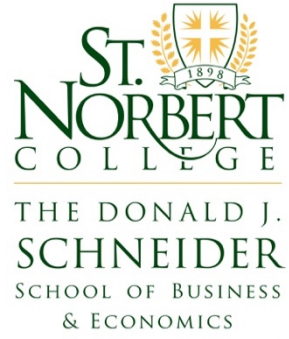


NORTHEAST WISCONSIN EQUITY INDEX

By Ben Socha, CBEA Research Analyst
Advisor: Dr. Marc Schaffer



The Economic Development Region in Northeast Wisconsin, commonly referred to as “The New North” region, is comprised of 18 counties and is home to various businesses and organizations that contribute to the overall health of the region. Headquartered in the region are a number of publicly-traded companies whose performances significantly influence regional economic well-being. The Northeast Wisconsin Equity Index (NWEI) was constructed to provide the business community and local inhabitants with information concerning the publicly-traded firms located in the New North region. The value of such an index is that it is representative of the entire region, as many of the businesses included in the index are major contributors to the regional economy. Owners of stock in these businesses tend to be more concentrated around the headquarters of the business, meaning an increase in stock returns is correlated with an increase in overall wealth of the region. In addition, the local operations of each business play a big role in the economic health of the region; the profits and capital investments of each respective firm stimulate local economies by increasing economic activity and providing additional wealth to the region.

Index Construction

The NWEI includes the eight exchange-traded stocks of companies that are headquartered within the New North region (individual company profiles can be seen in the appendix at the end of the analysis). Companies included in the index were required to be publicly traded and listed on a major exchange (NYSE, AMEX, Nasdaq) at the end date of the measurement period (1/4/15). The only company not listed on the index throughout the measurement period is County Banc-Corp, Inc., which had its initial public offering (IPO) in early January, 2015. The NWEI is calculated as an equally weighted index. The equally-weighted index assumes that an equal dollar amount is invested in each company at the beginning of the of the measurement period, which for this analysis is January 4, 2010, and then tracked on a monthly basis for a six-year period, ending January 4, 2016. In order to calculate the monthly returns, historical data from *Yahoo! Finance* was used. The monthly data focused on the adjusted daily close of each respective stock, accounting for cash dividends paid, stock splits, reverse stock splits, and stock dividends. This adjusted measure provides an indication of the total return to the investor because it assumes that all dividends paid are

immediately reinvested back into the company. With equally weighted data, it was possible to combine individual company returns into a single index measure.

However, the NWEI on its own does not provide enough valuable information for the business community to find helpful. Therefore, certain benchmarks are needed for comparison purposes in determining the economic health of the region relative to the country as a whole. The two benchmarks used are the iShares Micro-Cap Index (ticker: IWC) and the PowerShares Russell 2000 Equal Wt. ETF (ticker: EQWS). The iShares Micro-Cap Index is an ETF that seeks to track the performance of the microcap sector of the U.S. equity market, and the PowerShares Russell 2000 is an ETF that seeks to track the performance of mid and small cap securities in the larger U.S. equity market. Because the company components for the NWEI primarily consist of smaller firms, the benchmark indexes provide a good comparison measure. The average market capitalization of a company component in the NWEI is approximately \$994 million, which falls under the small cap capitalization category. The two general benchmark indexes track respective groups of companies that together have

average market capitalizations that are very close to that of the NWEI company components. The iShares Micro-Cap Index company component capitalizations generally range from \$50-\$300 million, and the PowerShares Russell 2000 company component capitalizations generally range from \$300 million to \$2 billion. Table 1 shows the yearly returns for the company components of the NWEI, the NWEI measure (average), and the two benchmark indexes. Figure 1 shows the growth of \$100 invested in the NWEI and the benchmark ETFs at the beginning of the measurement period (January 4, 2010). The NWEI ended the measurement period with an index value of \$164.34, which is lower than both benchmark indexes. The iShares Micro-Cap Index finished with an index value \$199.85, and the PowerShares Russell 2000 Equal Wt. ETF finished with an index value of \$185.63.

