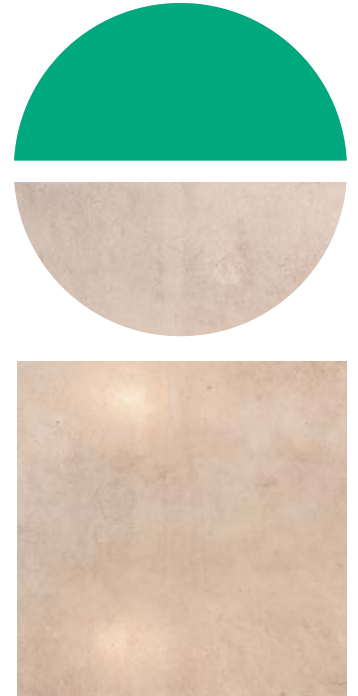




#### **INSIDE THIS ISSUE**

- Quarterly Overview
- Private Middle Market Company Value Results
- Performance by Industry: Sector Breakdown
- Examining the LMMI: EBITDA Multiples vs. Earnings
- Summary of the LMMI
- Methodology: Data Collection and Academic Advisors



## THE LINCOLN MIDDLE MARKET INDEX DEMONSTRATES THAT PRIVATE MIDDLE COMPANIES GENERATED GREATER EQUITY RETURNS THAN THE S&P IN VOLATILE Q4 2018

Lincoln International's sixth edition of the Lincoln Middle Market Index (Lincoln MMI) reveals that in Q4 2018, middle market enterprise values decreased 2.2%, compared to a 12.5% decrease for enterprise values of S&P 500 companies. The equity values of middle market companies in the Lincoln MMI decreased 4.8%, compared to a decrease in the S&P 500 of 14.0%.

### About the Lincoln Middle Market Index

The Lincoln MMI is a first-of-its-kind index measuring changes in the enterprise and equity values of private middle market companies over time - and a barometer of the performance of private middle market companies generally. The Lincoln MMI enables private equity firms and other investors to benchmark how private company investments are performing against peers, and how this performance correlates to the S&P 500.

Lincoln designed the Lincoln MMI to solve this problem by measuring the quarterly change in enterprise values for private middle market companies primarily owned by private equity firms. Enterprise value (EV) is the sum of a company's equity value and debt. Lincoln expanded the Lincoln MMI to measure changes in equity value so as to enhance investors' insight into the equity return performance of the middle market.

## QUARTERLY OVERVIEW

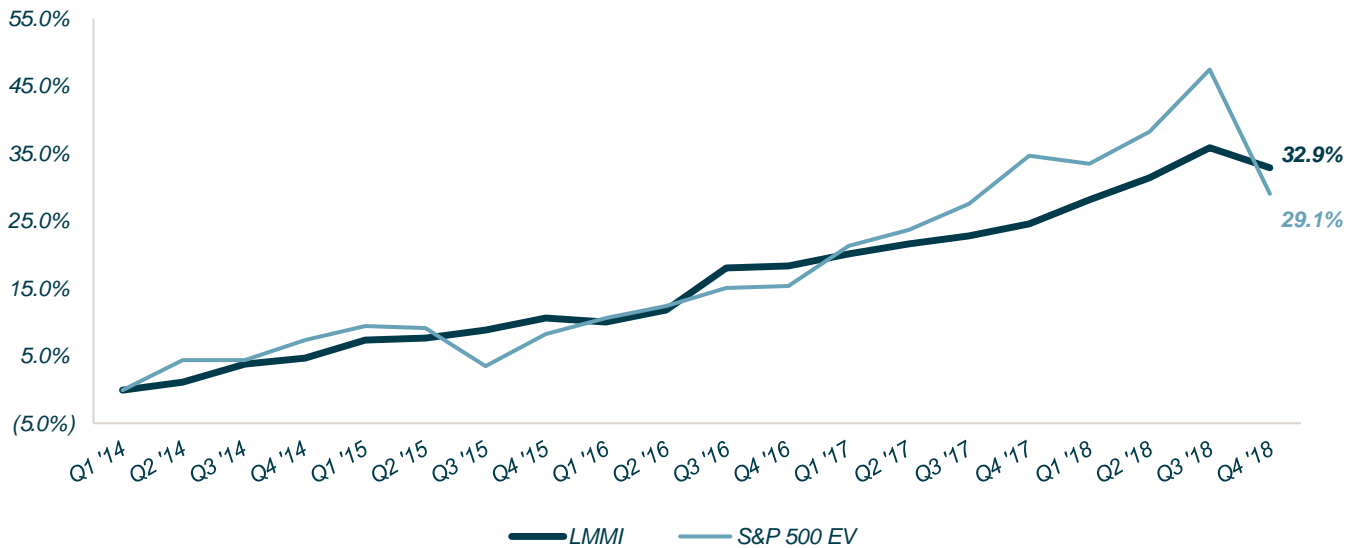
- Sixth Edition: Covers Q4 2018
- Measures quarterly changes in the enterprise values of over 425 middle market companies, based on a population of over 1,400 companies primarily owned by private equity firms
- Analyzes the impact from the change in company earnings versus market valuation multiples
- Assess the change in value for six industry sectors
- Expanded in Q1 2019 to also measure changes in equity value of middle market companies

