

Global Industrials

BofA Industrial Momentum Indicator: range bound yet looking for a break-out in 2025

Industry Overview

BofA Industrial Momentum Indicator stable so far in Q4

The BofA Industrial Momentum Indicator remains stuck as recovery in some inputs is offset by retreat in others (Exhibit 1: copper, profit expectations, BofA Truck Shipper Survey). The rise in the Indicator through Q1 stalled in Q2 and rolled over in Q3, but has stabilized in Oct-Nov. The indicator typically leads PMI (Exhibit 4) and estimate revisions (Exhibit 10). A sustainable upturn in the Indicator is likely required to underpin positive industrial revisions in 2025 – eyeing rate cuts, China stimulus, elections – as swing factors.

BofA Indicators and Surveys point to green shoots

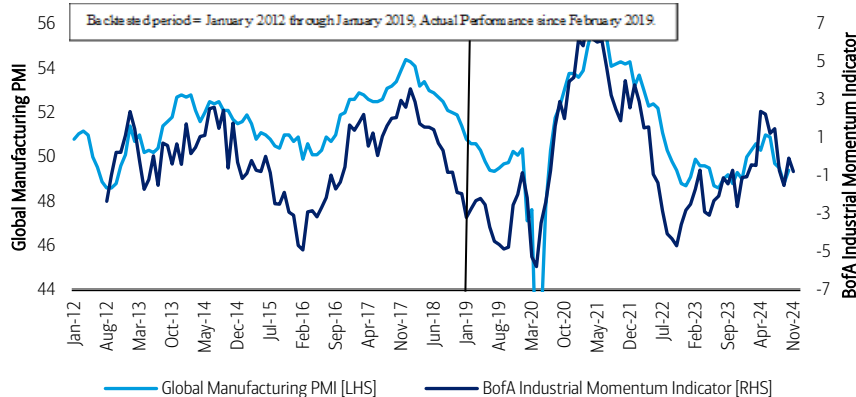
Along with the BofA Industrial Momentum Indicator, there are other signals across BofA's industrial team. BofA analyst Andrew Obin's Fluid Power Survey continues to improve slowly after bottoming over the summer. BofA analyst Ken Hoexter's Truck Shipper Survey continues to tick up from the low levels in an upward trend – we look to the Shipper Survey (key input to Indicator) to gauge direction into 2025. The BofA Japan Factory Automation Indicator continues to drift sideways.

BofA fundamental analysts highlight

If the Indicator trends downward (signal to cyclicals), BofA fundamental analysts highlight Lockheed Martin, Fastenal, Union Pacific, and Republic Services (Exhibit 3). If the indicator resumes its upward trend, BofA fundamental analysts highlight Teledyne Technologies, Parker Hannifin, Knight-Swift, and United Rentals (Exhibit 2).

Exhibit 4: BofA Industrial Momentum Indicator vs Global Manufacturing PMI

BofA Industrial Momentum Indicator typically leads Global Manufacturing PMI



Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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Timestamp: 27 November 2024 05:30AM EST

27 November 2024

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Exhibit 1: BofA Industrial Momentum Indicator: Inputs and Sources

Inputs and Sources

Inputs	Source
Net % Say Global Profits Will Improve	BofA
Net % overweight in Basic Materials	BofA
BofA Truckload Diffusion Indicator (Demand)	BofA
BofA Truckload Diffusion Indicator	BofA
LME Copper Cash (\$)	FactSet

Source: BofA Global Research, FactSet

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Exhibit 2: When the Indicator is rising, BofA fundamental analysts highlight: Based on BofA fundamental analysts

Sector (Region)	Analyst	Stock (Ticker)
A&D (US)	Ronald Epstein	Teledyne Tech (TDY)
Multis (US)	Andrew Obin	Parker Hannifin (PH)
Transportation (US)	Ken Hoexter	Knight-Swift (KNX)
Machinery (US)	Michael Feniger	United Rentals (URI)

Source: BofA Global Research, all Buy-rated stocks selected by BofA fundamental analysts

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Exhibit 3: When the Indicator is falling, BofA fundamental analysts highlight: Based on BofA fundamental analysts

Sector (Region)	Analyst	Stock (Ticker)
A&D (US)	Ronald Epstein	Lockheed Martin (LMT)
Multis (US)	Andrew Obin	Fastenal (FAST)
Transportation (US)	Ken Hoexter	Union Pacific (UNP)
Machinery (US)	Michael Feniger	Republic Services (RSG)

Source: BofA Global Research, all Buy-rated stocks selected by BofA fundamental analysts

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See page 11 for a list of term abbreviations and stock symbols used in the report.