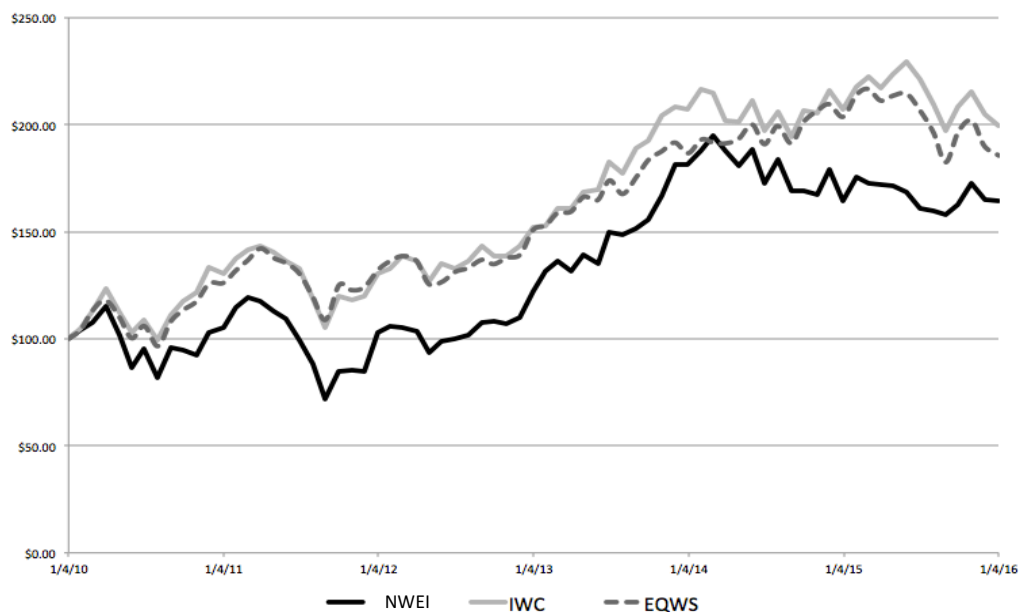
NWEI Analysis

As shown in Figure 1, the NWEI has experienced more volatility over the

Table 1: Annual Returns for NWEI Components and Benchmarks

For the Twelve Months Ending December 31st of the Given Year							
Company Component	Ticker Index	2011	2012	2013	2014	2015	2016
Associated Banc-Corp	ASB NYSE	10.28%	-10.57%	16.55%	17.81%	4.27%	11.07%
Baylake Corporation	BYLK NASDAQ	7.63%	28.10%	51.58%	47.72%	4.15%	23.73%
Bemis Company, Inc.	BMS NYSE	19.74%	-0.81%	17.73%	10.82%	18.21%	2.19%
County Banc-Corp, Inc.	ICBK NASDAQ						1.59%
Manitowoc Company, Inc.	MTW NYSE	24.10%	0.92%	31.67%	62.26%	-34.00%	-15.81%
Orion Energy Systems, Inc.	OESX NASDAQ	-8.61%	-27.82%	-35.03%	223.04%	-31.26%	-51.66%
Oshkosh Corporation	OSK NYSE	5.10%	-35.95%	6.90%	38.57%	-19.86%	-7.59%
Plexus Corp.	PLXS NASDAQ	-20.49%	33.95%	-29.54%	53.21%	-3.09%	-9.69%
AVERAGE		5.37%	-2.37%	18.70%	48.61%	-9.54%	0.11%
iShares Micro-Cap Index	IWC	30.75%	-0.26%	16.60%	36.27%	-0.08%	-3.48%
PowerShares Russell 2000 Index	EQWS	26.18%	4.82%	14.07%	23.79%	9.13%	-8.89%

Figure 1: Growth of \$100 Invested in the Northeast Wisconsin Equity Index and Comparative Benchmarks



measurement period than have the benchmark indexes. The primary reason for the yearly fluctuation in returns of the NWEI is driven by a few company components in particular, as well as the smaller aggregate size relative to the base indexes.

