LINCOLN INTERNATIONAL

Q2
2022

LSDI

LINCOLN SENIOR DEBT INDEX

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, Chicago Board of Trade Professor of Finance at the University of Chicago, Booth School of Business. "Increasing spreads and interest rates had a chilling effect on the loan market. Quarterly returns of the LSDI were only 60 basis points, one of the lowest quarterly returns since the inception of the LSDI in 2014. Regardless, quarterly returns within the direct lending market were significantly higher than the broadly syndicated loan market which experienced a loss of 5.3% as measured by the Morningstar LSTA U.S. Leveraged Loan 100 Index," said Professor Veronesi.

In addition, we provide additional descriptive statistics including: (a) loan-to-value, (b) the impact of interest rate and credit changes on total return, (c) the results of stress testing spread changes in the current and subsequent quarters and, (d) default rates.

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

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

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

- All senior loans – consisting of first lien, unitranche and second lien loans;
- Senior loans consisting of first lien and unitranche loans; and,
- Second lien loans.

The U.S. non-investment grade corporate loan market has two segments: the broadly syndicated loan (BSL) market, which attracts larger companies (i.e., as an approximation companies with EBITDA greater than $100 million) and direct lending market (i.e., companies less than $100 million of EBITDA). 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 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.

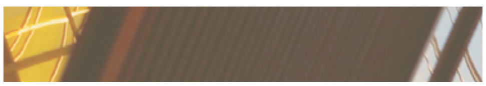
The direct lending market is a significant source of capital to private equity backed middle market companies. The LSDI benefits market participants by providing information to facilitate a greater understanding of the attributes of this important source of capital to the private sector.

How We Obtain the Information

On a quarterly basis, Lincoln values more than 3,500 private companies primarily owned by more than 125 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 BDCs and other private investment vehicles and, therefore, not disclosed in public filings.

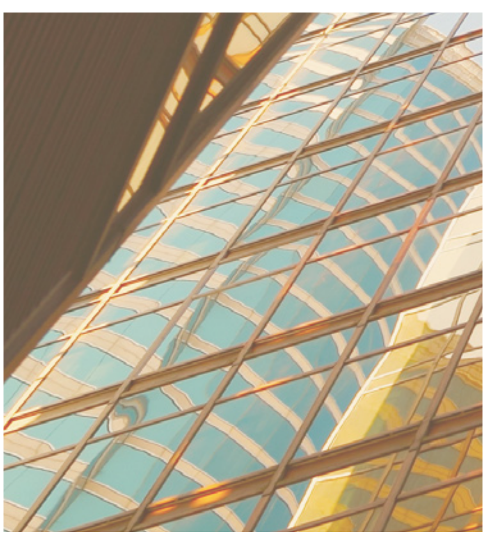
For many of the private companies valued quarterly, Lincoln advises on the fair value of at least one senior debt security in the capital structure. All valuations conform with GAAP and fair value principles and have been reviewed by fund management, fund boards, limited partners and auditors.

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



98.4

Average Fair Value of Loans in the Index as of Q2 2022



LINCOLN SENIOR DEBT INDEX – KEY OBSERVATIONS – ALL LOANS – SECOND QUARTER 2022

- Rising spreads and yields – the two primary risks in this asset class are interest rate risk and credit risk. For the quarter ending June 30, 2022, yields of the LSDI increased to 10.2%, up significantly from 8.8% for the quarter ending March 31, 2022. Similarly LSDI spreads increased to 7.1% from 6.2% a quarter earlier.
- Positive credit fundamentals offset negative returns - consistent with our findings from the Lincoln Private Market Index (Lincoln PMI) which reported an increase in earnings quarter-over-quarter, the LSDI also reported positive earnings growth which offset losses due to interest rate and spread widening resulting in an increase of 0.6% for the LSDI.
- Lower priced fluctuations in the private credit market - while prices in both the syndicated loan market and direct lending market declined, the price decline of the LSDI was only $1.05 to 97.4 whereas the broadly syndicated loan market declined by $5.44 to 92.2. It continues to be our observation that price and return volatility is much lower in the direct lending market relative to the broadly syndicated loan market.
- Direct lending loans have yielded on average a 4.1% positive yield premium - as compared to yields for loans within the Morningstar LSTA U.S. Leveraged Loan 100 Index.
- Positive earnings performance - the LSDI positive corporate earnings performance was consistent with our findings from our Lincoln PMI (our enterprise value fair value index). For more information on the LPMI visit "An Overview of the Lincoln Private Market Index" on **Lincoln's web site.**

