



LSDI

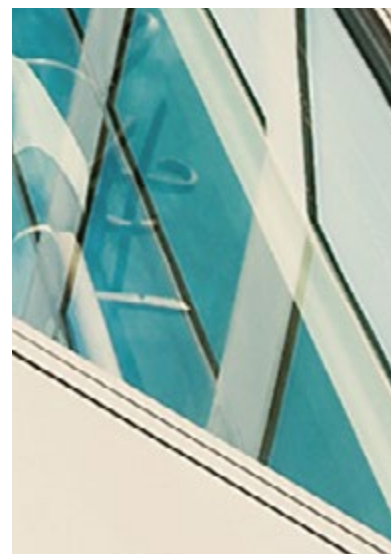
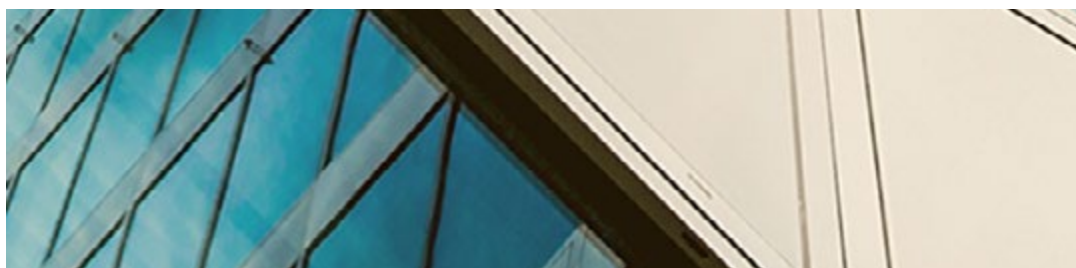
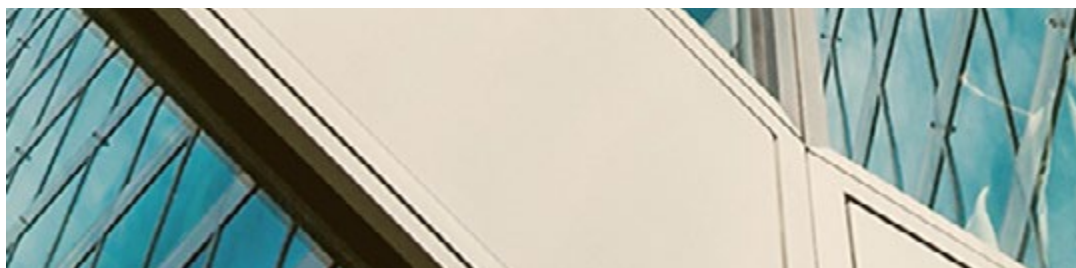
**LINCOLN SENIOR
DEBT INDEX**

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INTRODUCING: The Lincoln Senior Debt Index

Lincoln International LLC (“Lincoln”) is pleased to release the quarterly Lincoln US Senior Debt Index (“Lincoln US Senior Debt Index”, “Senior Debt Index”, or, “LSDI”). The Lincoln US Senior Debt Index 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 results of the LSDI in the third quarter of 2024 were consistent with the trends and observations experienced over the prior 18 months. The LSDI yielded 10.4%, reflecting a 1.12% decline relative to the prior quarter as SOFR rates and spreads fell. As the competition to deploy capital has persisted in the market and SOFR rates have started to decline, returns in the BSL and direct lending markets both declined in Q3 2024. However, as a result of the competitive tailwinds and resilient portfolio company performance, the average fair value of loans in the LSDI increased marginally in the third quarter from 98.56% to 98.64%. Similarly, covenant defaults continued to decrease in the third quarter to 2.2%, which matches Q4 2021 for the lowest level of defaults dating back to Q2 2018.

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 US Leveraged Loan 100 Index (“Morningstar LSTA”) which is comprised of companies borrowing in the BSL market, the constituents in the Senior Debt Index are virtually all companies borrowing in the direct lending market.

The direct lending market is a significant source of capital to private equity backed middle-market companies. The Lincoln US Senior Debt Index 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

Q3

2024

How We Obtain the Information

On a quarterly basis, Lincoln values over 5,500 private companies primarily owned by over 175 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 Senior Debt Index constituents are based upon valuations of loans provided for non-public BDCs 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.

98.6

Average Fair Value
of Loans in the Index
as of Q3 2024

LSDI – Key Observations – All Loans – Q3 2024

- The LSDI returned 2.7% for the quarter ending September 30, 2024, and represented a decrease of 0.1% relative to the return in the second quarter of 2024 as the marginal increase in fair value was lower in Q3 relative to Q2.
 - The primary investment benefit is interest income from investing in private credit; total quarterly returns from interest were 2.0% while the total return from capital gains were 0.7%.
- The 1.5% gap between the yields derived from the LSDI and Morningstar LSTA in the third quarter of 2024 continued to be lower than the historical average of 3.7% as competition to deploy capital has remained high, reducing the return differential between the two markets.
- LSDI prices increased 0.08 to 98.6 while BSL prices increased \$0.59 to 98.3.