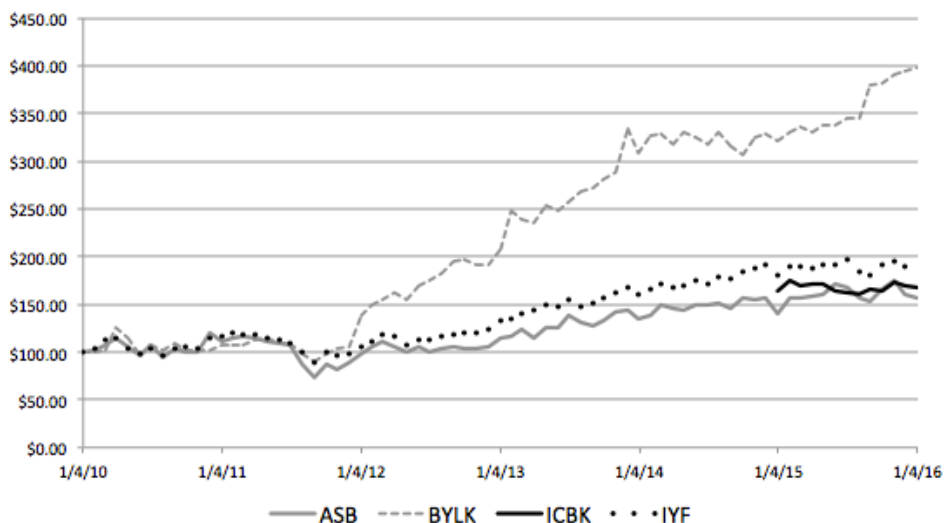
A number of the NWEI components have mirrored both benchmark measures and thus do not signal significant unique deviations for analysis. However, there are a few companies whose performances have been clearly distinct from the benchmark indexes. Baylake Corporation and Manitowoc Company, Inc. have noticeably outperformed the NWEI index, while Orion Energy Systems, Inc. has noticeably underperformed relative to the index measure. In addition, Manitowoc Company and Orion Energy Systems have experienced significantly higher volatility relative to the average, and the two have tended to trend together over the measurement period despite being in different sectors. Because of the divergence in return relative to the average, all three companies require

further individual analysis. In order to show individual components of the NWEI, each company's representative index value is also tracked over the six-year period within their respective sectors, as shown in Figures 2, 3, and 4. The major sectors that are represented within the NWEI are the financial sector, the manufacturing (industrial) sector, and the technology sector. To create the graph of individual company values across the measurement period, the same initial set up is used as in the NWEI measure. Each subsequent graph therefore shows the growth of \$100 invested in each respective company over the measurement period, as well as the measure for a sector benchmark.

Financial Sector

The three company components of the NWEI that are classified within the financial sector are Associated Banc-Corp, Baylake Corporation, and County Banc-Corp. The three financial sector company components are shown in Figure 2, along with a

