL) market continued to experience a contraction in their yield differential with only a 1.9% yield difference relative to the historical average of 3.7%. As competition to deploy capital has continued to increase, returns between the two markets have decreased. Between the end of 2023 and first quarter of 2024, yields in both the direct lending and BSL markets have remained stable, with only minor movements in yields. The LSDI yields contracted five bps since Q4 2023 while BSL yields contracted two bps over the same period.

The LSDI provides insight into the direct lending market as it is a fair value index consisting of four components:

1. Total return (income return plus capital gain return);
2. Price (i.e., fair value);
3. Spread; and,
4. Yield to maturity.

Each of the four components is then categorized into three types of senior loans:

1. All senior loans – consisting of first lien, Unitranche, and second lien loans;
2. Senior loans consisting of first lien and
3. Second lien loans.

In addition, we provide additional descriptive statistics including: (a) loan-to-value; (b) the impact of interest rate (SOFR) and credit changes (spread) on total return; (c) default rates; and, (d) historical yields by EBITDA size.

The U.S. non-investment grade corporate loan market has two segments: the BSL market, which attracts investors investing in broader syndicated deals and the direct lending market for investors investing in club deals. While correlated, there are subtle but significant differences between the two markets. Both markets primarily provide floating-rate loans; however, divergences exist in terms of market liquidity, company size and credit facility size. Given the greater liquidity in the BSL market, pricing and terms are a function of the technical market and competitive factors, whereas the more illiquid direct lending market has a stronger orientation to assessing company fundamentals.

In contrast to the Morningstar LSTA U.S. Leveraged Loan 100 Index which is comprised of companies borrowing in the BSL market, the constituents in the LSDI are virtually all companies borrowing in the direct lending market.

The direct lending market is a significant source of capital for private equity-backed middle-market companies. The LSDI benefits market participants by providing information to facilitate a greater understanding of the attributes of this important source of capital to the private sector.

KEY OBSERVATIONS: Lincoln Senior Debt Index

Q1

2024

How We Obtain the Information

On a quarterly basis, Lincoln values more than 5,000 private companies primarily owned by over 150 alternative investment funds and lenders to funds. Most of these companies are levered via borrowings from the direct lending market. A significant percentage of the LSDI constituents are based upon valuations of loans provided for non-public business development companies and other private investment vehicles and, therefore, not disclosed in public filings.

For many of the private companies valued quarterly, Lincoln advises on the fair value of at least one senior debt security in the capital structure. All valuations conform with GAAP and fair value principles and have been reviewed by fund management, fund boards, limited partners and auditors.

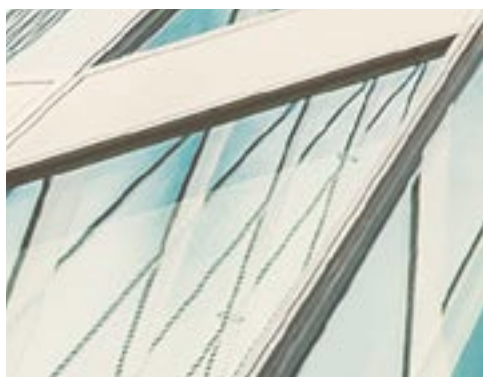
Additional information can be found in our methodology discussion and on our website.

98.4

Average Fair Value
of Loans in the Index
as of Q1 2024

LSDI – Key Observations – All Loans – Q1 2024

- The LSDI returned 3.3% for the quarter ending March 31, 2024, and represented an increase of 0.5% relative to the return in the fourth quarter of 2023 considering the incrementally lower yields observed and the stabilization of interest rates over the last few months.
 - Returns consist of two components: (a) interest income; and (b) capital gains or losses. Income returns and returns from capital gains were positive in Q1 2024 as interest rates remained above the historical average and prices remained stable.
- Yields between the direct lending market and BSL market continued to compress relative to the historical average of 3.7% in the first quarter of the year, with a 1.9% gap between the yields derived from the LSDI and Morningstar LSTA. As competition to deploy capital has increased, returns between the two markets decreased.
- Prices increased in both the BSL market and the LSDI, with prices in the first quarter stepping up \$0.51 to 96.7 and \$0.45 to 98.4 within each index, respectively.