RESULTS:
Total Returns

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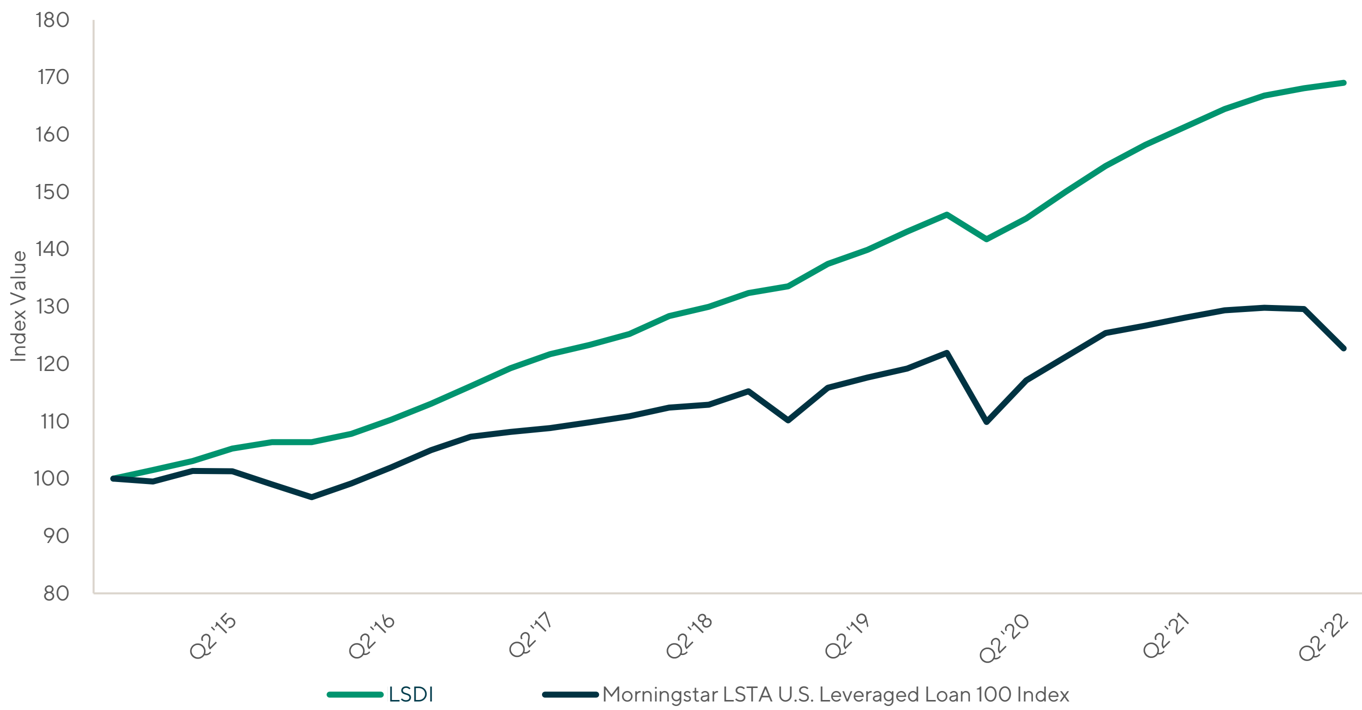
Comparison of Total Return – LSDI (All Loans) to Morningstar LSTA U.S. Leveraged Loan 100 Index



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 U.S. Leveraged Loan 100 Index, which measures the performance of the BSL market and the direct lending market have experienced an increase in total return. While returns in the broadly syndicated loan market experienced a loss of 5.3% due to rising interest rates and spreads, the LSDI returned 0.6% due to substantially higher yields generated by direct lending loans relative to broadly syndicated loans.
- Given the likelihood of rising interest rates and the negative impact on value, we expect returns to remain positive, but lower than historical periods where interest rates were declining.
- Given the higher cost of debt for middle market direct lending loans versus loans in the BSL market, yields are significantly greater in the direct lending market, accounting for the LSDI generating a total return higher than the BSL market

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RESULTS:

Total Returns (cont.)

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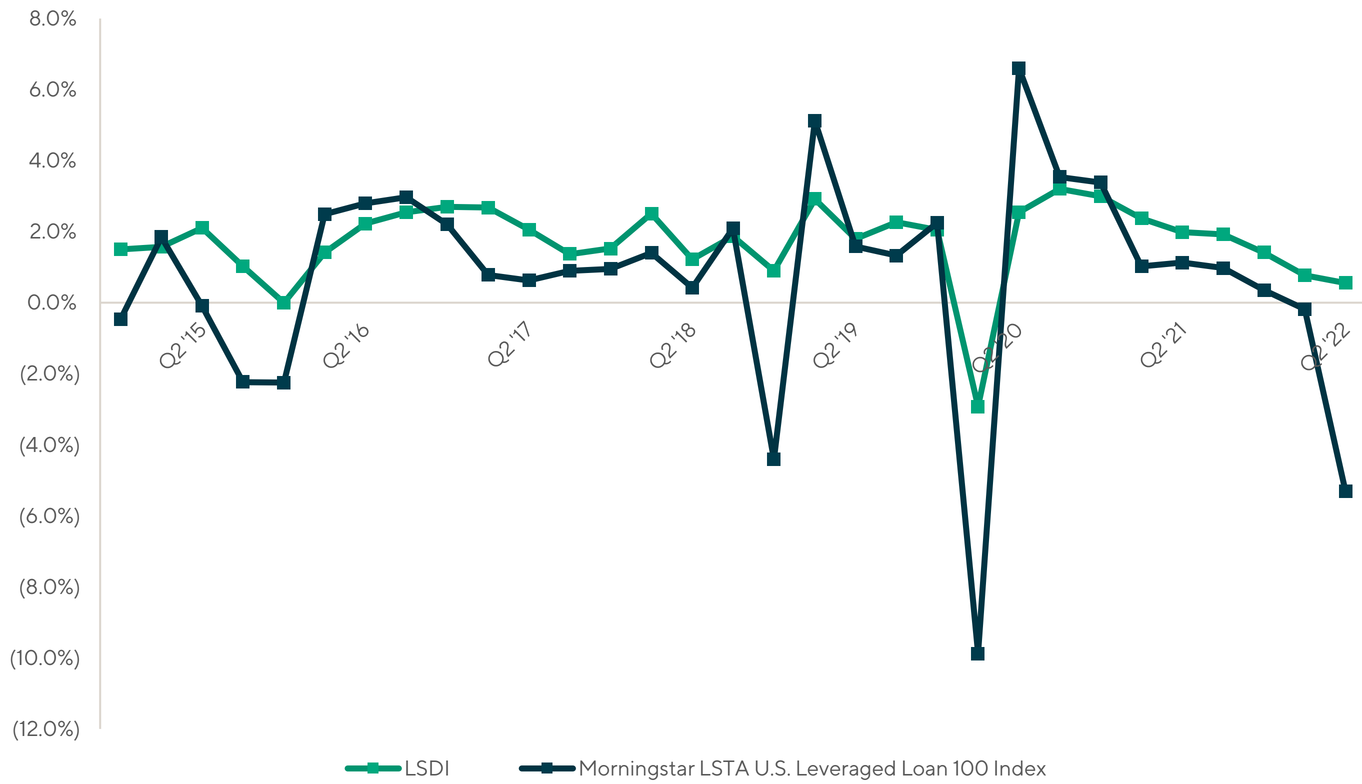
Correlation and Comparison of Quarterly Returns – Lincoln Senior Debt Index (All Loans) to Broadly Syndicated Loan Market