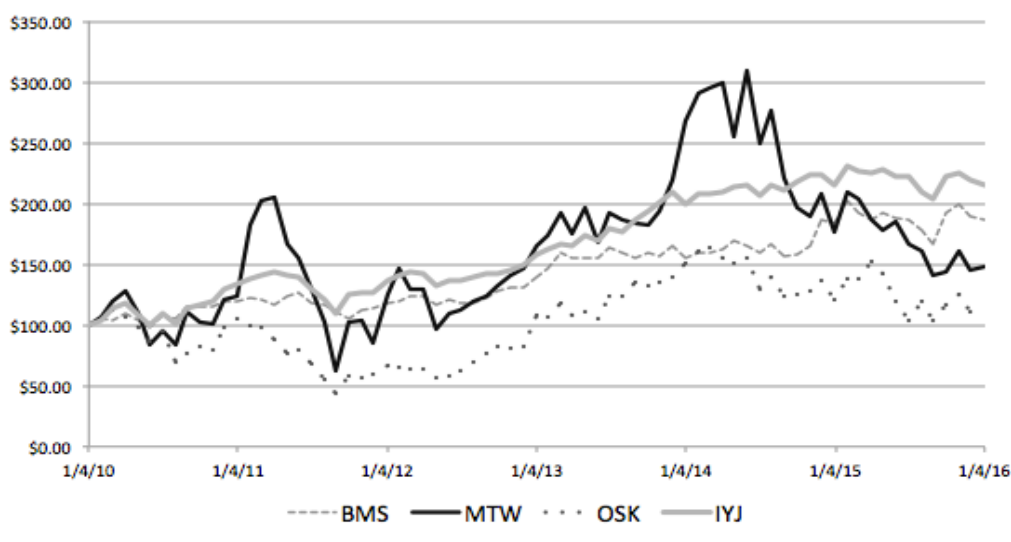
Figure 2: \$100 Invested in Financial Company Components and Benchmark Index



sector-specific benchmark. The benchmark, iShares US Financials (IYF), is an ETF that seeks to track U.S. equities in the financials sector of the U.S. market, and it is composed of a mixture of value and growth equities. As shown by the graph, the NWEI components collectively outperformed the financials benchmark, with Baylake Corporation noticeably leading the way and the other two components ending slightly lower. The collective performance of the three financial company components were the main driver for the NWEI, as the rebounding financial sector provided many companies with steady yearly returns. County Banc-Corp was introduced into the NWEI during the start of 2015, so there is not much price performance to analyze. However, Associated Banc-Corp and Baylake Corporation were included in the NWEI throughout the six-year measurement period, and thus provide significant opportunity for analysis. In particular, the substantial yearly increase in the return for Baylake Corporation indicates need for further analysis.

Individual Spotlight: Baylake Corporation (BYLK); Baylake Corporation (depicted with a dashed gray line in Figure 2) has seen significant growth in stock price from the beginning of the measurement period, finishing with an individual component value of \$397.27 assuming an initial investment of \$100. The change in Baylake's value is an increase of about 297%, which is far greater than any other component company. Additionally, BYLK saw share prices rise 297% over the five-year period, compared to high performance financial indexes like the KBW Nasdaq Bank Index (^BKX), which saw an increase in value of only 63%. Since the later part of 2011, BYLK has seen consistent growth in its stock price and its overall earnings. Strong individual performance has been driven by BYLK's rising income over the last three years of the measurement period. The strong financial performance over the five-year measurement period started with earnings growth of 71% in 2012, followed by the announcement that Baylake stock had been approved for listing on the Nasdaq Capital

Figure 3: \$100 Invested in Industrials Company Components and Benchmark Index



Market under their current ticker symbol. This announcement in late 2013 drove stock prices even higher for the company and heightened investor expectations for the firm. Furthermore, the strong index contribution by BYLK in 2015 is attributed to strong financials highlighted by steadily decreasing cost of revenue and strong operating income, as well as the announcement of the purchase Union State Bank in May of 2015 for \$9.7 million in cash and stock. This acquisition will provide Baylake Corporation with additional locations for expansion. In addition, on September 8, 2015 Baylake Corporation announced that they would be merging with Nicolet Bankshares Inc. sometime during the first half of 2016. The declared merger would create the 5th largest Wisconsin-based bank in terms of assets and deposits. Because the merger was announced after January 4, 2016, the news does not have any bearing on the NWEI. However, the merger announcement and subsequent merger are likely to have a significant impact on investor expectations and an influence on post-merger performance, and thus should provide an area for further analysis.

