



# Lincoln MMI

## Q3 2017

"The U.S. middle market is a significant component of U.S. economic performance and employment. I believe the Lincoln MMI offers a more comprehensive, more detailed and more useful measurement of private middle-market company performance and values than any other index"

**Steve Kaplan**  
*Neubauer Distinguished Service Professor of Entrepreneurship and Finance at the University of Chicago Booth School of Business*

### INTRODUCING THE LINCOLN MIDDLE MARKET INDEX

Lincoln International LLC ("Lincoln") is pleased to release the first quarterly Lincoln Middle Market Index ("Lincoln MMI"). The Lincoln MMI represents years of research and analysis of data, and was developed by professionals from Lincoln's Valuations & Opinions Group ("VOG") working in collaboration with Professor Steven Kaplan and Professor Michael Minnis of University of Chicago Booth School of Business.

"The U.S. middle market is a significant component of U.S. economic performance and employment. I believe the Lincoln MMI offers a more comprehensive, more detailed and more useful measurement of private middle-market company performance and values than any other index," said Professor Steve Kaplan, Neubauer Distinguished Service Professor of Entrepreneurship and Finance at the University of Chicago Booth School of Business.

What has been missing from the privately held company marketplace is a means to identify how their value: (1) changes over time; and, (2) correlates to the public stock market. The Lincoln MMI is designed to solve this problem by measuring the quarterly change in enterprise value for closely held companies.

Lincoln values over 1,200 companies per quarter. From this population, Lincoln created the Lincoln MMI which measures quarterly changes in enterprise value of approximately 350 middle market companies. Additionally, it analyzes the impact from the change in company earnings versus market valuation multiples.

**RESULTS**

Starting at a value of 10,000 as of March 31, 2014, the Lincoln MMI has increased to 12,268, or 22.7%, as of September 30, 2017.

- The Lincoln MMI has grown at a compound annual growth rate of 6.0% since inception.
  - This compares to compound annual growth rates for the S&P 500 and Russell 2000 of 8.9% and 7.1%, respectively, over the same period.
- The Lincoln MMI has grown 3.9% and 1.0% over the past year and quarter, respectively.
  - This compares to increases in the S&P 500 and Russell 2000 indices of:
    - 16.2% and 19.1%, respectively, for the period September 30, 2016 to September 30, 2017.
    - 4.0% and 5.3%, respectively, for the period June 30, 2017 to September 30, 2017.

While the S&P 500 and Russell 2000 appear to illustrate higher returns, a subtle but significant difference between the Lincoln MMI and public stock market indices is that the Lincoln MMI is constructed from changes in enterprise values versus equity values (like the S&P 500 or Russell 2000). In all likelihood, equity returns associated with middle market companies would have been substantially higher due to the impact of leverage of companies within the Lincoln MMI.

**KEY OBSERVATIONS**

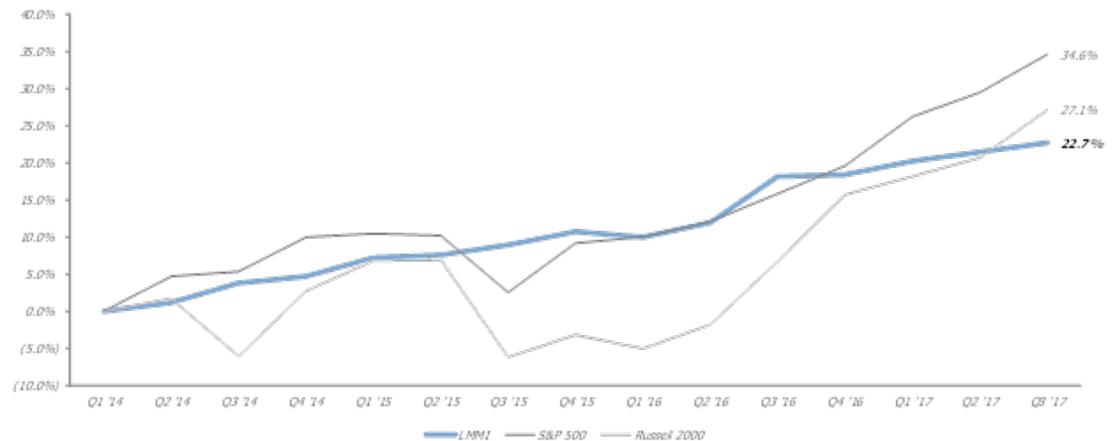
The Lincoln MMI has been highly correlated to public U.S. stock markets but less volatile.