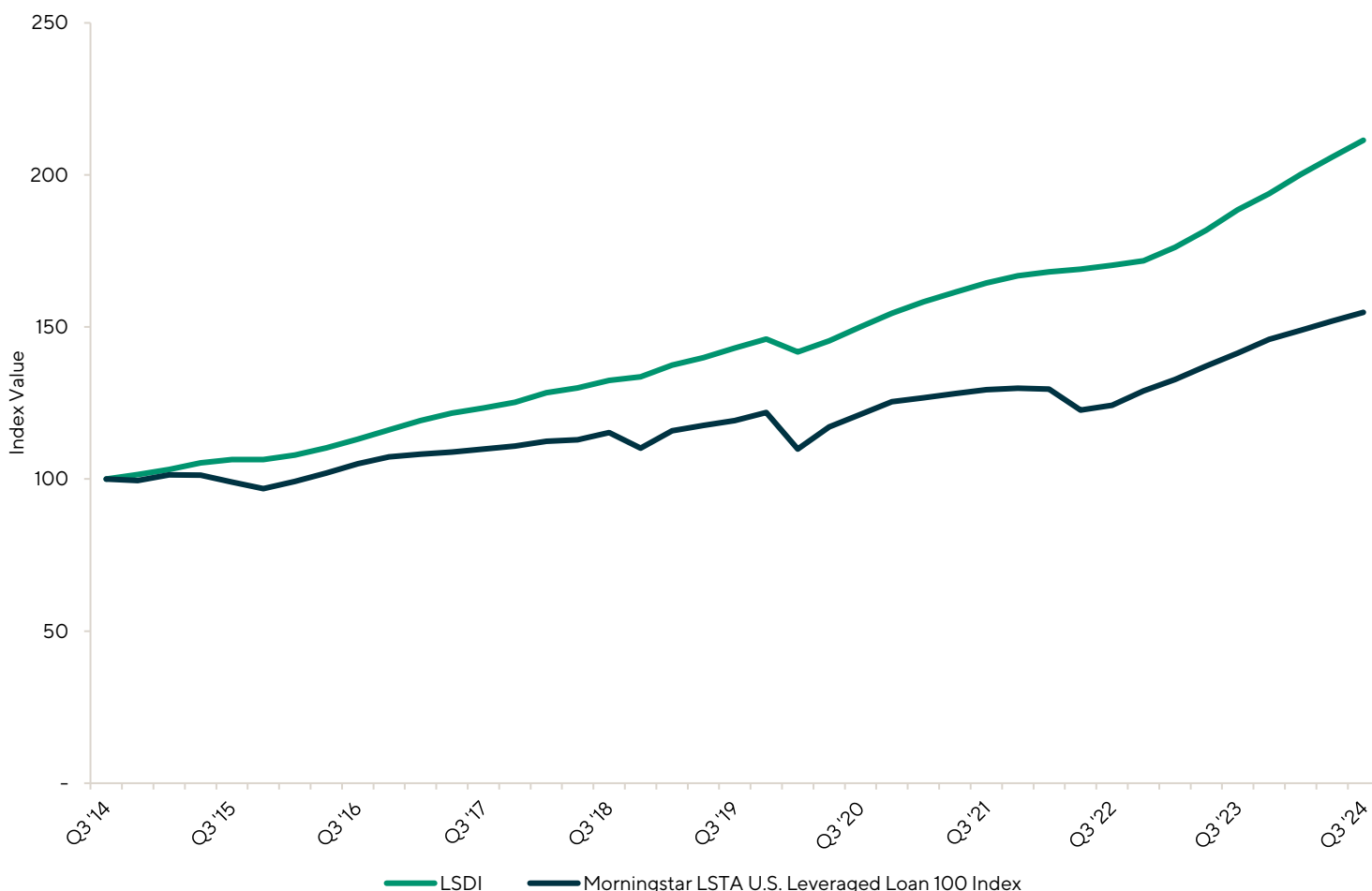
RESULTS:

A. Total Return

Q3

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 Senior Debt Index, both the Morningstar LSTA, which measures the performance of the BSL market, and the direct lending market have experienced an increase in total quarterly return. BSL returns for the quarter ending September 30, 2024, were 1.9% versus the LSDI of 2.7%. On average, returns for the LSDI have been higher than those for the BSL as the average quarterly returns since inception of the Senior Debt Index have been 1.9% for the LSDI versus 1.1% for the BSL.
- Given the continuing high level of interest rates, we expect returns to remain high by historical standards.