Industrials Sector

The three company components of the NWEI that are classified within the industrials sector are Bemis Company, Manitowoc Company, and Oshkosh Corporation. The three industrials sector company components are shown in Figure 3, along with a sector-specific benchmark. The benchmark, iShares US Industrials (IYJ), is an ETF that seeks to track U.S. equities in the industrials sector of the U.S. market. iShares US Industrials is composed of a combination of value and growth equities classified within the U.S. industrials sector. As shown in Figure 3, the industrials NWEI components have significantly underperformed relative to the benchmark ETF, with all three finishing the measurement period lower than the benchmark. The most notable industrials company component throughout the measurement period is Manitowoc Company. Manitowoc Company reached an individual value of more than \$300 in 2014, and then fell to a finishing value of \$148.62. Because of this volatile swing, Manitowoc

Company deserves further individual analysis.

Individual Spotlight: Manitowoc Company, Inc. (MTW); Manitowoc Company, Inc. (bolded in black in figure 3) has experienced the highest level of volatility of all individual index components, finishing with a component value of \$148.62 assuming an initial investment of \$100. As evident in Figure 3, MTW experienced considerable growth throughout the majority of the measurement period, and then experienced a sharp decline in late 2014/early 2015. Between 2012 and 2014, MTW posted strong quarterly and annual growth in net income. The consistent growth is highlighted during the 2013 year when the company's net income rose by \$40.1 million. MTW also posted considerable increases in crane segment sales, noting a rise in yearly sales to \$656.9 million from \$610.7 million. This period represents the company's strongest financial performance over the five-year period, and it is accentuated by the graph in Figure 2. However, the more recent sharp decline, which began in December 2014, came after billionaire investor Carl Icahn revealed that he gained a 7.7 percent interest in MTW and would urge a breakup between MTW's crane and food-service divisions. The proposed spinoff of the food-service division did not sit well with investors and caused subsequent decline in MTW's share price.

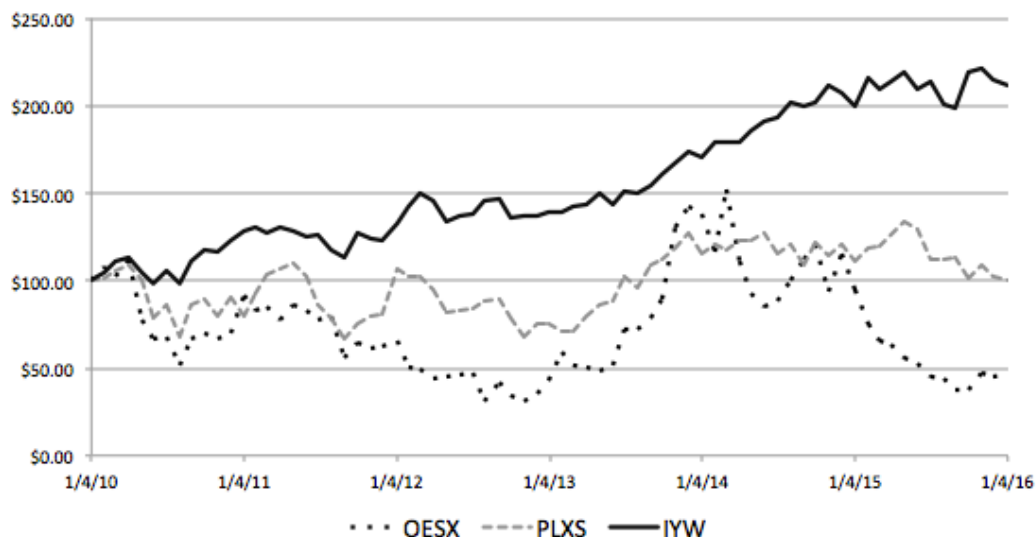
Technology Sector

The two company components of the NWEI that are classified within the technology sector are Orion Energy Systems and Plexus Corporation. The two technology sector company components are shown in Figure 4, along with a sector-specific benchmark. The benchmark, iShares US Technology (IYW), is an ETF that seeks to track U.S. equities in the