- Many empirical studies indicate valuation multiples for private companies do not experience the high volatility associated with publicly traded stocks; the Lincoln MMI confirms these prior empirical findings.
- Given that returns of the Lincoln MMI are similar but more stable (i.e., less volatile) than returns of the S&P 500 and Russell 2000, companies within the Lincoln MMI generate superior returns per unit of risk as compared to the S&P 500 and Russell 2000.

The industries invested in by middle market private equity funds are similar to the overall economy. Of the two largest industry sectors, the technology industry comprises 19% of the Lincoln MMI compared to 27% for the S&P 500; and the consumer industry comprises 24% of the Lincoln MMI compared to 21% of the S&P 500.

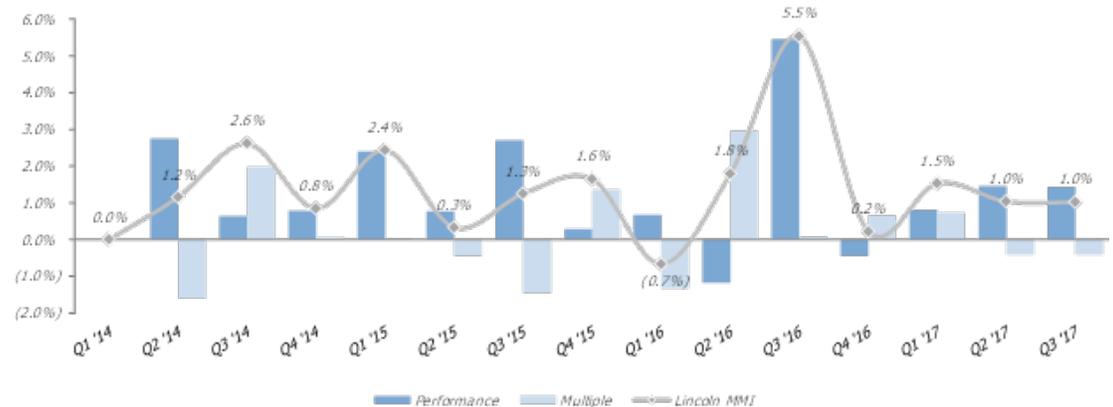
- Therefore, based on the Lincoln MMI, the industry composition of middle market, private equity backed companies is similar to that of the broader economy.

**RELATIONSHIP OF THE LINCOLN MMI TO THE S&P 500 AND RUSSELL 2000**



(Note: Lincoln MMI tracks enterprise value whereas S&P 500 and Russell 2000 track market capitalization)

**DECONSTRUCTING THE LINCOLN MMI - EBITDA MULTIPLES VERSUS EARNINGS**



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

- Since the inception of the Lincoln MMI on March 31, 2014, middle market valuation multiples have expanded approximately 10%, which suggests the majority of growth in value of the middle market is earnings driven.

## SUMMARY

We believe the Lincoln MMI:

- Generates returns comparable to major public stock market indices while also being reflective of the United States private equity backed middle market. The closely held middle market is a significant driver of U.S. economic performance and employment.
- 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.
- Represents the overall performance of middle market companies given the size of its population.
- Enables investors in private companies and private equity firms the ability to compare or benchmark their investments against an index comprised of hundreds of privately held companies.

## METHODOLOGY

### Source of Data and Sample Size

On a quarterly basis, Lincoln determines the enterprise fair value of over 1,200 portfolio companies for approximately 100 sponsors and lenders. These portfolio companies report quarterly financial results to the sponsor (i.e., private equity group) or lender. Lincoln obtains this information and computes 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.

### Academic Advisors

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 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.

## Disclaimer

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Lincoln International specializes in merger and acquisition advisory services, debt advisory services, private capital raising and restructuring advice on mid-market transactions. Lincoln International also provides fairness opinions, valuations and joint venture & partnering advisory services on a wide range of transaction sizes. With nineteen offices in the Americas, Asia and Europe, Lincoln International has strong local knowledge and contacts in key global economies. The firm provides clients with senior-level attention, in-depth industry expertise and integrated resources. By being focused and independent, Lincoln International serves its clients without conflicts of interest.

More information about Lincoln International can be obtained at [www.lincolninternational.com](http://www.lincolninternational.com).

**Lincoln's North American Valuations & Opinions Group**

Lincoln's Valuations & Opinions Group ("VOG") 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.

VOG is widely recognized for leveraging Lincoln International's "real world" transaction experience from its M&A and debt advisory practices to assist its clients in the determination of fair value. Lincoln International's highly skilled professionals have extensive experience in determining and supporting fair value measurements for traditional and complex securities.

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