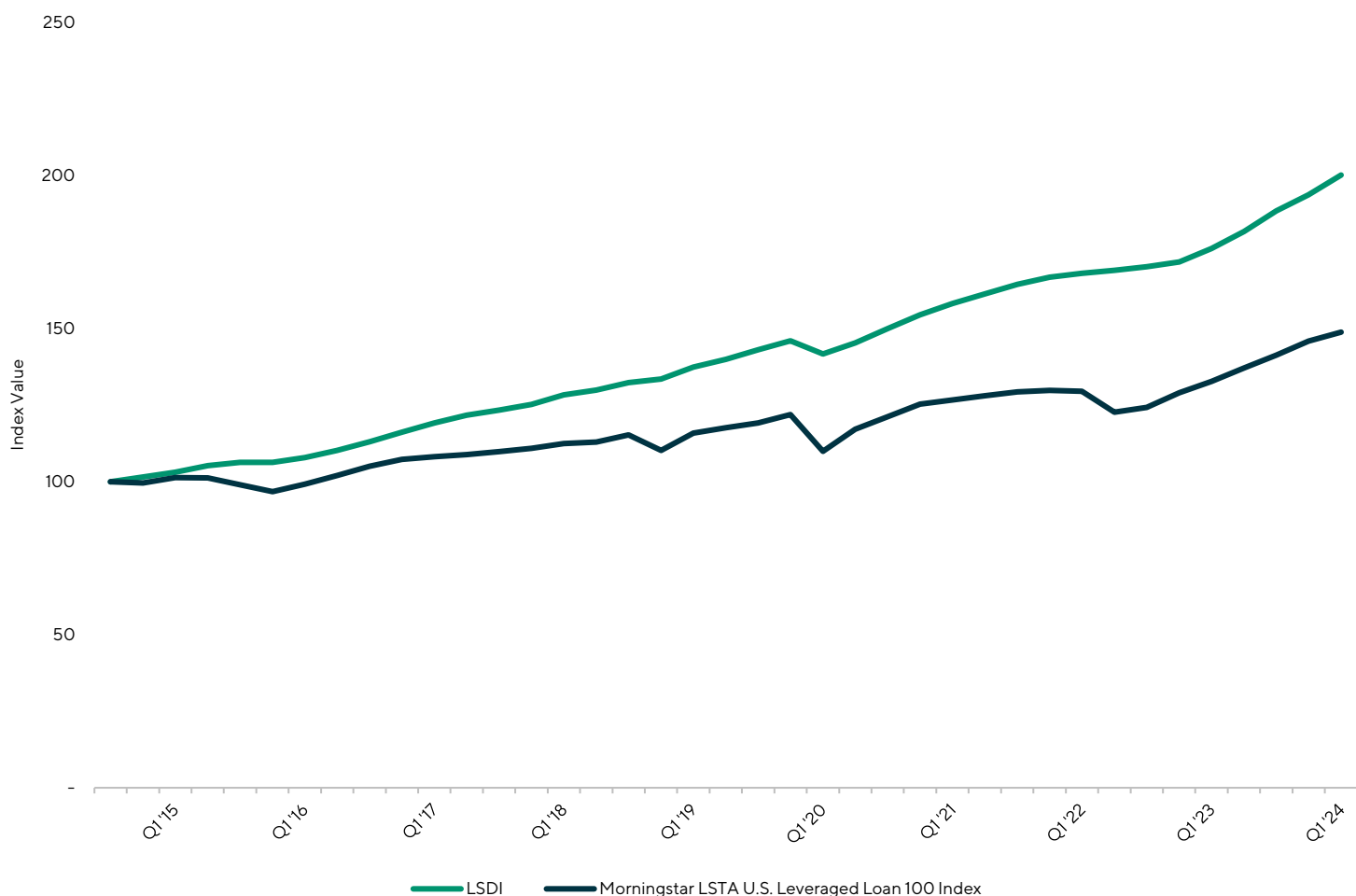
RESULTS:

A. Total Return

Q1

2024

Table 1: Comparison of Total Return – LSDI (All Loans) to Morningstar LSTA U.S. Leveraged Loan 100 Index



Observations:

- Investment return is generated from two sources: (1) capital gains and losses; and (2) income return. In the leverage lending asset class, income returns dominate capital gains or losses, resulting in a positive quarterly total return.
- Since the inception of the LSDI, both the Morningstar LSTA, which measures the performance of the BSL market, and the direct lending market have experienced an increase in total return. BSL returns for the quarter ending March 31, 2024, were 2.0% versus the LSDI of 3.3%. On average, returns for the LSDI have been higher than those for the BSL with the average returns since inception of the LSDI having been 1.8% for the LSDI versus 1.1% for the BSL.
- Given the relatively high level of interest rates, we expect returns to remain high by historical standards.

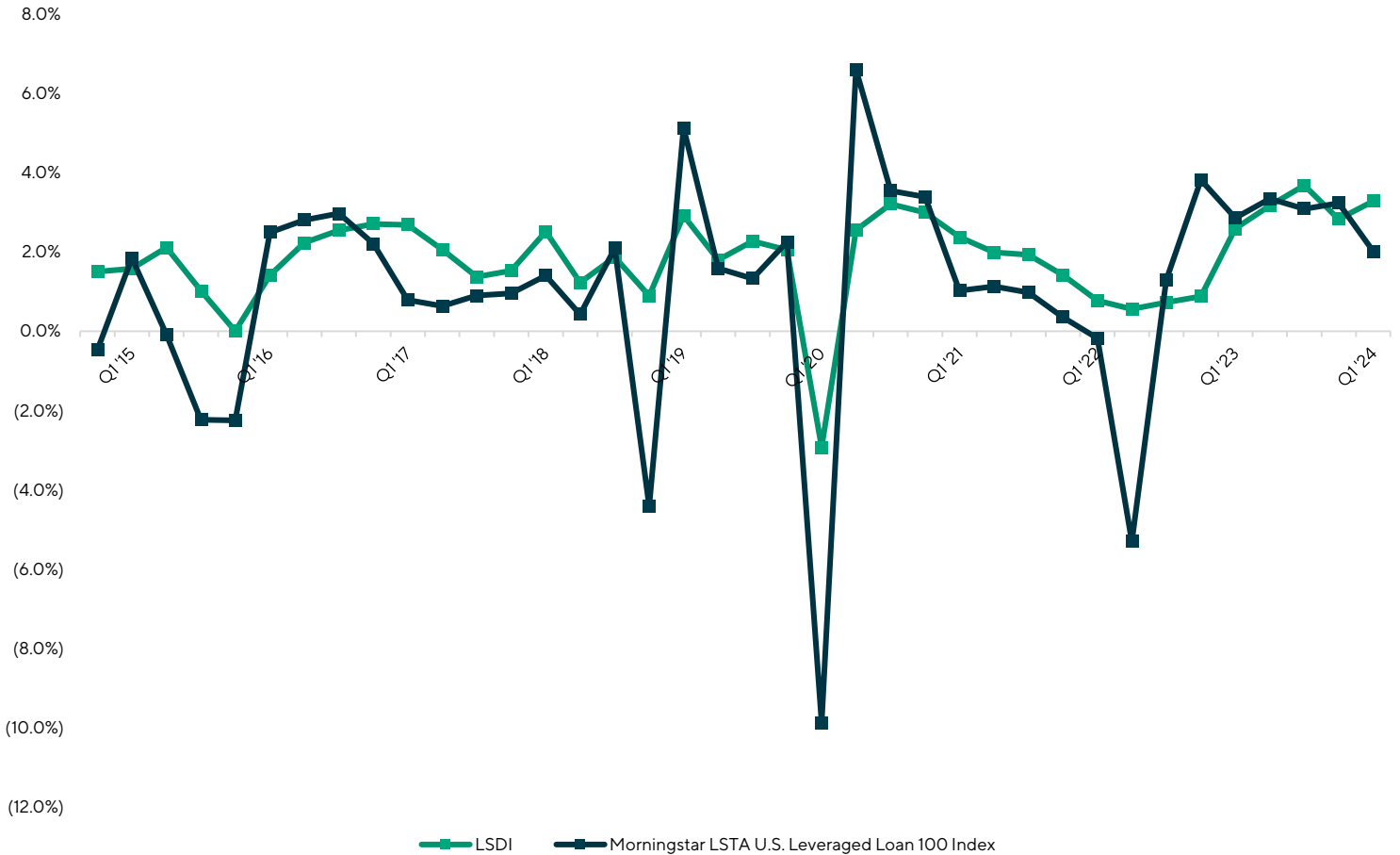
RESULTS:

A. Total Return (cont.)

Q1

2024

Table 2: Correlation and Comparison of Quarterly Returns – LSDI (All Loans) to BSL Market



Observations:

- The correlation between the LSDI and Morningstar LSTA is high at approximately 80.6%. However, there are two distinct differences:
 - the LSDI is significantly less volatile; and
 - the LSDI generates higher returns on average.
- The direct lending market experiences negative returns much less frequently than the BSL market, given its higher yields.
 - Since the inception of the LSDI on September 30, 2014, through March 31, 2024, only the quarter ending March 31, 2020, reported a negative quarterly return whereas the BSL market has experienced eight quarters of negative returns.

RESULTS: B. Yields

Q1

2024

Table 3: Comparison of Yields – LSDI (All Loans) to BSL Market



Observations:

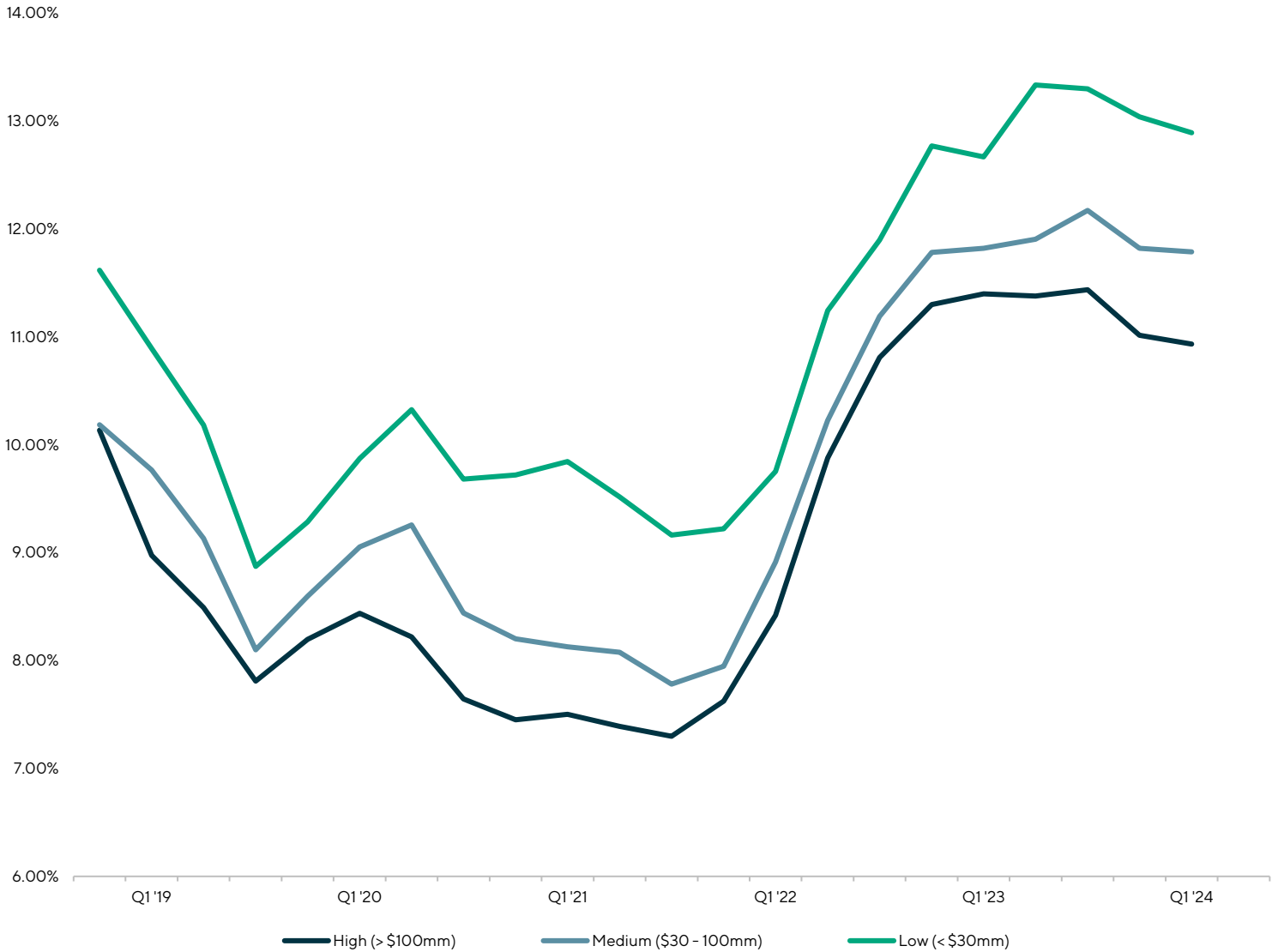
- The yield of the LSDI was 11.3% for the quarter ending March 31, 2024, which continued to be higher than the average yield of the index of 9.79% given the continued high-interest rate environment.
- Volatility in SOFR rates between Q4 2023 and Q1 2024 was virtually non-existent, with the SOFR rate decreasing only four basis points and resulting in a stable yield for the LSDI of 11.3%. The BSL market followed suit, with the yield remaining at 9.4% in both Q4 2023 and Q1 2024.