## RESULTS:

# Smaller Company Value Declines in Private Middle Market Compared to S&P 500

Q4

2018



**NOTE:** Both the Lincoln MMI and S&P 500 EV returns above reflect enterprise values) (S&P 500 EV excludes financial companies for which enterprise value is generally not meaningful; including such companies produces qualitatively similar results)

# 6.2%

Compound annual growth rate for the Lincoln MMI since inception

Starting at a value of 10,000 as of March 31, 2014, the Lincoln MMI increased by 32.9% cumulatively to 13,294, as of December 31, 2018.

- The Lincoln MMI grew at a compound annual growth rate of 6.2% since inception as compared to 5.5% for the enterprise values of the S&P 500.
- Over the past year, the Lincoln MMI increased by 6.7% whereas enterprise values of the S&P 500 decreased by 4.2% as a result of volatility in Q4 2018.
- The Lincoln MMI shows that middle market enterprise values remain less volatile than those of the S&P 500
  - The Lincoln MMI's volatility is approximately half that of the S&P 500 EV index.
- As a result of significant declines in public market valuations in Q4 2018, the Lincoln MMI has outperformed the S&P 500 EV index since inception.
- Neither index reflects the public market's strong rebound of January and February 2019.

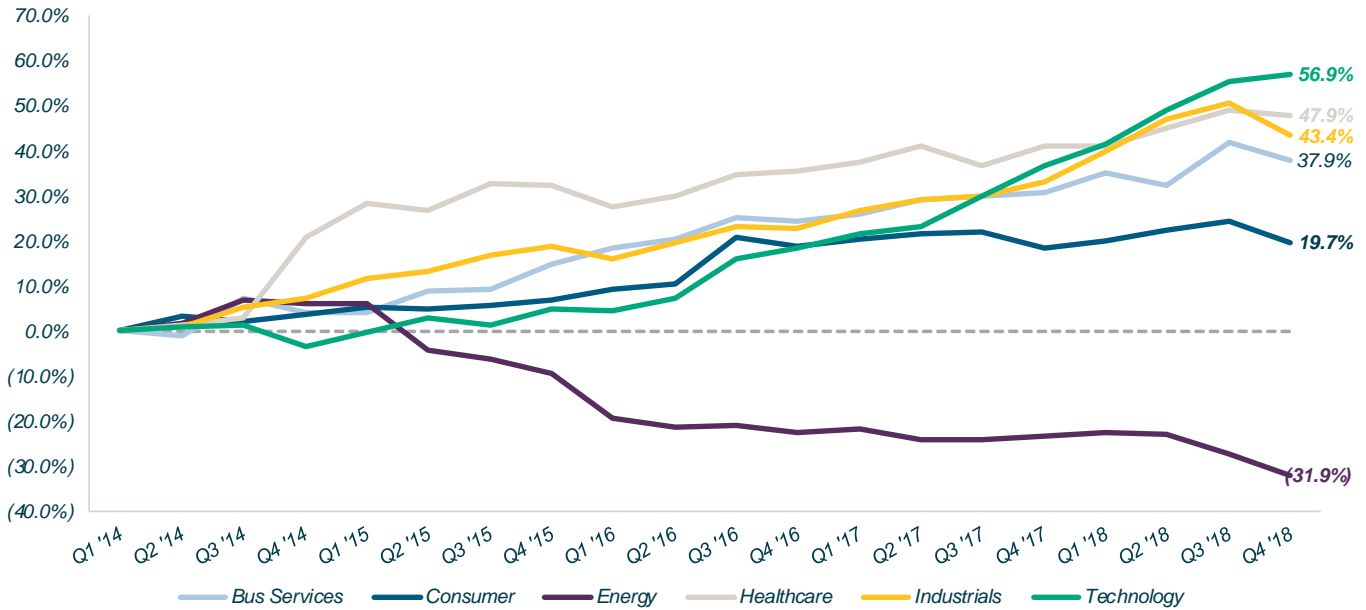


## SECTOR BREAKDOWN:

# Performance by Industry – Technology Significantly Outperforms Other Sectors

Q4

2018



# 14.7%

Value increase for technology companies in Q4 2018

The technology segment remains the top performing segment over the last year, increasing by 14.7% in 2018. It was the only segment to increase in value in Q4 2018. Energy has seen the largest decline on a quarterly and yearly basis as a result of commodity price volatility as well as regulatory concerns for renewable energy companies.

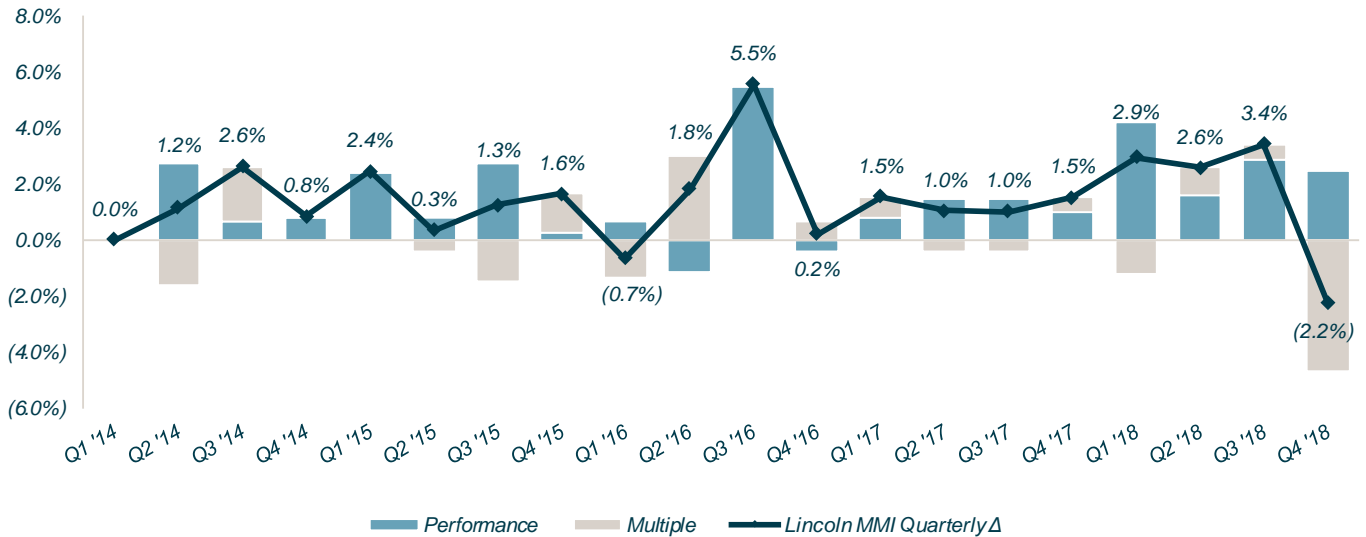
Whereas industrial companies were the highest performers through the first three quarters of 2018, the sector declined in Q4 2018. Industrial companies experienced the second largest decline in value in Q4 2018, potentially reflecting macroeconomic concerns around tariffs and trade issues.

Persistent softness in retail as well as tariff concerns and weaker restaurant sales may have contributed to the lagging performance of consumer companies.