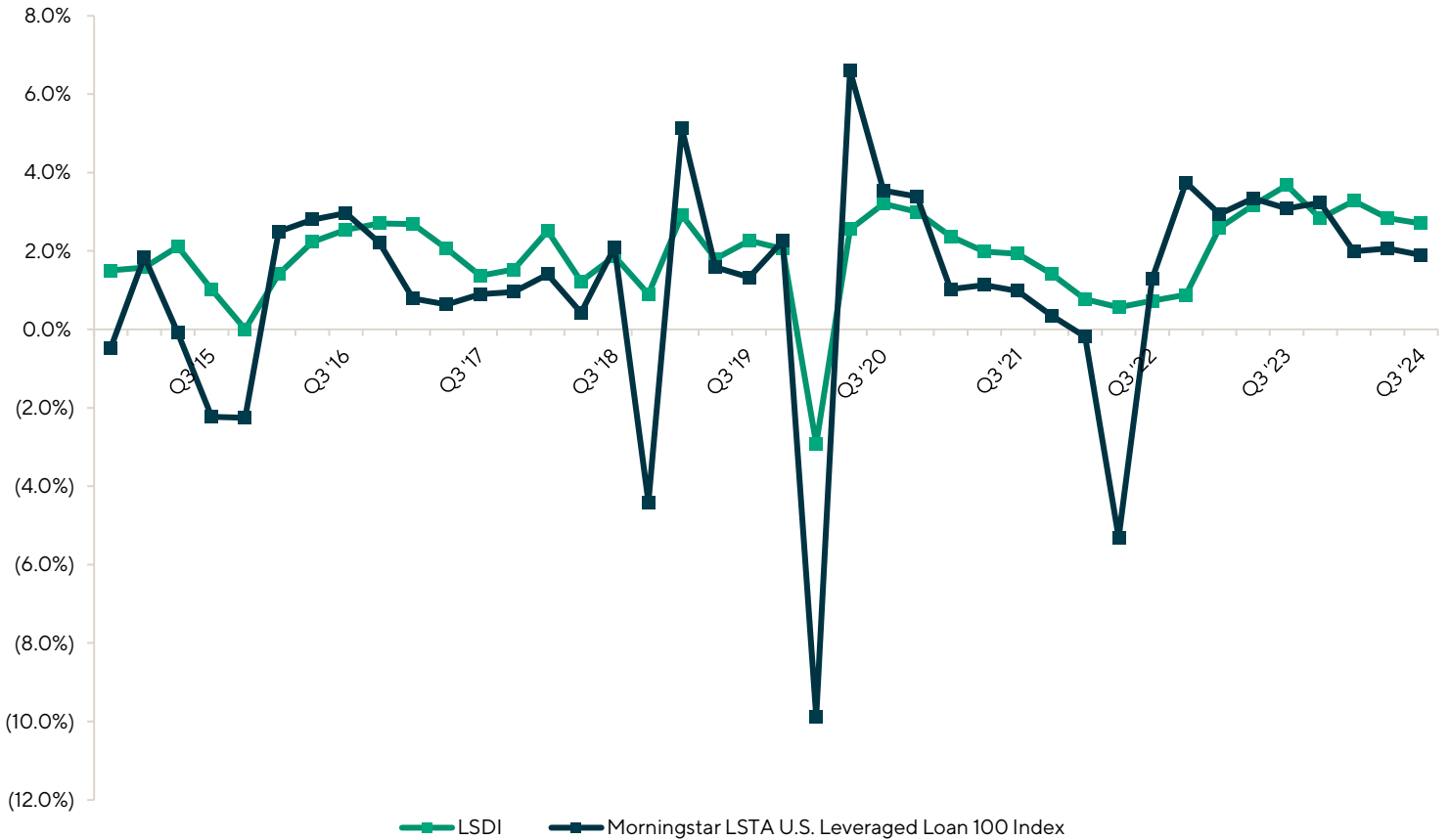
RESULTS:

A. Total Return (cont.)

Q3

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 80.5%. However, there are two distinct differences:
 - the standard deviation of returns for the life of the LSDI was 1.1% versus the 2.8% for the Morningstar LSTA over the same time period;
 - the Senior Debt Index is significantly less volatile; and
 - the LSDI generates higher returns.
- The direct lending market experiences negative returns much less frequently than the BSL market, given its higher yields and lower standard deviation.
 - Since the inception of the Senior Debt Index on September 30, 2014 through September 30, 2024, only the quarter ending March 31, 2020 reported a negative quarterly return whereas the BSL market has experienced 8 quarters of negative returns.

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



Observations:

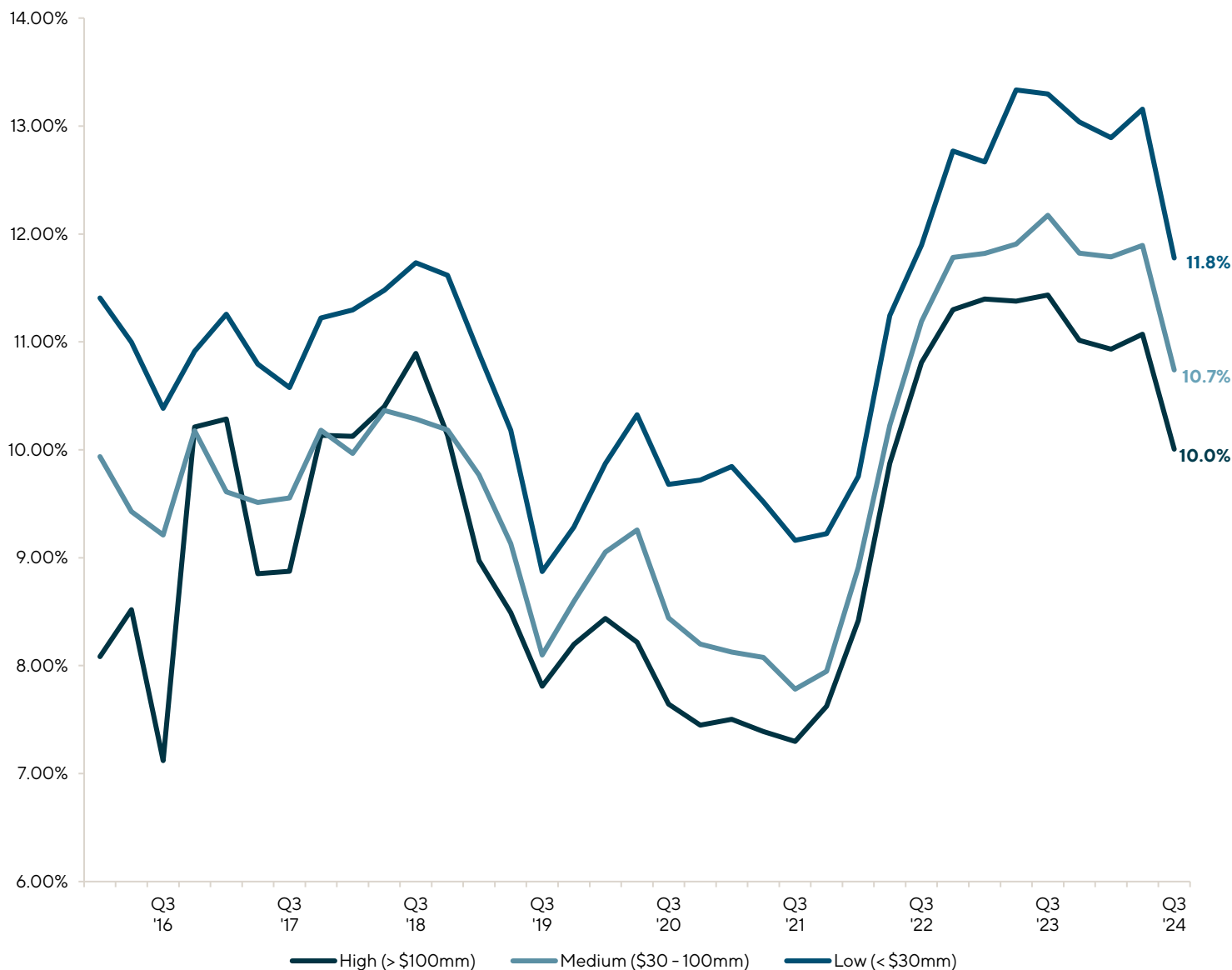
- The yield of the Lincoln US Senior Debt Index was 10.4% for the quarter ending September 30, 2024, which continued to be higher than the average yield of the index of 9.9% given the current interest rate environment.
- Volatility in SOFR rates since the end of 2023 returned, with the SOFR rate decreasing 70 basis points over the quarter and resulting in a yield for the LSDI of 10.4%. The BSL market followed suit, with the yield declining 50 basis points over the quarter to end Q3 2024 at 8.8%.

RESULTS: B. Yields (cont.)

Q3

2024

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



Observations:

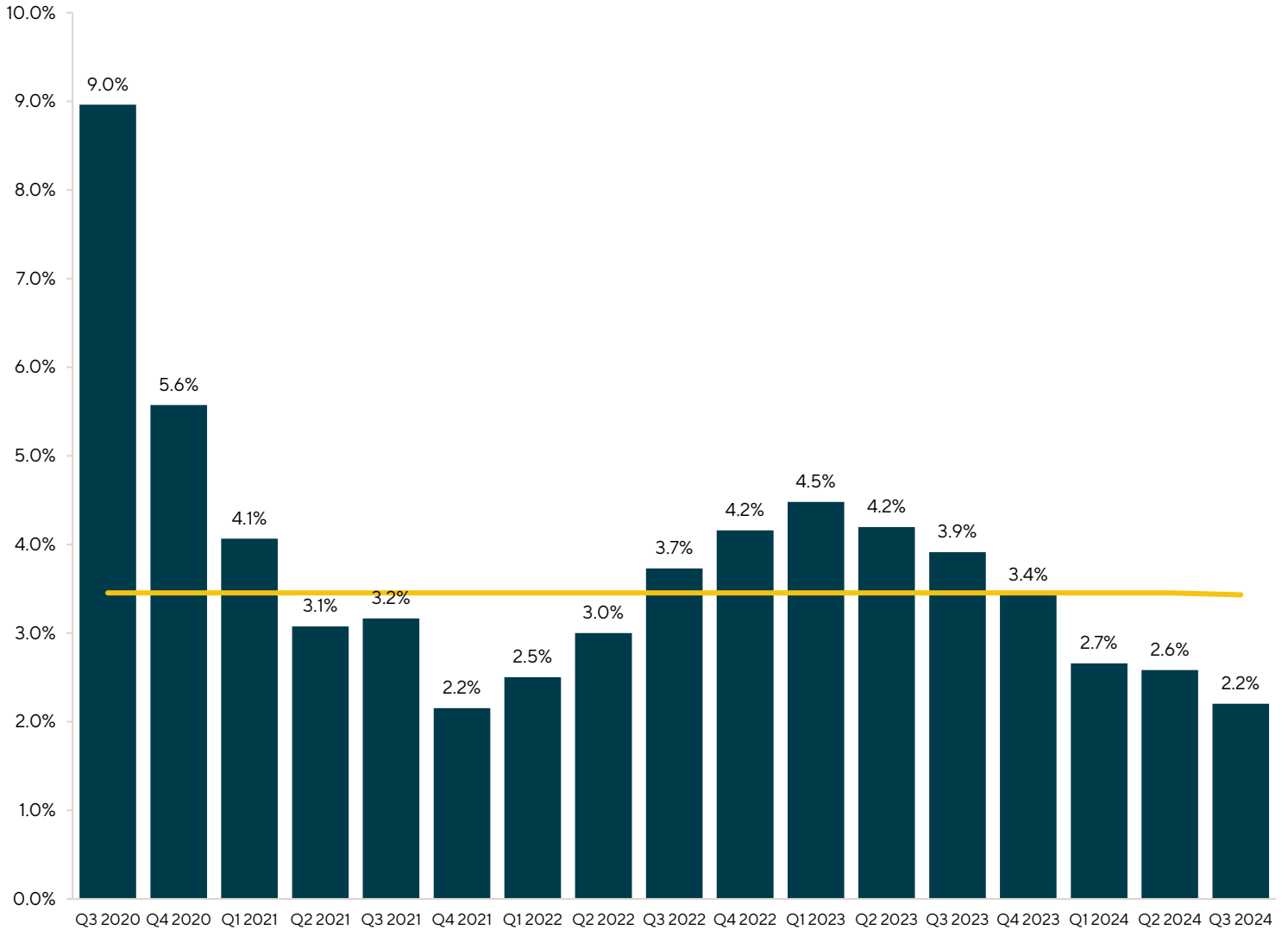
- In keeping with classic corporate finance theory, Lincoln’s observations of yields within the index demonstrate that yields for small companies, as defined as companies having EBITDA values of less than \$30 million, tend to be higher than yields for large companies, as defined as those businesses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