RESULTS: B. Yields (cont.)

Q1

2024

Table 4: Comparison of Yields – LSDI (All Loans) by Size



Observations:

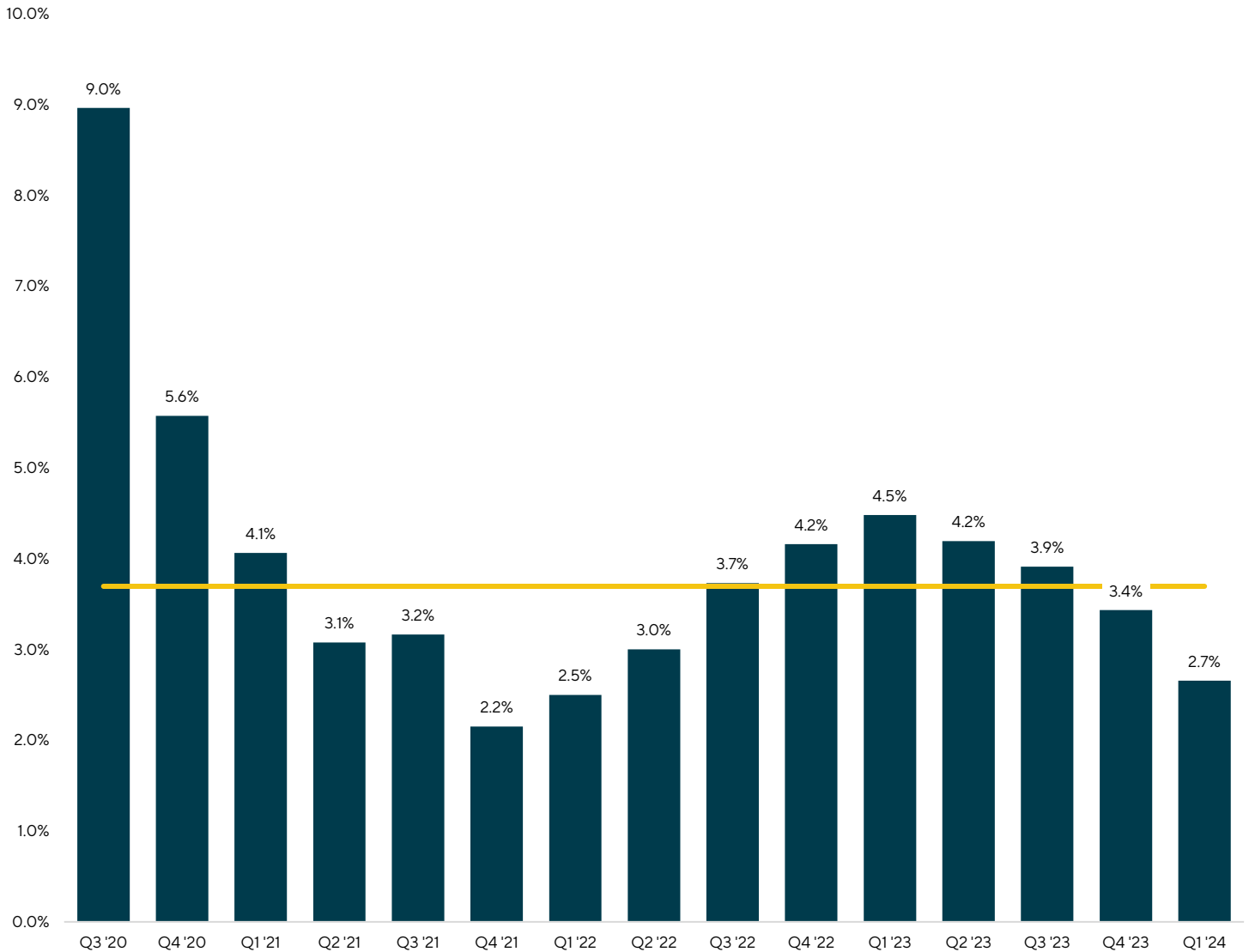
- In keeping with classic corporate finance theory, Lincoln’s observations of yields within the index demonstrate that yields for small companies, as defined as companies having EBITDA values of less than \$30 million, tend to be higher than yields for large companies, as defined as those businesses having EBITDA values of greater than \$100 million.