Observations:

- While the correlation between the Senior Lending Index and Morningstar U.S. LSTA Leveraged Loan 100 Index is high at approximately 85%:
  - the LSDI is significantly less volatile; while,
  - generating higher returns; and,
  - rarely experience negative returns.
- The direct lending market experiences negative returns much less frequently than the BSL market, given its higher yields.
  - Since the inception of the LSDI in Q3 2014 to Q2 2022, only Q1 2020 reported a negative quarterly return whereas the BSL market has experienced eight quarters of negative returns.

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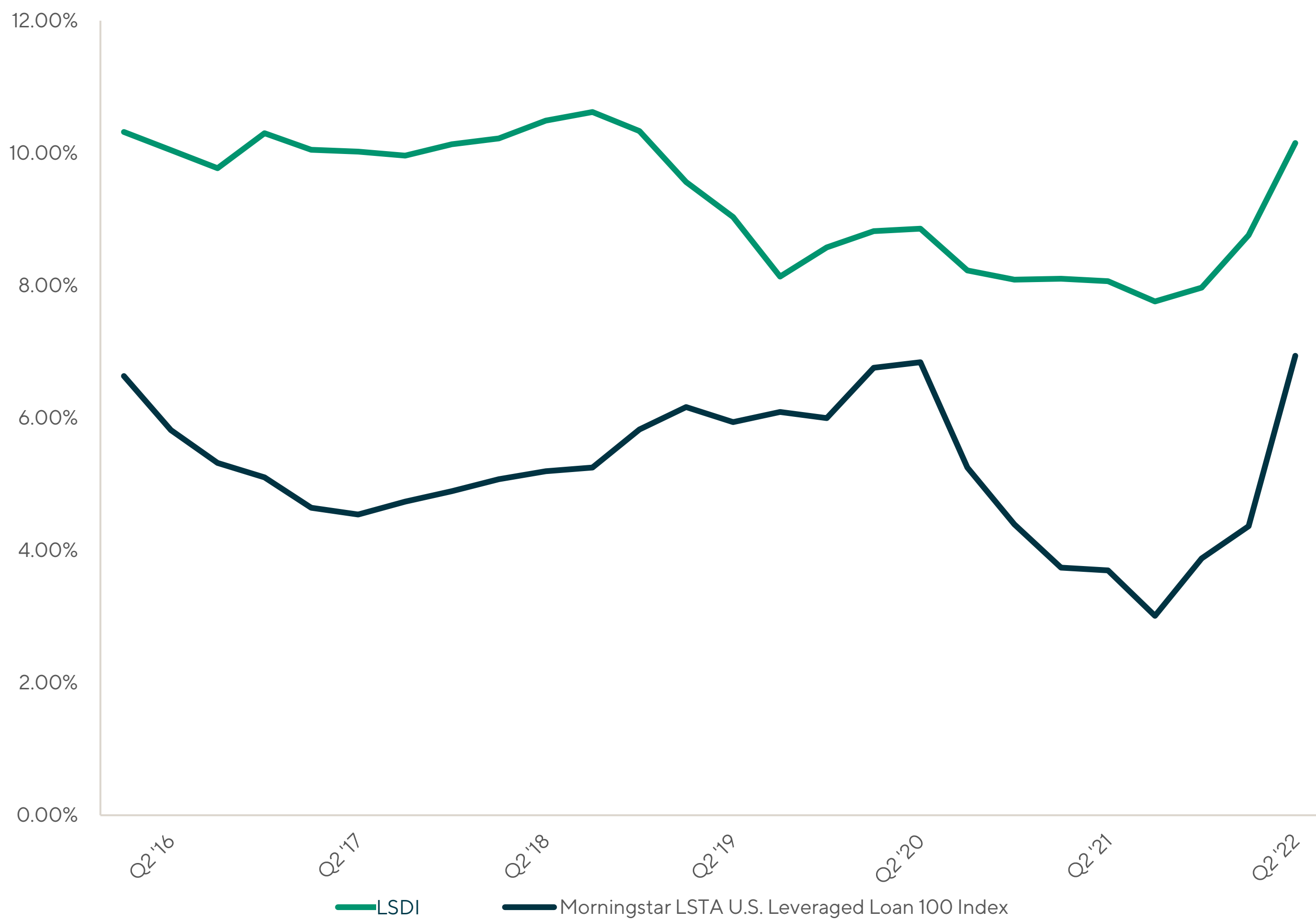
Comparison of Yields – Lincoln Senior Debt Index (All Loans) to Broadly Syndicated Loan Market



Observations:

- Since inception of the index, the average yield of the LSDI has been approximately 9.3%.
- Due to rising interest rates, the yield of the LSDI was 10.2% in the second quarter of 2022 a significant increase from 8.8% as of the first quarter of 2022.
- Over time, loans in the direct lending market yield approximately 4.0% to 5.0% more than broadly syndicated loans.