RESULTS: C. Default Rates

Q3

2024

Table 5: Direct Lending Default Experience



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

Observations:

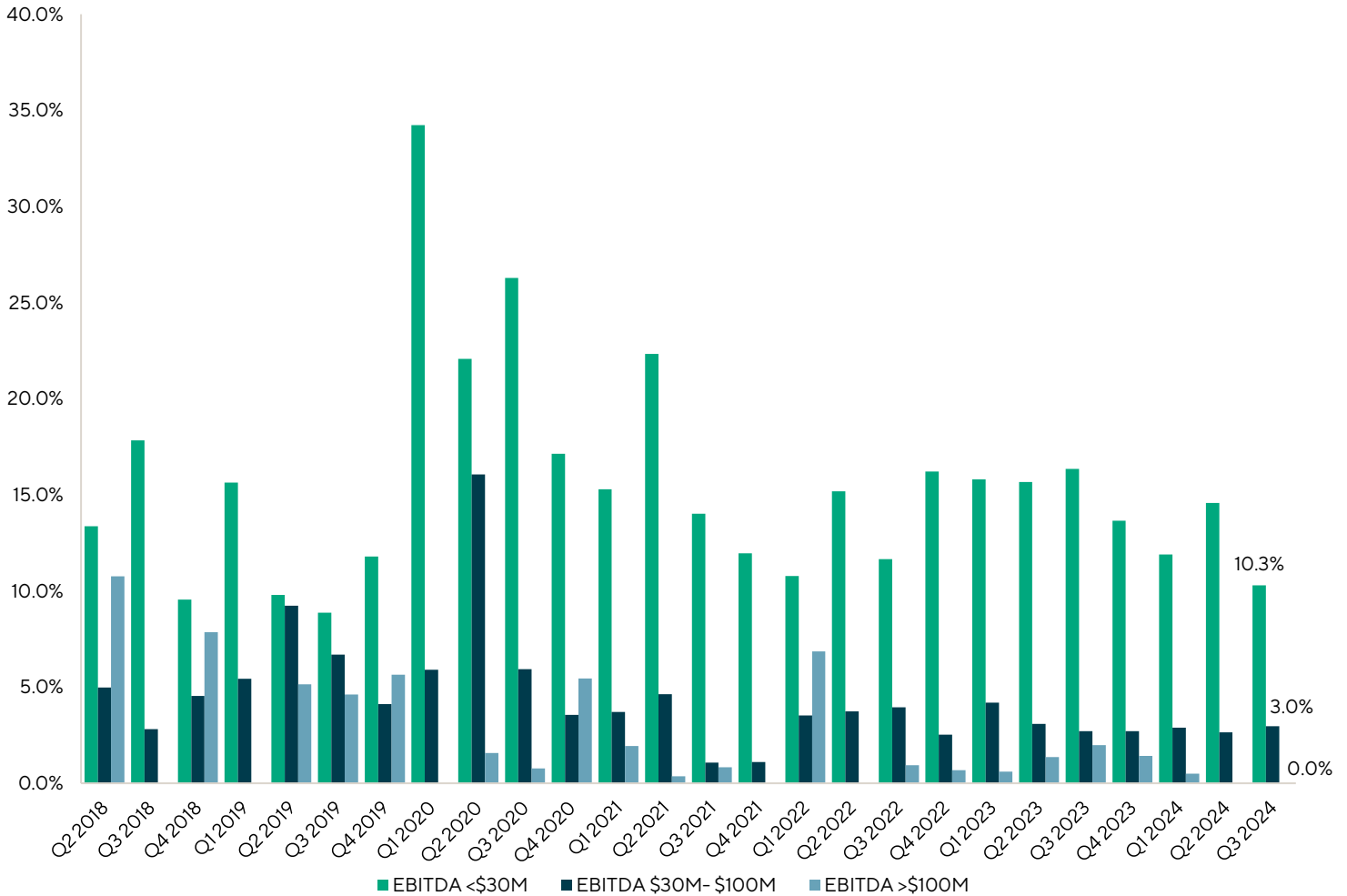
- The beginning of 2024 saw the continued the trend of the decline in default rates, with the observed instance of default decreasing 50 basis points from 3.4% in December 2023 to 2.2% in September 2024. The six quarters of consecutive decline in defaults continues to be the longest run observed since the inception of Lincoln’s Senior Debt Index and demonstrates lenders’ ability to anticipate upcoming defaults within their portfolio companies and react accordingly.