RESULTS: C. Default Rates

Q1

2024

Table 5: Direct Lending Default Experience



Note: Defaults defined as loan covenant defaults (not monetary defaults)

Observations:

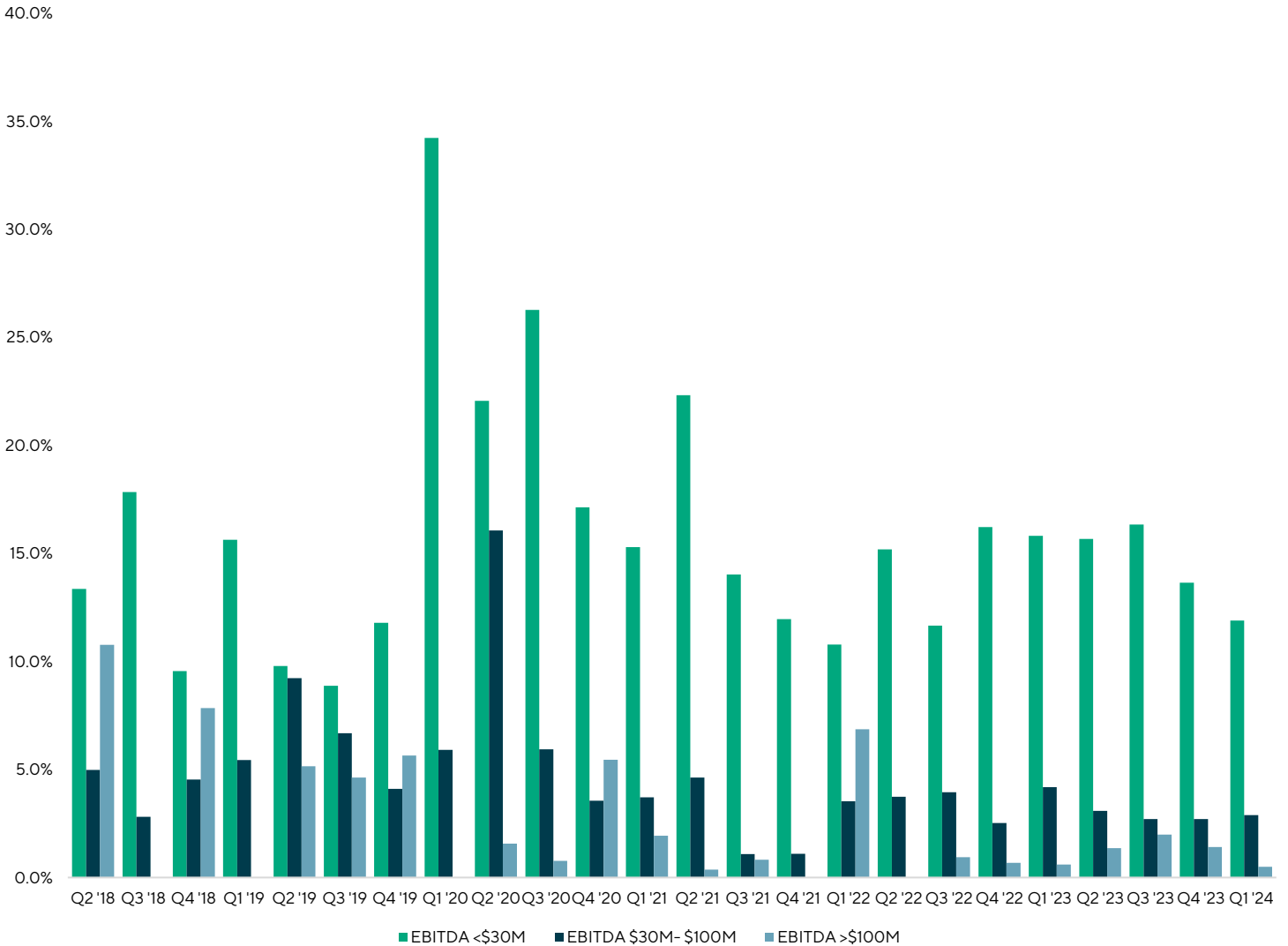
- The beginning of 2024 saw the continued the trend of the decline in default rates, with the observed instance of default decreasing 50 bps from 3.4% in December 2023 to 2.7% in March 2024. The four quarters of consecutive decline in defaults was the longest run observed since the inception of the LSDI.

RESULTS: C. Default Rates (cont.)

Q1

2024

Table 6: Direct Lending Default Experience by Size



Source: VOG Private Market Proprietary Data. Data as of: February 07, 2024

Observations:

- When bifurcated into defaults by company size, small companies tend to have higher instances of default than larger companies. This further illustrates the risk and return tradeoff given the higher yields associated with investments in smaller businesses.
- Since Q4 2023, the default rate for companies with \$30 - \$100 million of EBITDA remained stable, while the rates of default for smaller and larger businesses decreased 180 and 90 bps, respectively.