# EXAMINING THE LINCOLN MMI: EBITDA Multiples versus Earnings

Q4

2018



10%

Expansion of Lincoln MMI valuation multiples since Q1 2014

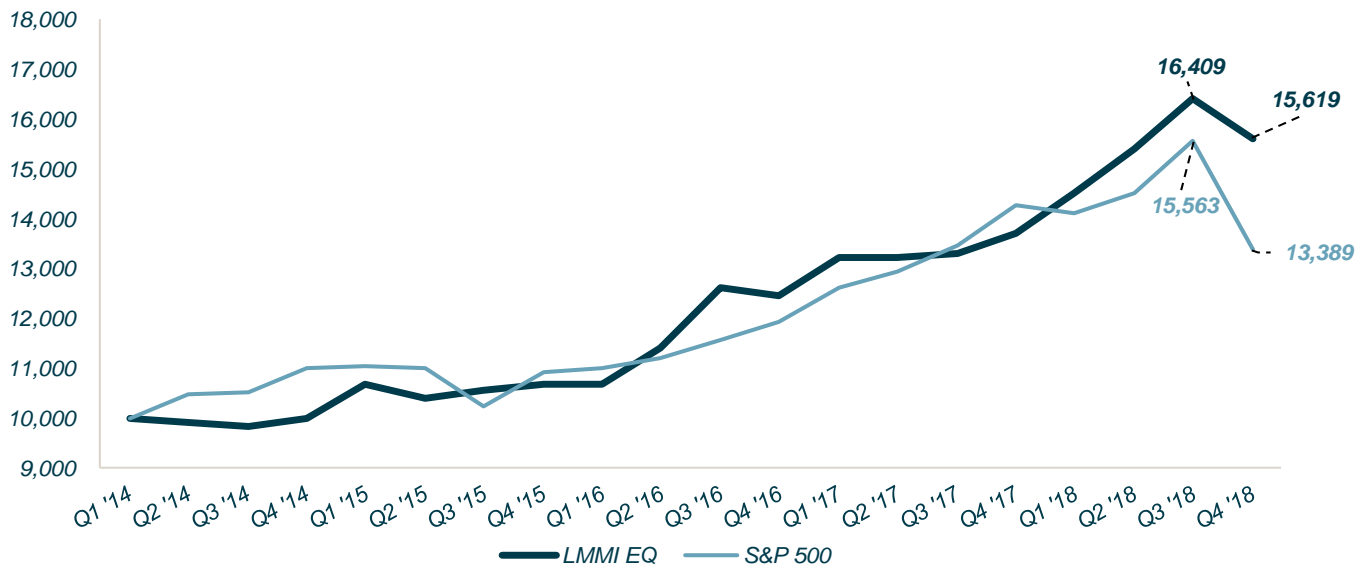
The grey line in Graph 3 indicates the quarterly change in Lincoln MMI enterprise values; this change is based on changes in performance (i.e., EBITDA) combined with the change in EBITDA multiples.

Despite multiple contraction in Q4 2018, middle market valuation multiples increased by approximately 10% since the inception of the Lincoln MMI in Q1 2014. In Q4 2018, enterprise value multiples decreased for companies in both the Lincoln MMI and the S&P 500 in aggregate, though multiple contraction was far greater in the public markets. Lincoln noted that despite volatile multiples, earnings remain the more meaningful driver in long term middle market enterprise value growth.

# Middle Market Equity Values Increased in 2018 as the S&P 500 Declined

Q4

2018



**NOTE:** Both the Lincoln MMI EQ and S&P 500 returns above reflect equity values; S&P 500 index level set to 10,000 as of Q1 2014 so as to facilitate comparability)

9.8%

Lincoln MMI  
equity value compound  
annual growth rate

Starting at a value of 10,000 as of March 31, 2014, the Lincoln MMI's equity values increased by 56.2% cumulatively to 15,619, as of December 31, 2018.

- The Lincoln MMI's equity values grew at a compound annual growth rate of 9.8% since inception as compared to 6.3% for the S&P 500.
- Strong earnings were the main driver of equity value growth in the middle market, especially in 2018.
- Given that many private equity-owned companies, which comprise the majority of the Lincoln MMI, are more highly leveraged than companies in the S&P 500, the Lincoln MMI's equity values will experience a greater equity return for a given level of enterprise value growth.
- Equity values of the Lincoln MMI experience a greater degree of volatility than enterprise values due to the impact of leverage; however, despite the higher leverage, the volatility of the Lincoln MMI's equity values remains below the volatility of the S&P 500.