RESULTS: C. Default Rates (cont.)

Q3

2024

Table 6: Direct Lending Default Experience by Size



Source: VOG Private Market Proprietary Data. Data as of: September 30, 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. This can also be attributed to the trend of smaller EBITDA deals being underwritten with tighter covenants.
- Between the second and third quarter of 2024, Lincoln saw decreased instances of default in companies with less than \$30 million in EBITDA, while the rates of default increased for medium-sized companies and remained at approximately zero for large companies. Nevertheless, the gap in default rates between small companies and larger companies persisted and further emphasized the struggle smaller companies were having with managing their debt obligations within the high interest rate environment.

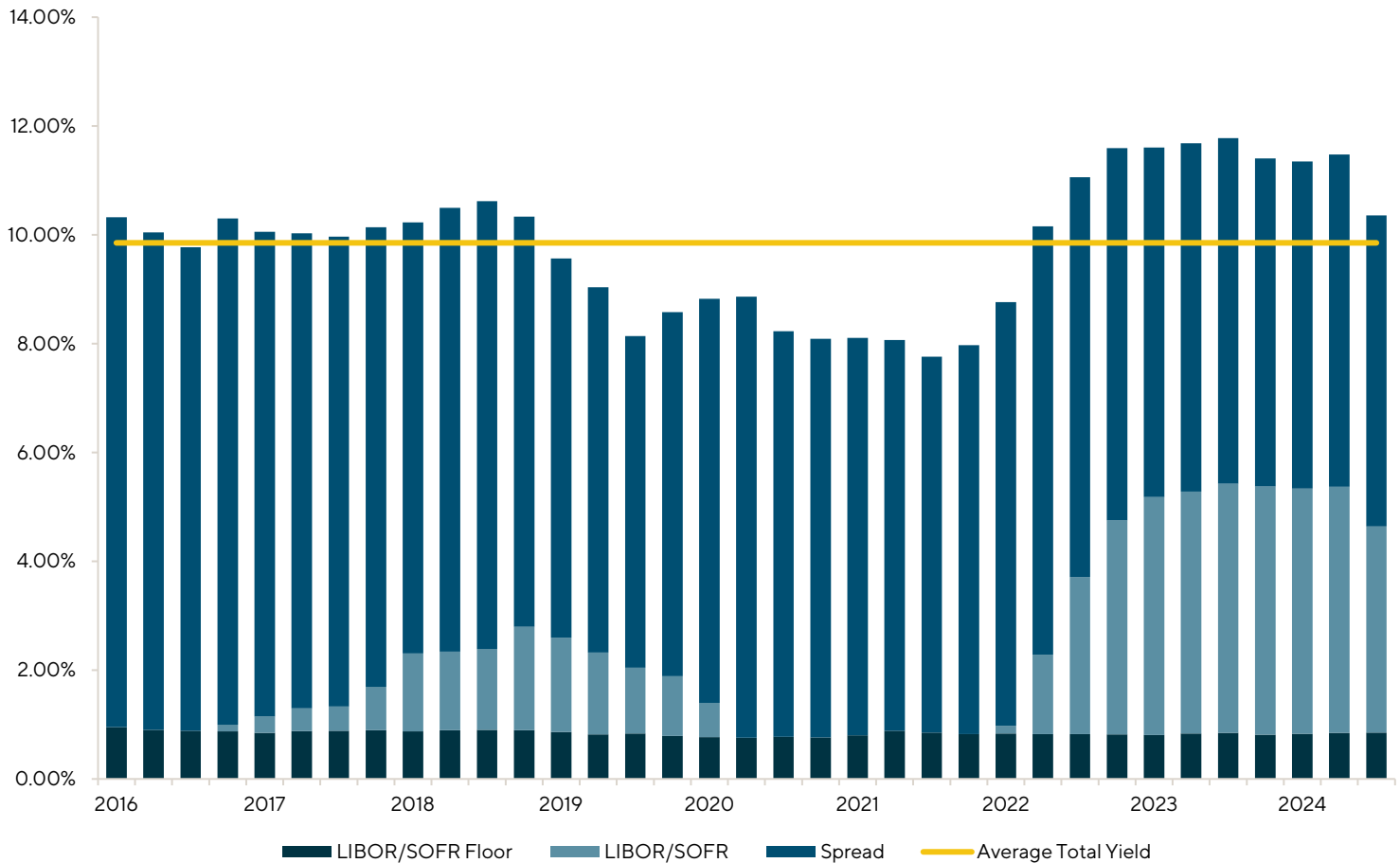
RESULTS:

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

Q3

2024

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



Note: LIBOR/SOFR floor reflects fair value weighted average for each period while LIBOR / SOFR above reflects the extent to which LIBOR / SOFR is above the floor. LIBOR / SOFR reflects the spot rate as of the last day of the quarter.