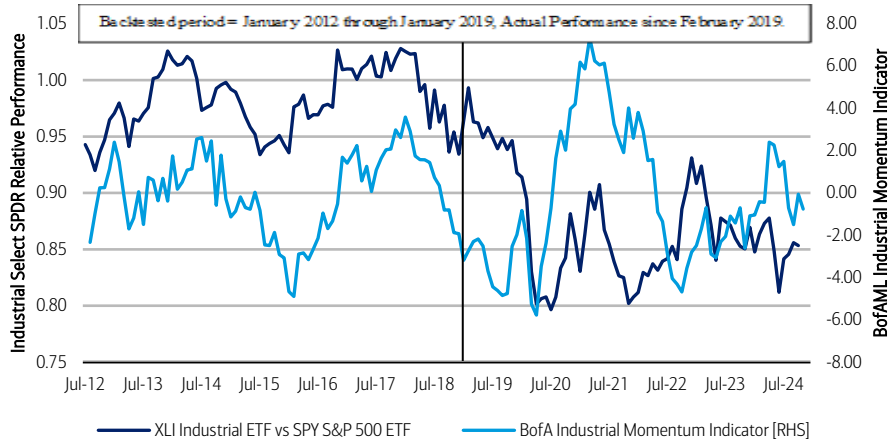
BofA Industrial Momentum Indicator

The BofA Industrial Momentum Indicator is a proprietary tool for identifying major inflection points for global industrial stocks spanning the US, European, and Japanese Machinery, Multi-Industry, Transportation, and Aerospace & Defense sectors. We worked with our Data Analytics team to create an indicator that is intended to lead Industrial sales revisions, earnings growth, and the Global Manufacturing Purchasing Managers' Index (Global Mfg PMI) on a two-month basis.

In our backtest period, Industrials generally underperformed the market in periods when the BofA Industrial Momentum Indicator was falling and typically outperformed when the Indicator bottomed and improved. This dynamic is also applicable when evaluating cyclical versus defensive sectors.

Exhibit 5: BofA Industrial Momentum Indicator vs XLI (Industrial Select) relative performance

BofA Industrial Momentum Indicator foreshadows turns in relative performance



Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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Components: Indicator falls on lower fund manager sentiment & copper prices

The BofA Industrial Momentum Indicator's inputs include readings from BofA's Global Fund Manager Survey, BofA's Truckload Diffusion Indicator, and copper prices (see Exhibit 6). The Indicator's decline this month was driven by lower fund manager sentiment (profit expectations and positioning) and lower copper prices, partially offset by improvements in BofA's Truckload Diffusion Indicator. More specifically, fund managers' profit growth expectations in November fell 7ppt MoM to net 2% of investors expecting profits to deteriorate over the next 12 months (vs net 5% of investors expecting profits to improve over the next 12 months in October vs net 21% of investors expecting profits to deteriorate in September). Additionally, positioning in Fund Manager Allocations to Materials fell 7ppt MoM to net 22% underweight in November (vs net 15% underweight in October vs net 17% underweight in September). The downdraft in copper prices also weighed on the Indicator in November. However, BofA analyst Ken Hoexter's proprietary Truckload Diffusion Indicator is now well above average freight recession levels, with both rate and demand expectations improving. For more details on the Indicator composition, see the Methodology section on pages 8-10.