# SUMMARY: The Lincoln MMI

Q4

2018

## OBSERVATIONS:

- Since its inception in Q1 2014, the Lincoln MMI has shown that middle market enterprise value multiples have been less volatile than public company multiples and that earnings, which grew for all companies in every quarter in 2017 and 2018, drive long term value creation.
- Enterprise value multiple contraction in the public market was greater than the private middle market in Q4 2018, though strong fundamental performance partially offset multiple declines in both indices

## INDUSTRY BREAKDOWN ON AN ENTERPRISE VALUE BASIS:

- Technology was the best performing industry for the third consecutive year and was the only industry to increase in value in Q4 2018
- Industrial companies declined 4.9% during Q4 2018, the second largest decline by segment, reflecting concerns around economic outlook and GDP growth, a stark contrast to the 13.3% growth experienced by Industrial companies through YTD Q3 2018.
- Consumer companies, which comprise about a quarter of the Lincoln MMI, underperformed the rest of the middle market in each quarter of 2018 due to softness in the retail and restaurant sectors and tariff concerns

## EQUITY VALUE RESULTS:

- In 2018, equity values of the Lincoln MMI grew by 13.8%, while the S&P 500 declined by 6.2%.
- Private, middle market equity returns exceeded S&P 500 returns in aggregate since Q1 2014.
- Driven by more stable enterprise value multiples, private, middle market equity values declined just 4.8% compared to a 14.0% decline in the S&P 500.
- The impact of leverage notably increases the volatility of equity returns, though equity volatility of the Lincoln MMI remains below that of the S&P 500

## ENTERPRISE VALUE RESULTS:

- Enterprise value growth for the Lincoln MMI exceeded that of the S&P 500 in 2018, increasing 6.7% for the year compared to a decline of 4.2% in the enterprise values of the S&P 500.
- Enterprise values of the Lincoln MMI declined 2.2% quarter-over-quarter compared to a 12.5% decline for the S&P 500; both indices experienced the steepest quarterly percentage declines since the inception of the Lincoln MMI in Q1 2014.

## THE LINCOLN MMI:

- Enables investors in private companies, including private equity firms, to benchmark their investments against their peers and the S&P 500 on both enterprise value and equity value bases;
- Demonstrates that middle market private companies generate returns comparable to major public stock market indices with less volatility;
- Offers many unique valuation insights into the fair value of private companies for a wide array of stakeholders and investors; and
- Represents a significant enhancement to the information available to investors in private companies.

## METHODOLOGY: Data Collection

Q4

2018

### SOURCE OF DATA AND SAMPLE SIZE

On a quarterly basis, Lincoln determines the enterprise fair value of over 1,400 portfolio companies for approximately 100 sponsors (i.e., private equity groups and lenders to private equity groups). These portfolio companies report quarterly financial results to the sponsor or lender. Lincoln obtains this information and determines the appropriate enterprise value multiple so as to compute the enterprise value in accordance with the fair value measurement principles of generally accepted accounting principles. In assessing enterprise value, Lincoln relies on well accepted valuation methodologies such as the market approach and income approach considering each company's historical and projected performance and other qualitative and quantitative factors. Finally, each valuation is then vetted by auditors, company management, boards of directors and regulators. Upon concluding each quarterly valuation cycle, Lincoln aggregates the underlying financial performance and enterprise value data for analysis.

To construct the Lincoln MMI, Lincoln selects a subsection of the companies valued each quarter, including companies each generating earnings before interest, taxes, depreciation and amortization of less than \$100.0 million, disregarding venture-stage businesses and non-operating entities, such as special purpose entities that own real estate and specialty finance assets. To determine equity value, Lincoln then reduces enterprise value by the face value of a company's debt and debt-like balances.

*For more information, visit [www.lincolninternational.com/lincoln-mmi](http://www.lincolninternational.com/lincoln-mmi)*

1,500+

Portfolio Companies are evaluated by Lincoln on a quarterly basis to determine their Enterprise Fair Value

~100

Sponsors participate in Lincoln MMI i.e. Private Equity Groups & lenders to Private Equity Groups



## METHODOLOGY:

# Academic Advisors

Q4

2018

### PROFESSOR STEVEN KAPLAN

Professor Steven Kaplan is the Neubauer Distinguished Service Professor of Entrepreneurship and Finance at the University of Chicago Booth School of Business. Professor Kaplan conducts research on issues in private equity, venture capital, entrepreneurial finance, corporate governance and corporate finance. He has published papers in a number of academic and business journals. Kaplan is a research associate at the National Bureau of Economic Research and an associate editor of the Journal of Financial Economics. Kaplan teaches advanced MBA and executive courses in entrepreneurial finance and private equity, corporate finance, corporate governance, and wealth management. BusinessWeek named him one of the top 12 business school teachers in the country. Kaplan serves on the boards of Morningstar, Zayo Group and the Illinois Venture Capital Association. He has been a member of the faculty since 1988.