Observations:

- The average yield of the Lincoln US Senior Debt Index 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 2022 Q2 and 2022 Q3, yields increased as well and have exceeded 11.0% since 2022 Q3.
- Yields over the past quarter have started to decline as SOFR rates have halted their steep increases and have reversed course. SOFR rates that were hovering between 5.3% and 5.4% from mid-2024 through mid-2024 stood at 4.6% at the end of Q3 2024, which remains well above the approximately 2.2% average SOFR rate between 2016 and Q3 2024.
- Spreads through the third quarter of 2024 have been declining since the peak in 2022 given the increased competition seen within the direct lending market.

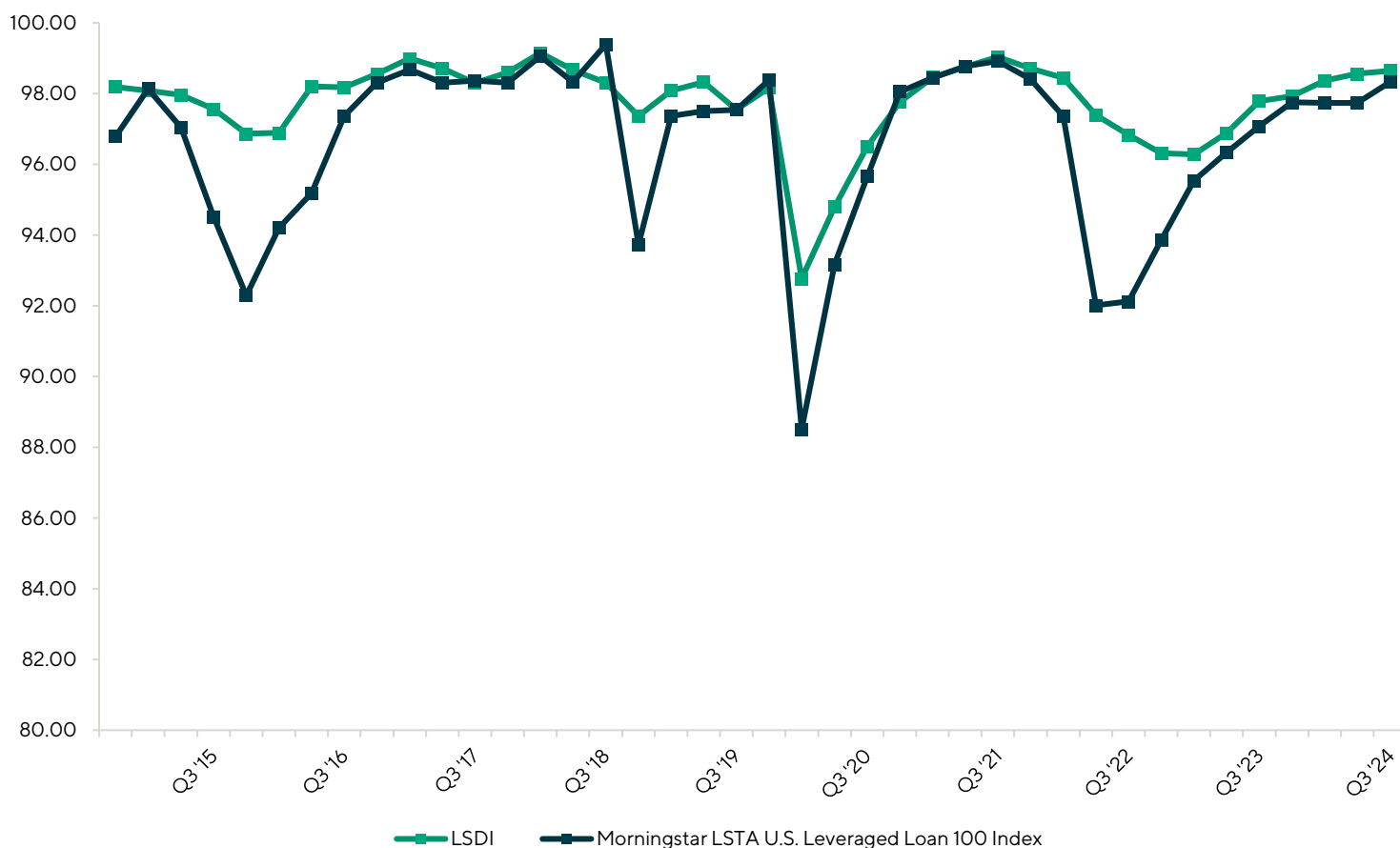
RESULTS:

E. Fair Value – Price – Trends

Q3

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 Senior Debt Index was 98.6 as of September 30, 2024, flat compared to the prior quarter’s price.
- The fair value of 98.6 continued to surpass the historical average price of 97.8. Despite being above average, the fair value as of Q3 2024 was not the highest price seen in the LSDI as that designation belonged to the 99.2 fair value in Q1 of 2018. In contrast, the index saw its lowest point in Q1 of 2020 at 92.7.
- 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.