RESULTS:

Decomposing Yields in the Direct Lending Market – LIBOR Floors and Spreads

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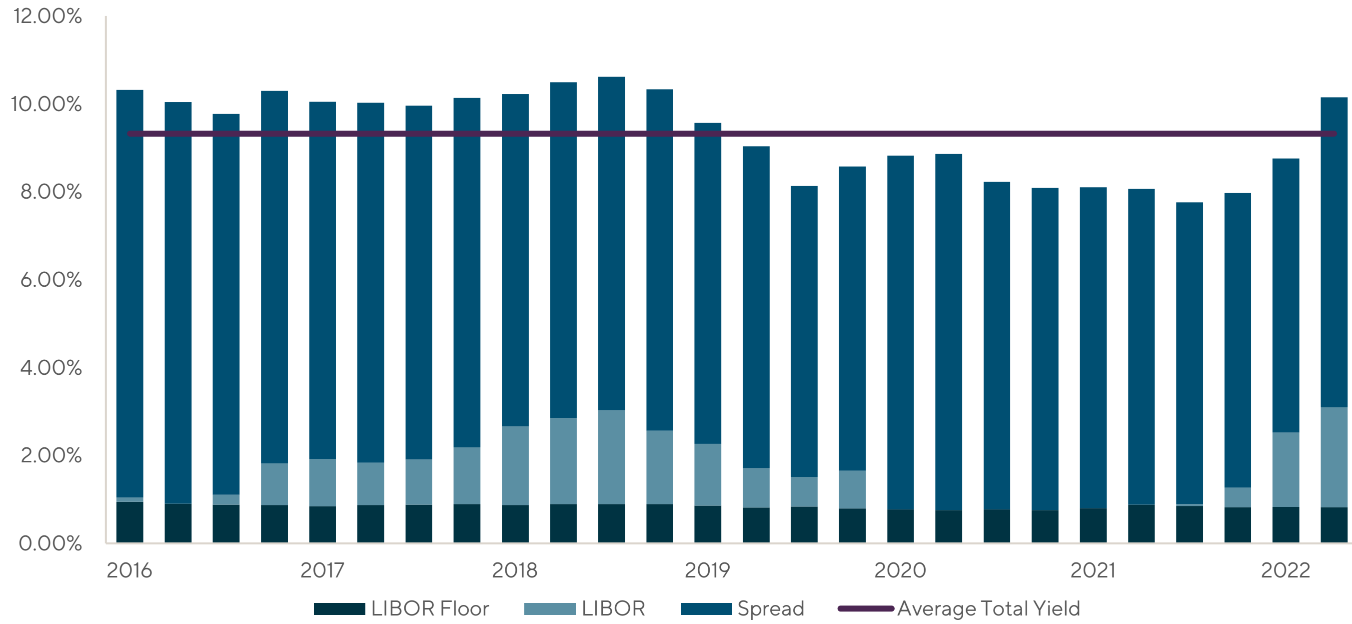
Decomposing Yield – LIBOR, LIBOR Floors and Spreads – All Loans



Note: LIBOR Floor reflects weighted average for each period while LIBOR reflects the extent to which LIBOR was above the floor

Observations:

- The average yield of the LSDI has been approximately 9.3%.
- While the average yield in the direct lending market has remained in a band between 8.0% and 10.5%, the components of the yield vary as LIBOR and spreads change.
- As the LIBOR curve continued to steepen in the second quarter of 2022, rising interest rates and spreads resulted in yields of 10.2% the highest yield since Q4 2018.
- The increase in yields to 10.2% in Q2 2022 from 8.8% in Q1 2022 was the second largest increase since inception of the LSDI.
- In the direct lending market, the change in spreads has a greater impact on the fair value of a loan versus changes in LIBOR. As direct lending loans are based on a floating rate, LIBOR, from a valuation point of view, the loan's discounted cash flow model contains LIBOR in the numerator and denominator, thus canceling each other out. However, the numerator is LIBOR plus the contractual spread, whereas the denominator is LIBOR plus the market required spread – the fair value spread. Therefore, it is the change in the denominator or credit spread that positively or negatively impacts fair value.

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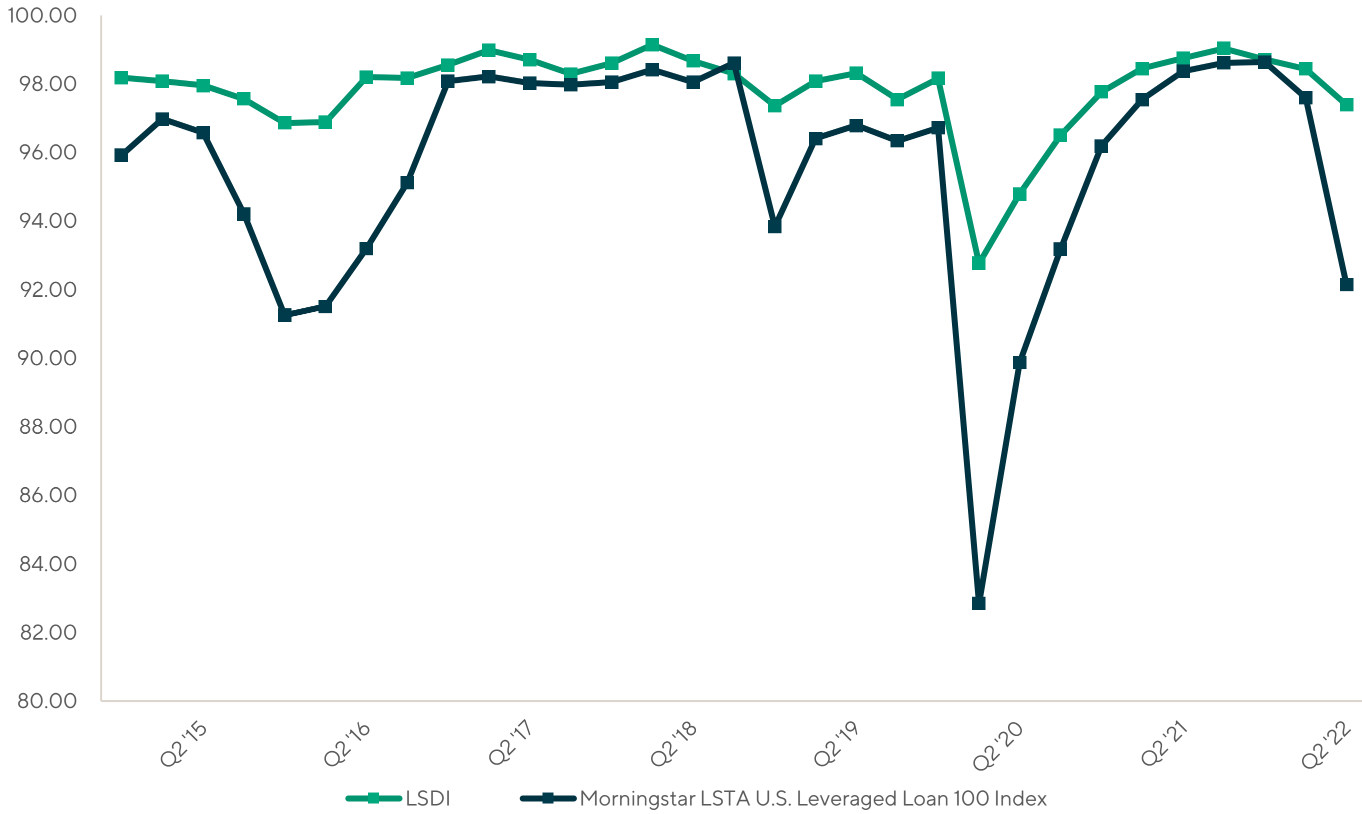
Fair Value – Lincoln Senior Debt Index (All Loans) Compared to the Morningstar LSTA U.S. Leveraged Loan 100 Index