Exhibit 6: BofA Industrial Momentum Indicator: Key Inputs

Key inputs include Fund Manager profit expectations, Fund Manager positioning, BofA Truckload Diffusion Indicator, and Copper

Inputs	Source	Description	Relevancy to Global Industrials
Net % Say Global Profits Will Improve	BofA	Global Fund Manager's outlook on global profits	Industrials are considered a cyclical sector, contingent on the global profit outlook
Net % overweight in Basic Materials	BofA	Global Fund Manager's positioning within Materials	Industrials are considered a broad derivative of the Basic Materials and Energy markets
BofA Truckload Diffusion Indicator (Demand)	BofA	Shipper's 0- to 3-month freight demand outlook	Survey over 1,000 shipping managers on demand expectations - touches all aspects of the economy
BofA Truckload Diffusion Indicator (Rates)	BofA	Shipper's 0- to 3-month freight rate outlook	Survey over 1,000 shipping managers on rate/pricing expectations - touches all aspects of the economy
LME Copper Cash (\$)	FactSet	Copper cash price from London Metal Exchange	Copper a barometer of global growth and particularly China - consumes nearly 60% of the copper market

Source: BofA Global Research, FactSet

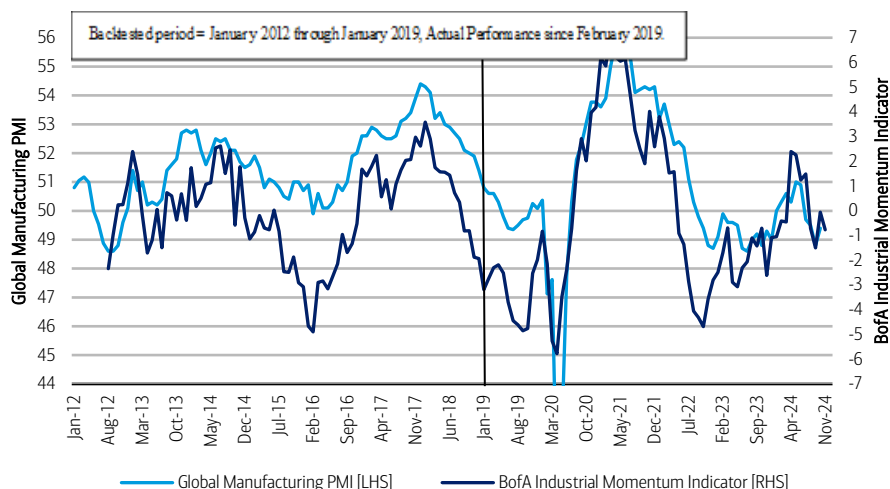
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1. Indicator leads global manufacturing sentiment

The BofA Industrial Momentum Indicator helps gauge the directional trend in the Global Manufacturing PMI. The Global Manufacturing PMI increased to 49.4 in October from 48.8 in September (vs 49.5 in August vs 49.7 in July vs 50.9 in June vs 51.0 in May). We would note that Manufacturing PMIs reverted back to contraction territory over the past four months after only six consecutive months with 50 or sub-50 readings (readings above 50 indicate expansion). More specifically, the Global Manufacturing PMI is a diffusion index; readings below 50 indicate net contraction. According to our back-tested analysis, the BofA Industrial Momentum Indicator has led the Global Manufacturing PMI by two months with a correlation of 0.73 since 2013.

Exhibit 7: BofA Industrial Momentum Indicator vs Global Manufacturing PMI

Bottoms in the BofA Industrial Momentum Indicator lead bottoms in Global Manufacturing PMI



Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

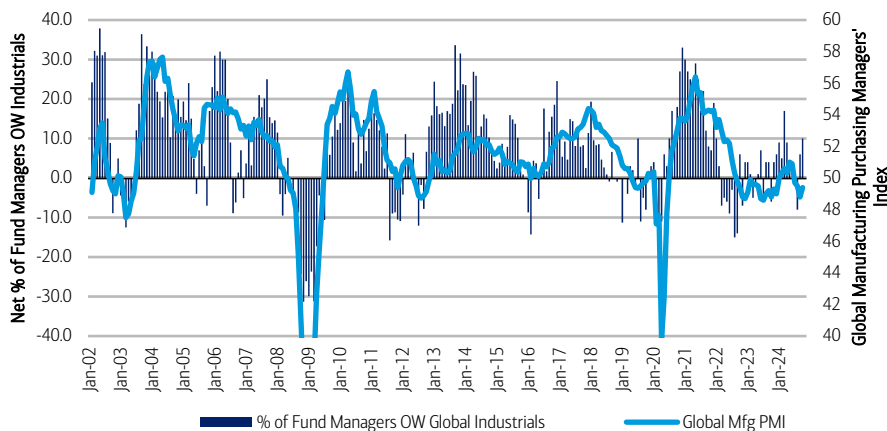
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Fund managers are overweight industrials on a global level