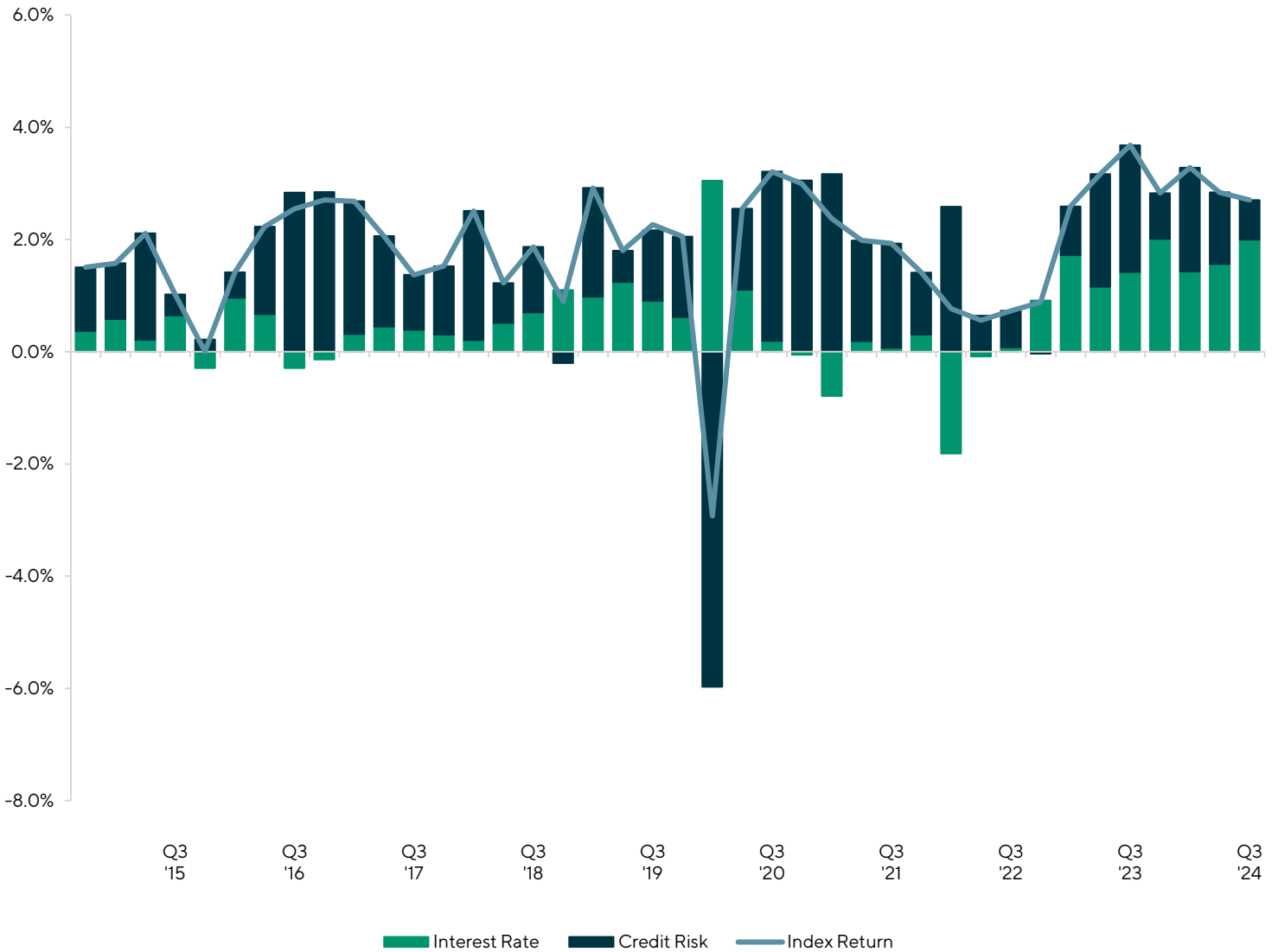
RESULTS:

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

Q3

2024

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



Observations:

- The LSDI returned 2.7% for the third quarter of 2024 versus 2.8% in the second quarter of the year.
- Decomposing the quarterly return of 2.7%, the return was attributable to changes in credit risk and interest rate risk with credit risk accounting for 0.7% of the return and interest rate risk making up the remaining 2.0% of the return. The primary driver of the decline in quarterly return relative to Q2 2024 is the lower credit risk associated with the loans comprising the LSDI as fair value increased.

METHODOLOGY:

Source of Data and Sample Size

Q3

2024

Source of Data and Sample Size

On a quarterly basis, Lincoln determines the enterprise fair value of over 5,500 portfolio companies for approximately 175 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 Senior Debt Index.

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:

Q3 2024 Lincoln Senior Debt Index

- From 2014 through September 30, 2024, a portfolio of direct lending loans has yielded higher returns and lower volatility relative to broadly syndicated loans.
- The Lincoln US Senior Debt Index provides market participants 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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