Note: Price based on fair value of the Lincoln Senior Debt Index and average bid of the Morningstar LSTA U.S. Leveraged Loan 100 Index

Observations:

- The LSDI was 97.4 as of June 30, 2022 versus 98.4% as of March 31, 2021.
- Over time, prices, on a fair value basis, have ranged between 97.0 to 99.0 for the LSDI
- There are several reasons for this 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:

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

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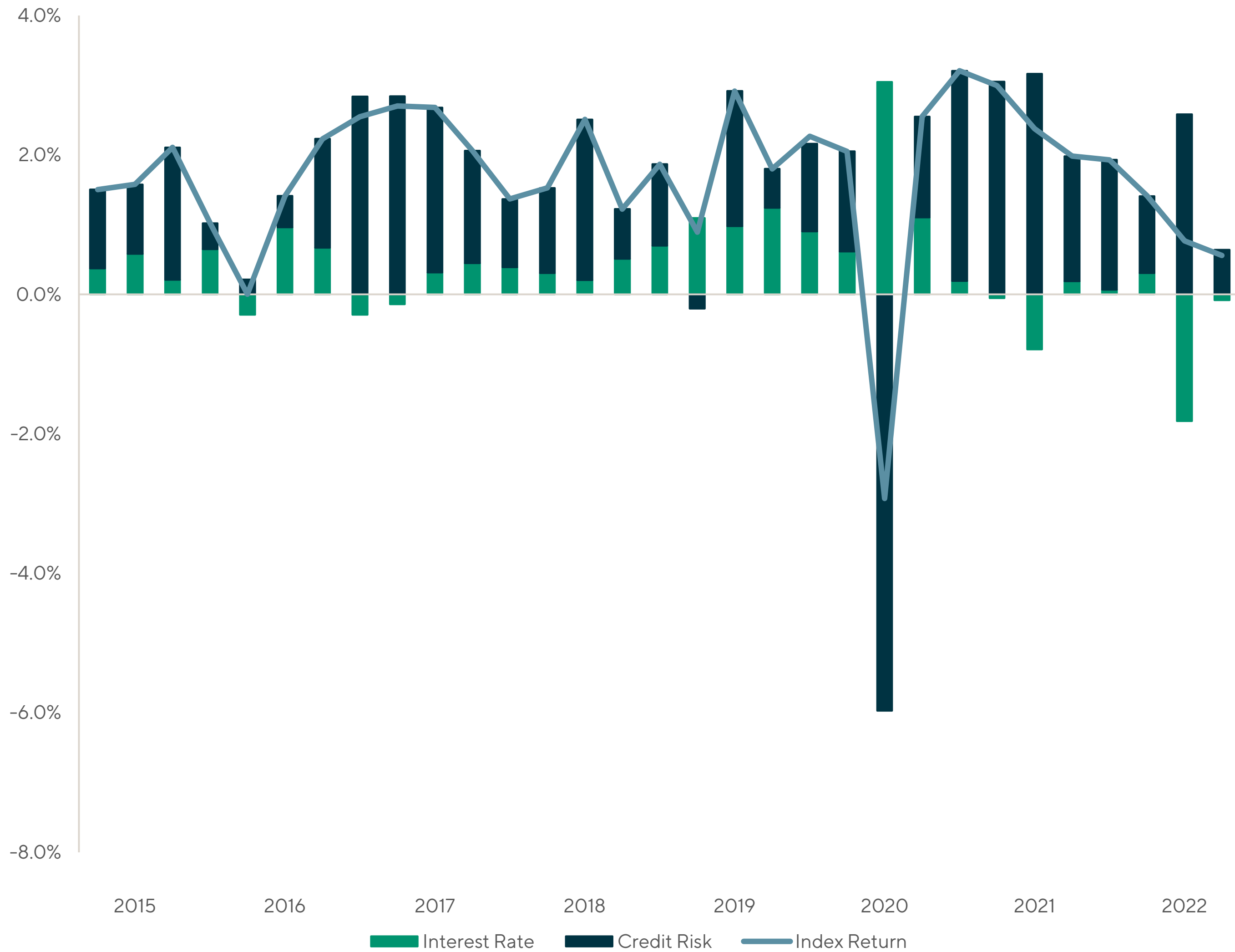
Decomposition of Index Returns: Interest Rate versus Credit Risk



Observations:

- The LSDI quarterly return was 0.6%, the lowest return (excluding the COVID-19 quarter of Q1 2020) since the fourth quarter of 2015.
- The increase in the LSDI return is due to improvements in credit of 0.6% offset by a loss of (0.1)% return due to interest rate risk caused by increasing interest rates (differences due to rounding).