technology sector of the U.S. market. iShares US Technology is made up of both value and growth equities in the U.S. equities market. Out of the three broad sectors represented throughout the NWEI, the technology company components have underperformed the most. Compared to the technology sector benchmark, Orion Energy Systems and Plexus Corporation have significantly underperformed, finishing at \$46.01 and \$100.62 respectively. In comparison, iShares US Technology finished the measurement period with an index value of \$212.18, the highest value of any comparative sector benchmark. This would suggest that the technology sector performed very well over the measurement period, while the NWEI technology company components were the two worst performers included in the NWEI. This large discrepancy magnifies the poor performance of both technology sector company components. The worst company component, by a significant margin, was Orion Energy Systems, and therefore additional analysis of company performance is required.

Individual Spotlight: Orion Energy Systems, Inc. (OESX); Orion Energy Systems, Inc. (depicted with black dots in Figure 4) has been the worst index component performer from the beginning of the measurement period. OESX experienced a decrease in value over the period, finishing with an individual value of \$46.01 assuming an initial investment of \$100. It is the only index component company to decrease in value over the measurement period, and it is second in volatility only to Manitowoc Company, Inc.

Figure 4: \$100 Invested in Technology Company Components and Benchmark Index



OESX’s lackluster performance over the measurement period is highlighted by a continuous fall in price over the first three years, followed by a short increase, and a subsequent prodigious fall. From 2010 through 2013, OESX’s negative returns are correlated to the company’s steadily decreasing sales figures, ultimately leading decreasing revenues and annual net losses. The company decided in 2012 to change CEOs and hired John Scribante, replacing former CEO Neal Verfuert who was the company founder. Under Scribante, the company’s financials began showing signs of improvement, as is evident in the rise of OESX’s value starting in late 2012 (shown in Figure 2). The turnaround was aided by the acquisition of Harris LED LLC of Green Cove Springs, Florida in May of 2013. The acquisition allowed for an expansion of breadth and depth of product offerings, and of OESX’s markets. Furthermore, in 2014 OESX announced a \$6.2 million LED lighting contract that caused share prices to react positively. OESX’s negative returns for the final 12 months of the measurement period directly coincide with CEO John Scribante’s announcement that OESX

would be laying off 40 workers as part of a transition to an updated business model, which is intended to focus on LED lighting rather than high intensity fluorescent lighting. The transition period caused a record annual net loss for 2015 and a subsequent decline in share price.

Conclusions

The NWEI provides meaningful measurement regarding the overall health of the New North Region, and it presents important data from publicly-traded firms that have a strong pull on overall regional health. Performance for the NWEI over the past three years has been driven by Baylake Corporation and Manitowoc Company, Inc., and slowed most recently by the performance of Orion Energy Systems, Inc. Regional health measured by the NWEI has been lower compared to benchmark indexes over the past five years, finishing slightly lower in total value in 2015. Though the index value finished slightly lower, most companies kept pace with the performance of the index benchmarks.

The upcoming merger of Baylake Corporation and Nicolet Bankshares provides an opportunity for further analysis, as does the analysis of Manitowoc Company's divisional split between its crane and food-service divisions. In addition, Oshkosh Corporation's announced \$30 billion U.S. Army contract should provide the company with significant growth and positively affect future returns of the NWEI.

APPENDIX

Component Company Profiles

Associated Banc-Corp

Ticker: ASB

Price Per Share (1/4/16): \$18.75

Exchange: NYSE

Headquarters: Green Bay

Market Cap: 2.59B (mid cap)

Sector: Financial

Industry: Regional – Midwest Banks

Company Description: ASB is a bank holding company that provides various banking and nonbanking products and services in Wisconsin, Illinois and Minnesota.

Baylake Corporation

Ticker: BYLK

Price Per Share (1/4/16): \$14.61

Exchange: NASDAQ

Headquarters: Sturgeon Bay

Market Cap: 138.05M (micro cap)

Sector: Financial

Industry: Money Center Banks

Company Description: BYLK is a bank holding company for Baylake Bank that provides banking products and services primarily to small businesses and individuals in Wisconsin.