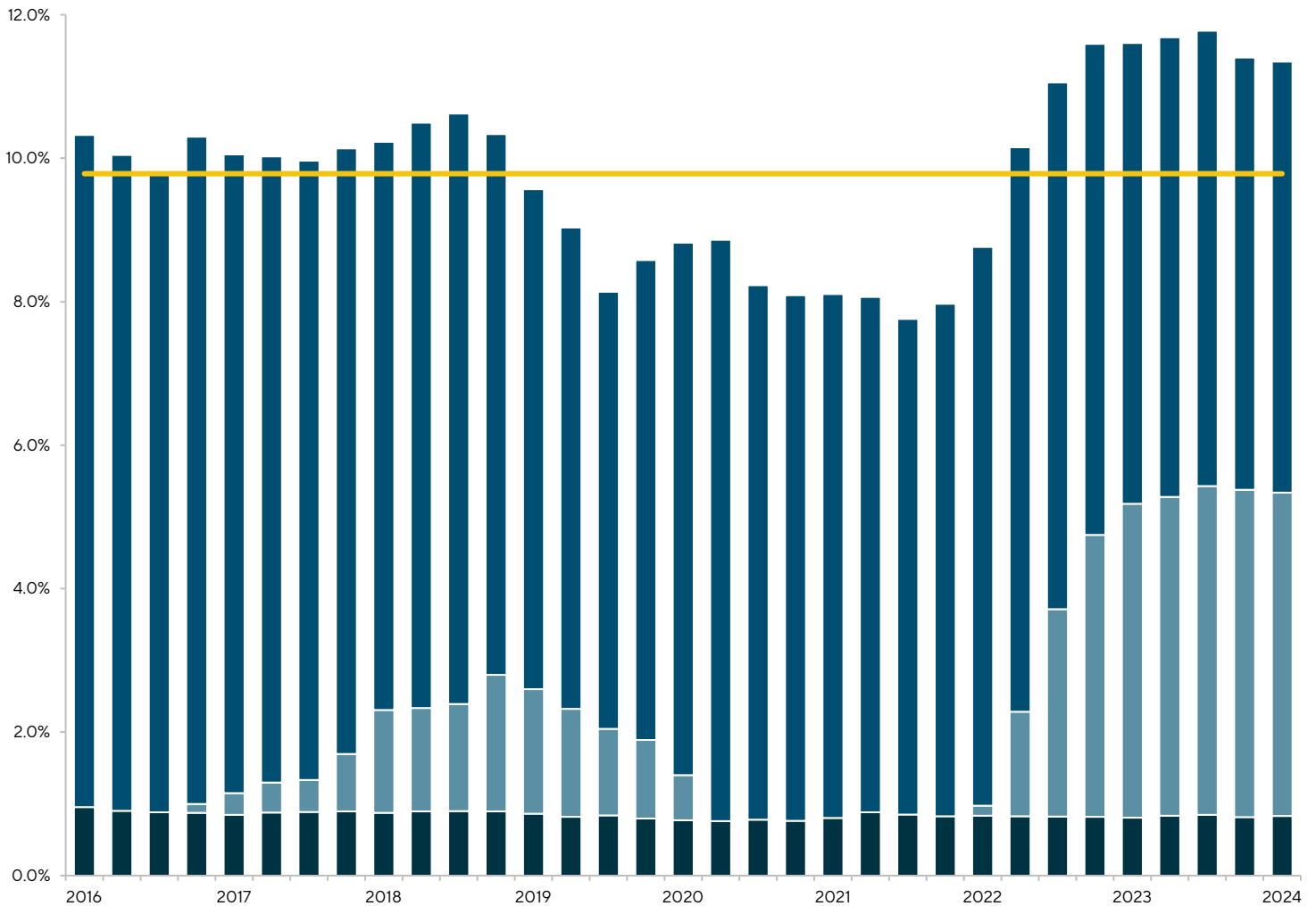
RESULTS:

D. Decomposing Yields in the Direct Lending Market – LIBOR / SOFR Floors and Spreads

Q1

2024

Table 7: Decomposing Yield – LIBOR / SOFR, LIBOR / SOFR Floors and Spreads – All Loans



Source: VOG Private Market Proprietary Data. Data as of: February 07, 2024

Observations:

- The average yield of the LSDI since inception has been approximately 9.8%.
- From 2016 until the quarter ending June 30, 2022, yields in the direct lending market had remained in a band between 8.0% and 10.0%. However, as reference rates began to increase in Q2 2022 and Q3 2022, yields increased as well and have exceeded 11.0% since Q3 2022.
- Yields over the past 12 months have remained stable as SOFR rates have halted their steep increases. SOFR rates for the past year have hovered between 5.3% and 5.4%, which is well above the approximately 2.1% average SOFR rate between 2016 and Q1 2024.