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RESULTS:
Spread Sensitivity

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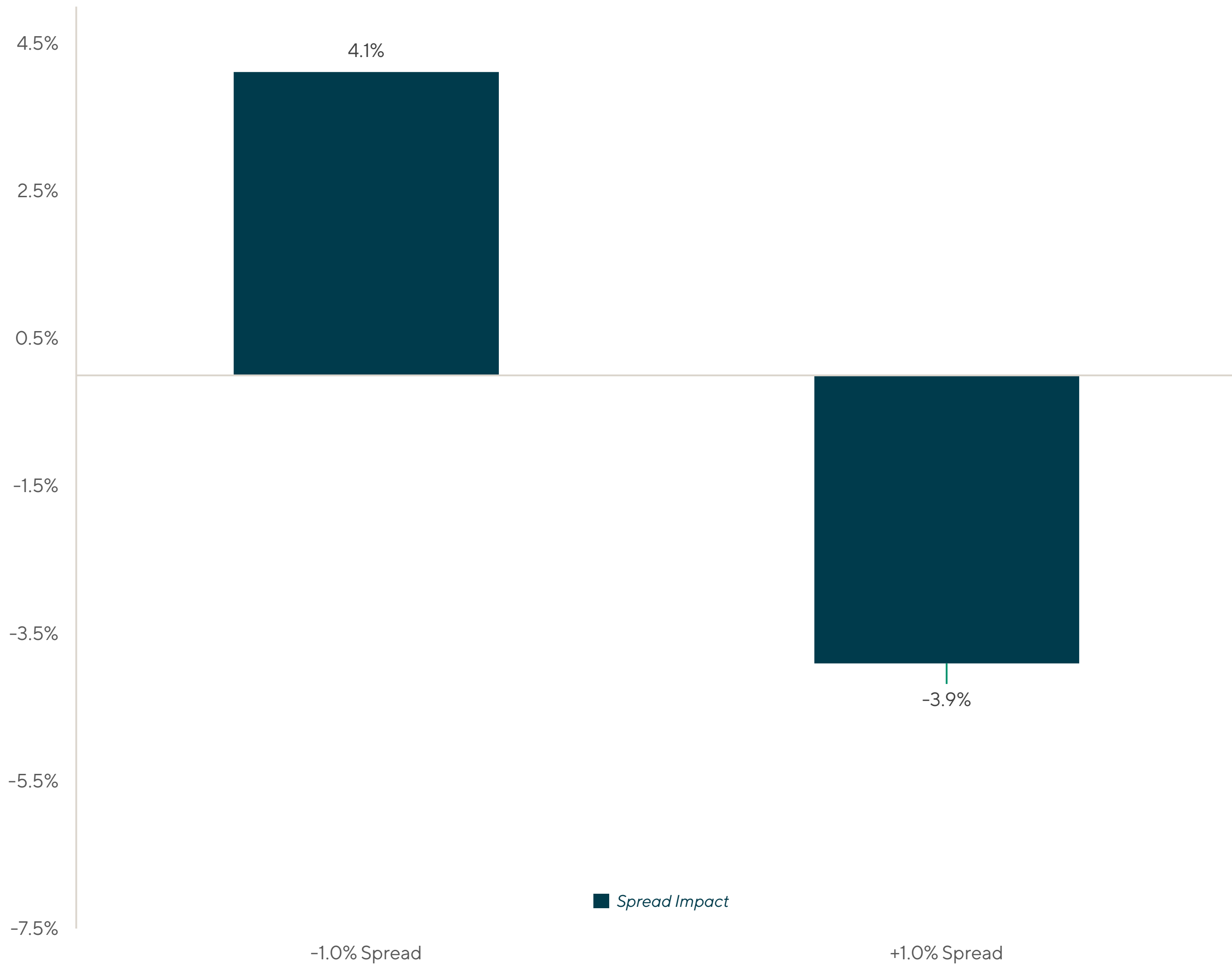
Q2 2022 Lincoln Senior Debt Index Spread Sensitivity



Observations:

- Measuring the immediate impact on total returns, as of June 30, 2022, a 1.0% increase in spreads would decrease the value of the LSDI by 3.9%. Conversely, the impact from a 1.0% decline in spreads would have increased the LSDI by 4.1%.