Recent News (post period): Baylake Corporation and Nicolet Bankshares will merge during the first half of 2016.

Bemis Company, Inc.

Ticker: BMS

Price Per Share (1/4/16): \$44.69

Exchange: NYSE

Headquarters: Neenah

Market Cap: 4.61B (mid cap)

Sector: Consumer Goods

Industry: Packaging and Containers

Company Description: BMS invents, designs, and manufactures packaging products in North America, Latin America, Europe, and the Asia Pacific.

County Banc-Corp, Inc.

Ticker: ICBK

Price Per Share (1/4/16): \$19.50

Exchange: NASDAQ

Headquarters: Manitowoc

Market Cap: 114.27M (micro cap)

Sector: Financial

Industry: Savings and Loans

Company Description: ICBK is a bank holding company for Investors Community Bank that provides various banking and related financial services to individuals, businesses, and industries primarily in Wisconsin.

Manitowoc Company, Inc.

Ticker: MTW

Price Per Share (1/4/16): \$15.35

Exchange: NYSE

Headquarters: Manitowoc

Market Cap: 2.12B (mid cap)

Sector: Industrial Goods

Industry: Farm and Construction Machinery

Company Description: MTW designs, manufactures, and sells cranes and related products, and food service equipment worldwide.

Recent News (post period): On January 20, 2016, MTW made its food-service division spinoff official and announced the headquarters of the new \$1.5 billion division would be moved to Tampa Bay by the end of March, 2016.

Orion Energy Systems, Inc.

Ticker: OESX

Price Per Share (1/4/16): \$2.17
Exchange: NASDAQ
Headquarters: Manitowoc
Market Cap: 35.8M (nano cap)
Sector: Technology
Industry: Diversified Electronics
Company Description: OESX designs, develops, manufactures, implements, markets, and sells energy management systems for the commercial office and retail, area lighting, and industrial high bay markets.
Recent News (post period): OESX announced on January 5, 2016, that a Fortune 500 packaged food company had selected OESX for its new multimillion-dollar production line expansion in Waterloo, Iowa.

Oshkosh Corporation

Ticker: OSK
Price Per Share (1/4/16): \$39.04
Exchange: NYSE
Headquarters: Oshkosh
Market Cap: 2.54B (mid cap)
Sector: Consumer Goods
Industry: Trucks and Other Vehicles
Company Description: OSK designs, manufactures, and markets specialty vehicles and vehicle bodies worldwide.
Recent News (post period): On August 25, 2015, OSK was awarded a contract worth up to \$30 billion to build armored trucks for the U.S. Army. OSK beat out

other bidders such as Lockheed Martin Corp. and BAE Systems Pic.

Plexus Corp

Ticker: PLXS
Price Per Share (1/4/16): \$34.92
Exchange: NASDAQ
Headquarters: Neenah
Market Cap: 1.22B (small cap)
Sector: Technology
Industry: Printed Circuit Boards
Company Description: PLXS provides electronic manufacturing services in the Americas, Europe, the Middle East, Africa, and the Asia-Pacific.
Recent News (post period): On January 26, 2016, PLXS announced that it has entered into a license agreement with Russian oil and gas equipment manufacturers LLC Gusar Ltd and CJSC Konar worth \$5 million within six months in addition to quarterly royalty payments.

Ben Socha '16 is a research analyst with the Center for Business and Economic Analysis. Ben is a senior pursuing a major in Business (Finance Concentration) and a minor in economics.

The Center for Business and Economic Analysis proudly serves as a link between the Donald J. Schneider School of Business and Economics at St. Norbert College and the local business community in the greater northeast Wisconsin region. For more information, visit www.snc.edu/cbea or contact the Directors, Dr. Jamie O'Brien (jamie.obrien@snc.edu) and Dr. Marc Schaffer (marc.schaffer@snc.edu).