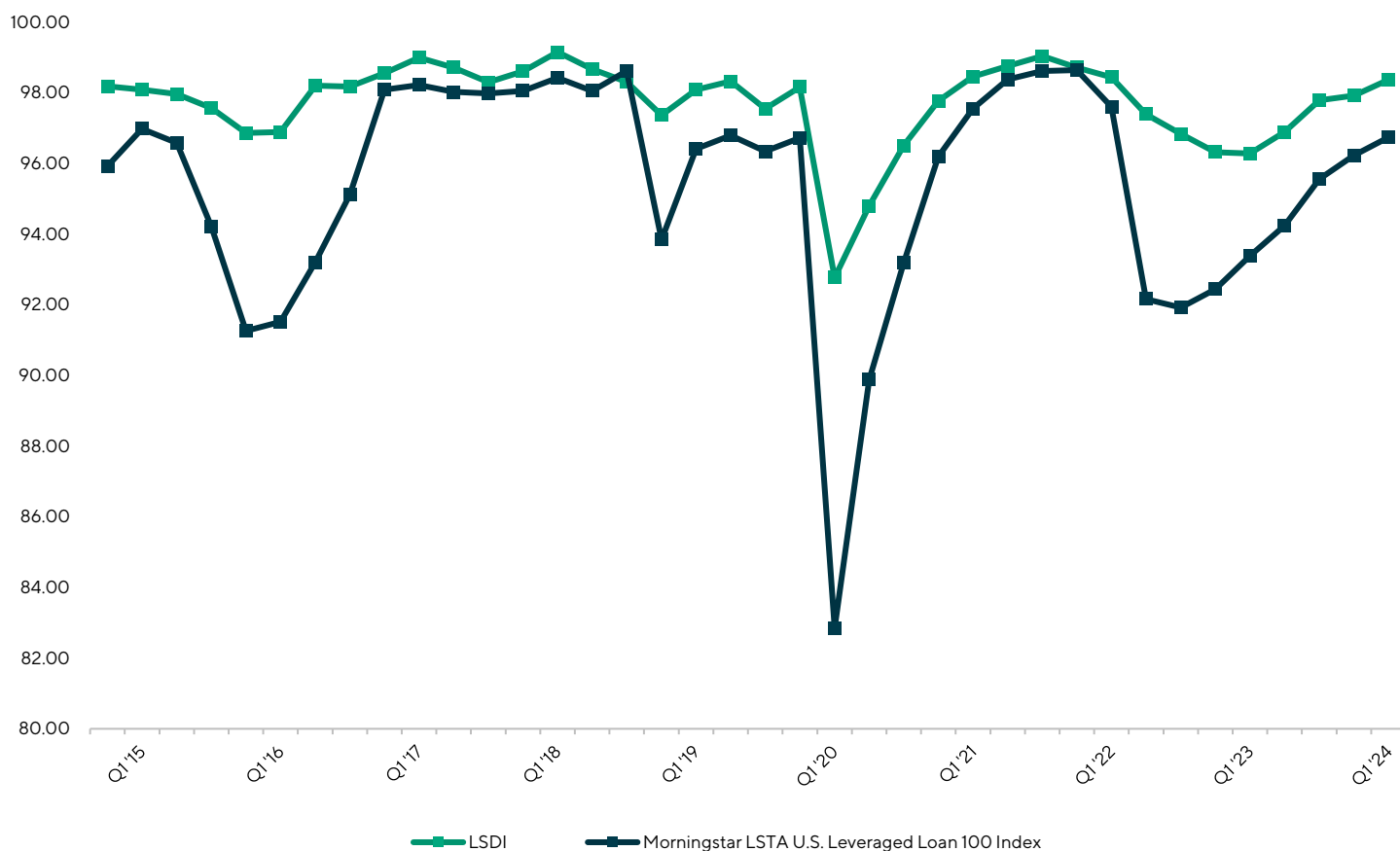
RESULTS:

E. Fair Value – Price – Trends

Q1

2024

Table 8: Fair Value – LSDI (All Loans) Compared to the S&P / LSTA U.S. Leveraged Loan Index



Note: Price based on fair value of the LSDI and average bid of the Morningstar LSTA U.S. Leveraged Loan Index

Observations:

- The LSDI was 98.4 as of March 31, 2024, up \$0.45 from the prior quarter’s price of 97.9.
- The fair value of 98.4 surpassed the historical average price of 97.7. Since 2014 the lowest price of the LSDI was 92.7 in Q1 of 2020 while the highest fair value was 99.2 in Q1 of 2018.
- There are several reasons for the phenomenon whereby loans in the direct lending market do not experience the same price volatility as observed in the BSL market:
 - Loans in the direct lending market trade much less frequently than loans in the BSL market.
 - Investors in the BSL market have a greater ability to liquidate their investment should they decide to exit, as trading is a viable option. In contrast, investments in direct lending funds are structured whereby investor redemptions are limited. Therefore, capital flows are not as volatile as the BSL market.