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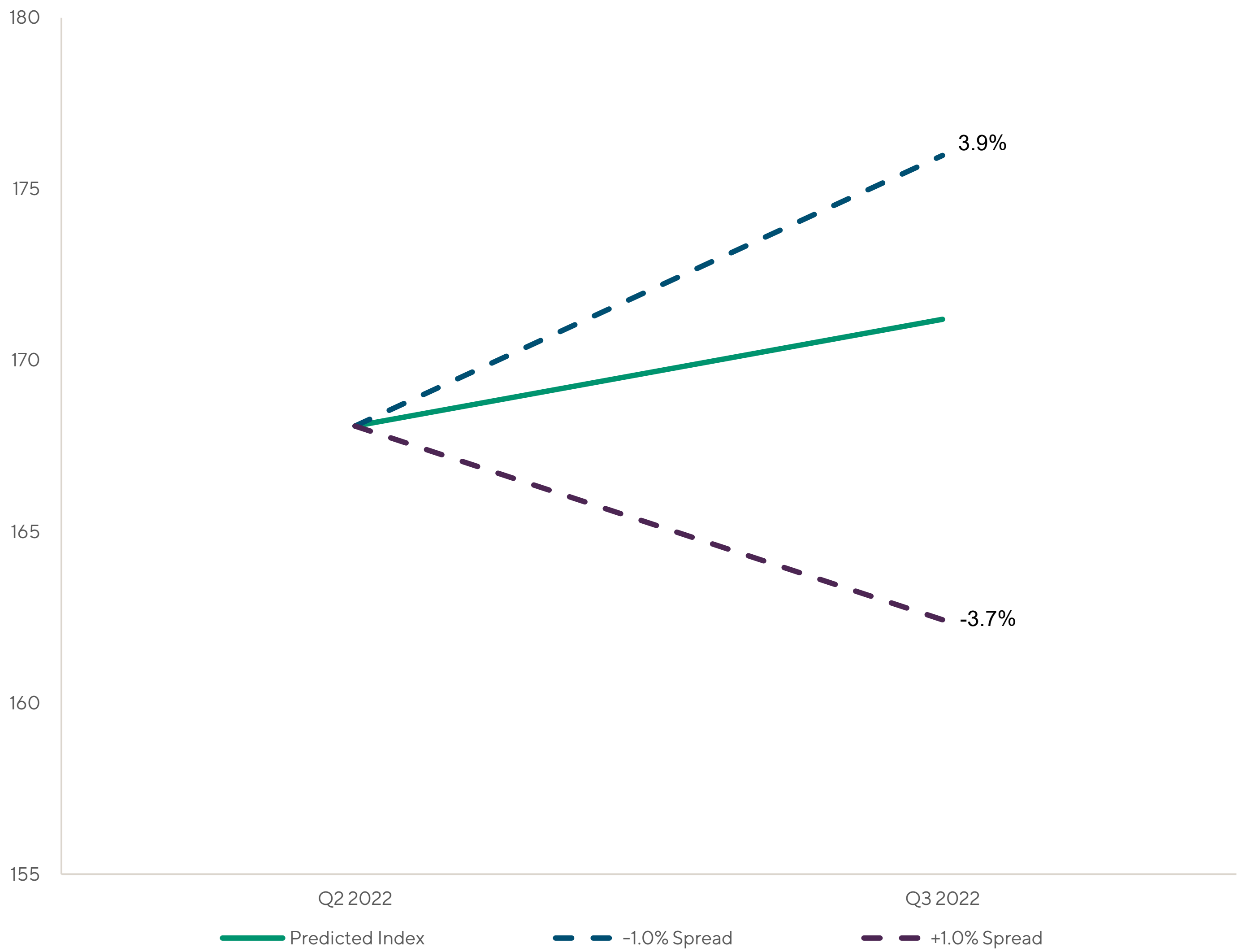
RESULTS:
Spread Sensitivity (cont.)

Projected Q3 2022 Lincoln Senior Debt Index Spread Sensitivity



Observations:

- Measuring the impact on total returns as of the next quarter, if LIBOR remains unchanged between June 30, 2022 and September 30, 2022, a 1.0% increase in spreads would decrease the predicted value of the LSDI by 3.7%. Conversely, the predicted impact from a 1.0% decrease in spreads would be an increase of 3.9%.

RESULTS:
Default Rates

Direct Lending Default Experience

Date	Size Weighted Defaults	
Quarter	Default	Compliant
Q4 2019	5.4%	94.6%
Q1 2020	5.0%	95.0%
Q2 2020	9.4%	90.6%
Q3 2020	9.0%	91.0%
Q4 2020	5.6%	94.4%
Q1 2021	4.1%	95.9%
Q2 2021	3.1%	96.9%
Q3 2021	3.2%	96.8%
Q4 2021	2.2%	97.8%
Q1 2022	2.5%	97.5%
Q2 2022	3.0%	97.0%
Average Q1 2021 to Q1 2022		**3.0%**
Average Q4 2019 to Q2 2022		**4.8%**

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

Observations:

- Since Q4 2019 the average default rate has been 4.8%.
- Default rates for Q2 2022 increase 0.5% to 3.0%.

SUMMARY:
Q2 2022 Lincoln Senior Debt Index

- From 2014 through June 30, 2022 a portfolio of direct lending loans has yielded higher returns and lower volatility relative to broadly syndicated loans.
- The LSDI 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.

Source of Data and Sample Size

On a quarterly basis, Lincoln determines the enterprise fair value of over 3,500 portfolio companies for approximately 125 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.

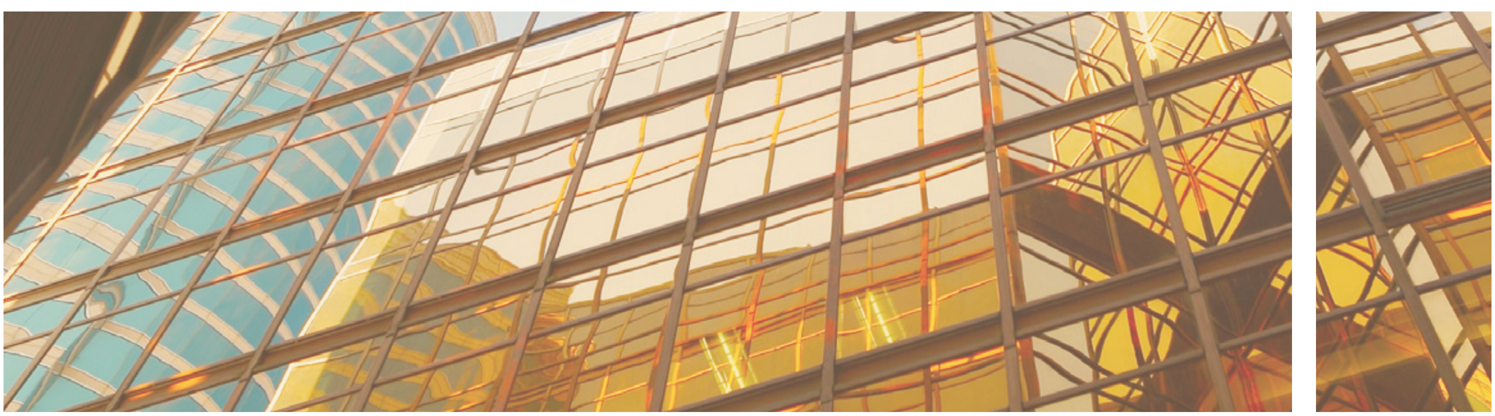
Additional information about the methodology of the LSDI can be found at: **https://www.lincolninternational.com/perspectives/an-overview-of-the-lincoln-senior-debt-index/**

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.