Professor Kaplan received his A.B., summa cum laude, in Applied Mathematics and Economics from Harvard College and earned a Ph.D. in Business Economics from Harvard University.

### PROFESSOR MICHAEL MINNIS

Professor Michael Minnis is an Associate Professor of Accounting at the University of Chicago Booth School of Business. Professor Minnis studies the role of accounting information in allocating investment efficiently by both management and capital providers, the use of financial reporting in mitigating information opacity issues of privately-held firms, and the interplay within management in the production and use of financial information. His research includes identifying unique data and methods to empirically examine issues in a novel way.

Professor Minnis received his Ph.D. from the University of Michigan and his B.S. from the University of Illinois, where he graduated with Highest Honors.

## GLOBAL INDUSTRY GROUPS

Business Services  
Consumer  
Energy, Power & Infrastructure  
Healthcare  
Industrials  
Technology, Media & Telecom

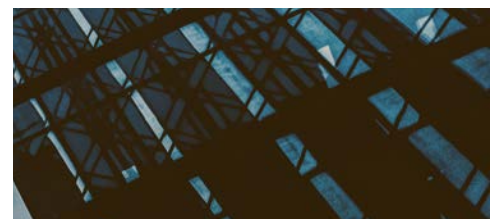
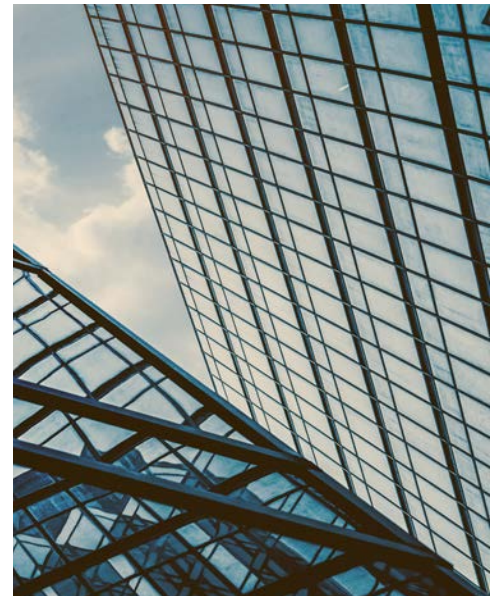
## ADVISORY SERVICES

Mergers & Acquisitions  
Debt Advisory  
JV & Partnering  
Valuations & Opinions  
Special Situations

## ABOUT LINCOLN INTERNATIONAL

We are trusted investment banking advisors to business owners and senior executives of leading private equity firms and public and privately held companies around the world. Our advisory services include mergers and acquisitions, debt advisory, growth equity and restructuring for the mid-market. We also provide valuations and fairness opinions and joint ventures advisory services. As one tightly integrated team of more than 500 professionals across 15 countries, we offer an unobstructed perspective, backed by superb execution and a deep commitment to client success. With extensive industry knowledge and relationships, timely market intelligence and strategic insights, we forge deep, productive client relationships that endure for decades. Connect with us to learn more at [www.lincolnternational.com](http://www.lincolnternational.com).

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



**IMPORTANT DISCLOSURE:** The Lincoln Middle Market Index is an informational indicator only, and does not constitute investment advice or an offer to sell or a solicitation to buy any security. It is not possible to directly invest in the Lincoln Middle Market Index. Some of the statements above contain opinions based upon certain assumptions regarding the data used to create the Lincoln Middle Market Index, and these opinions and assumptions may prove incorrect. Actual results could vary materially from those implied or expressed in such statements for any reason. The Lincoln Middle Market Index has been created on the basis of information provided by third-party sources that are believed to be reliable, but Lincoln International has not conducted an independent verification of such information. Lincoln International makes no warranty or representation as to the accuracy or completeness of such third-party information.