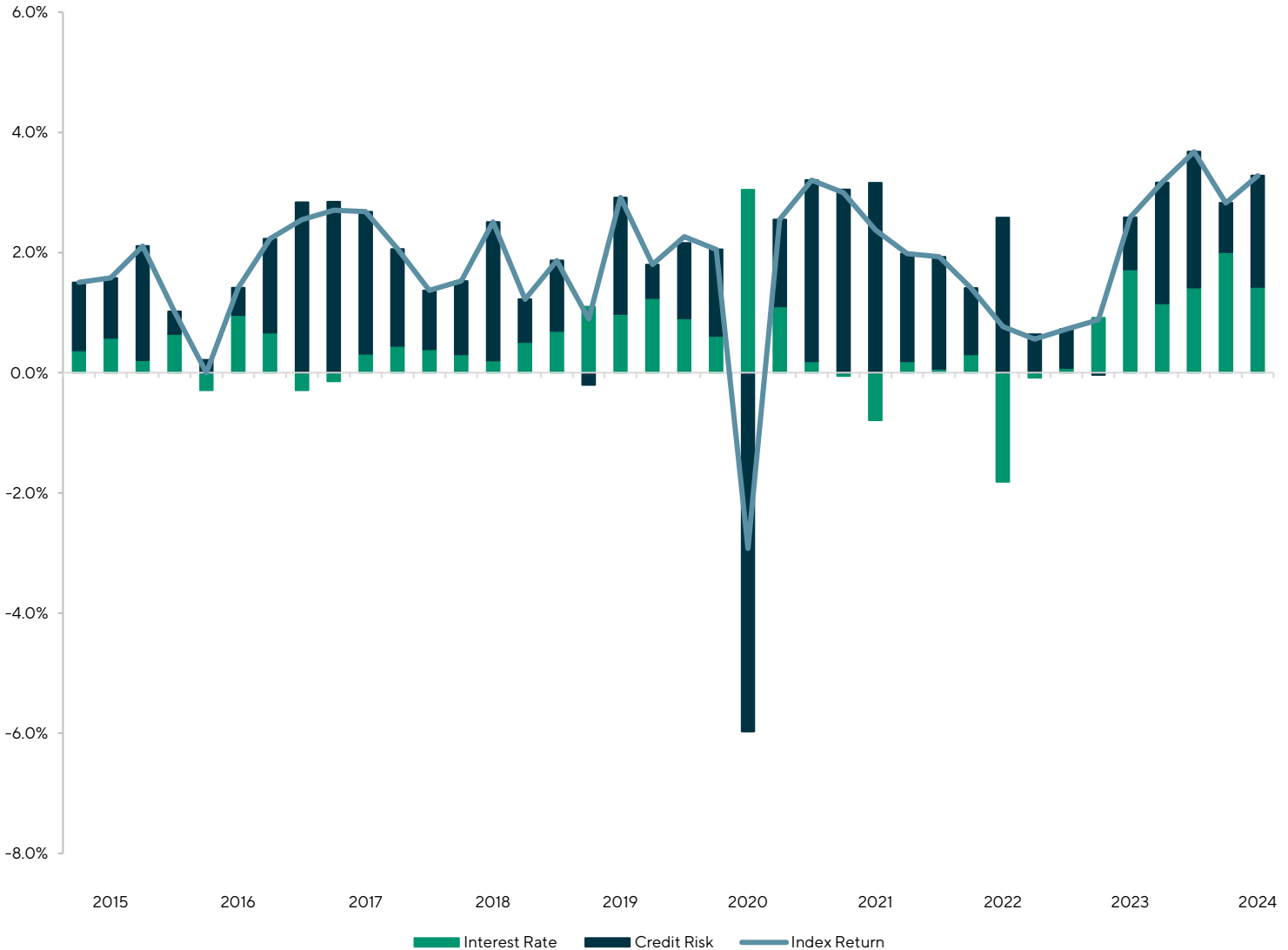
RESULTS:

F. Bifurcation of the Impact on Total Return Due to Credit Risk and Interest Rate Risk

Q1

2024

Table 9: Decomposition of Index Returns: Interest Rate versus Credit Risk



Observations:

- The LSDI returned 3.3% for the first quarter of 2024 versus 2.8% for the fourth quarter of 2023.
- Decomposing the quarterly return of 3.3%, the return was equally attributable to changes in credit risk and interest rate risk with credit risk accounting for 1.9% of the return and interest rate risk making up the remaining 1.4% of the return. This contrasts with the return from Q4 2023 which was primarily attributable to changes in interest rate risk.

METHODOLOGY:

Source of Data and Sample Size

Q1

2024

Source of Data and Sample Size

On a quarterly basis, Lincoln determines the enterprise fair value of more than 5,000 portfolio companies for approximately 150 private equity sponsors and lenders. These portfolio companies report quarterly financial results to the sponsor (i.e., private equity group) or lender. Lincoln obtains company and loan level information to create the LSDI.

All information is prepared in accordance with the fair value measurement principles of generally accepted accounting principles. Finally, each valuation is then vetted by auditors, company management, boards of directors and regulators.

Additional information about the methodology of the Lincoln Senior Debt Index can be found at: www.lincolnternational.com/perspectives/an-overview-of-the-lincoln-senior-debt-index.

Academic Advisor

Professor Pietro Veronesi is the Chicago Board of Trade Professor of Finance at the University of Chicago, Booth School of Business. He is also a research associate of the National Bureau of Economic Research and a research fellow of the Center for Economic and Policy Research.

Professor Veronesi's research has appeared in numerous publications, including the *Journal of Political Economy*, *American Economic Review*, *Quarterly Journal of Economics*, *Journal of Finance*, *Journal of Financial Economics* and *Review of Financial Studies*. He is the recipient of several awards, including the 2015 AQR Insight award, the 2012 and 2003 Smith Breeden prizes from the *Journal of Finance*; the 2008 WFA award; the 2006 Barclays Global Investors Prize from the EFA; the 2006 Fama / DFA prizes from the *Journal of Financial Economics* and the 1999 Barclays Global Investors / Michael Brennan First Prize from the *Review of Financial Studies*. Professor Veronesi teaches both masters- and Ph.D.-level courses. He is the recipient of the 2009 McKinsey Award for Excellence in Teaching.

His undergraduate work was in economics at Bocconi University where he received a laurea magna cum laude with honor in 1992. He earned a master's degree with distinction in 1993 from the London School of Economics. He joined the Chicago Booth faculty upon obtaining his Ph.D. in economics from Harvard University in 1997.

SUMMARY:

Q1 2024 Lincoln Senior Debt Index

- From 2014 through March 31, 2024, a portfolio of direct lending loans has yielded higher returns and lower volatility relative to BSLs.
- The LSDI provides market participants with many unique valuation insights into the fair value of direct lending loans and represents a significant enhancement to the information available within an opaque market.

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