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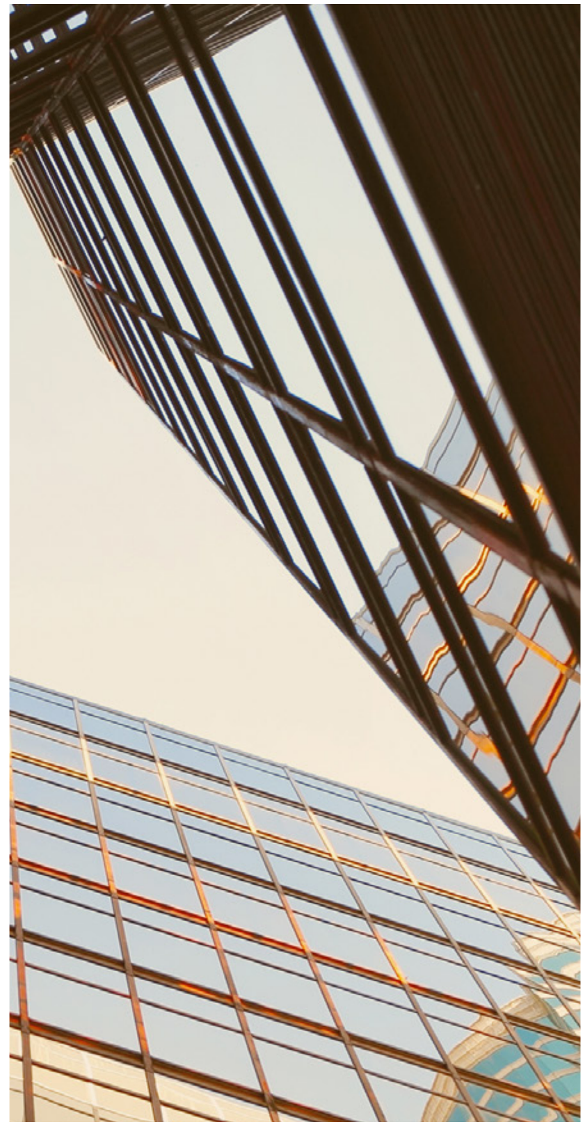
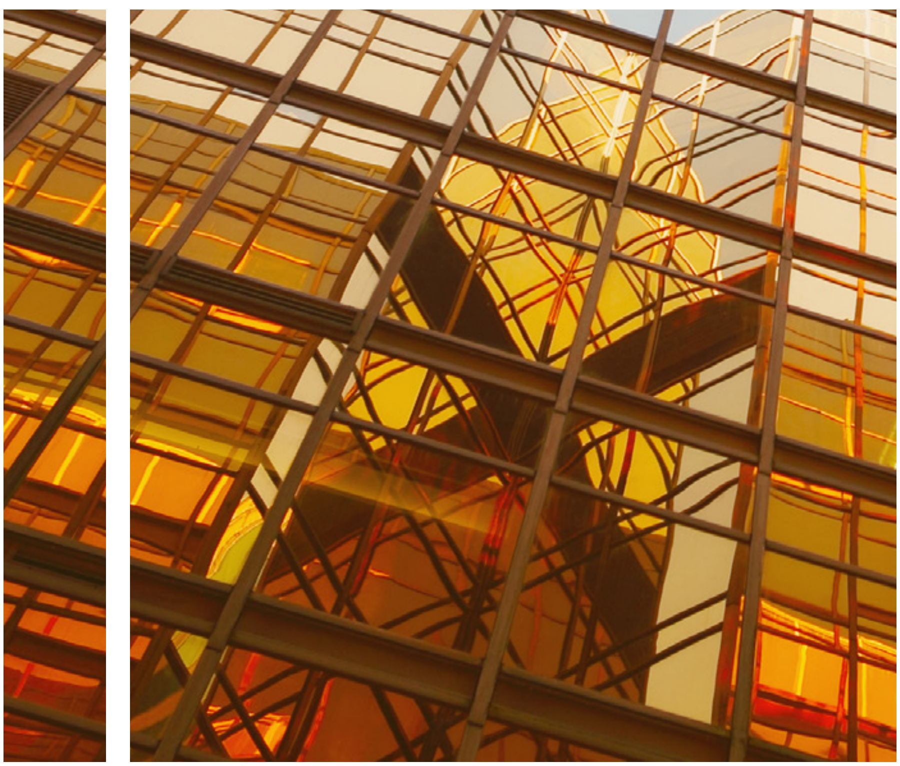
Lincoln's Valuations & Opinions Group is a leading independent valuation advisor to managers of illiquid assets and lenders to alternative assets funds. The group specializes in the valuation of illiquid debt, equity and derivative securities. Additionally, they provide independent fairness, solvency and other transaction opinions for a variety of corporate transactions for both public and private companies.

The firm's Valuations & Opinions Group is widely recognized for leveraging Lincoln's "real world" transaction experience from its mergers and acquisitions and debt advisory practices to assist its clients in the determination of fair value. Lincoln's highly skilled professionals have extensive experience in determining and supporting fair value measurements for traditional and complex securities.





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