According to our BofA Global Fund Manager Survey, allocation to Industrials increased 4ppt MoM to 10% overweight in November from 6% overweight in October (vs 8% underweight in September vs net 1% overweight in August). This reading is 0.2 standard deviation above its long-term average. In November, fund managers have rotated into financials (banks & insurance), cash, EM, and bonds, and out of energy, Japan, consumer, and telecoms, according to the Fund Manager Survey. The top overweight sectors include Pharma, Banks, Industrials, Technology, Insurance, and Communication Services, and underweight sectors Utilities, Discretionary, Staples, Materials, and Energy. The exhibit below illustrates the relationship between the Global Manufacturing PMI and Fund Manager positioning within Industrials. When the Global Manufacturing PMI slides to 50 (or below), fund managers typically reduce their overweight position. When Global Manufacturing PMI rises into deeper expansionary territory (50 and above), investors tend to position for an industrial recovery via the Industrials sector.

Exhibit 8: Global Fund Managers' Positioning Industrials versus Global Manufacturing Purchasing Managers' Index

There is a tight relationship between Global PMIs and Fund Manager positioning with Industrials



Source: BofA Global Research, Bloomberg

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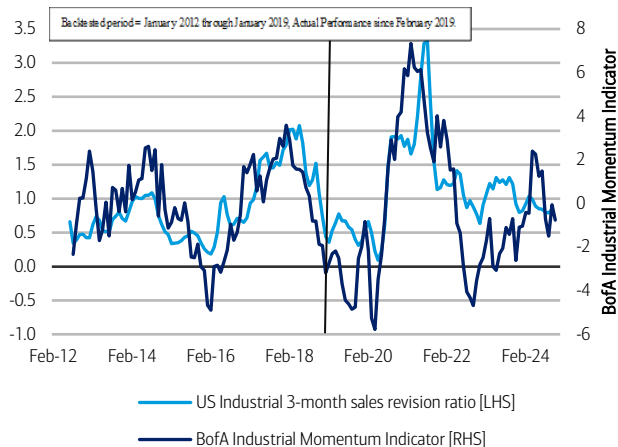
2. Indicator leads Industrial Sales Revision Ratio

The US and Global sales revision ratios have started to moderate and roll over following the recovery post COVID recession, suggesting less conviction on the industrial recovery near term. Based on our backtested analysis, the Indicator has led the Global and US industrial sales revision ratios by two months with correlations of 0.73 and 0.66, respectively, since 2013.



Exhibit 9: BofA Industrial Momentum Indicator versus US Industrials Sales Revision Ratio (3 months)

BofA Industrial Momentum Indicator typically leads US Industrial Sales Revisions

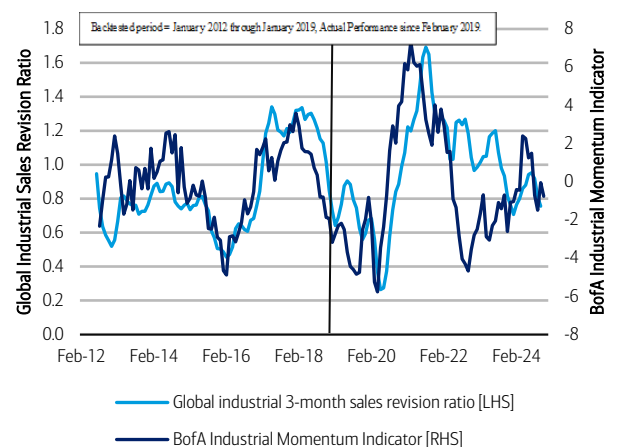


Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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Exhibit 10: BofA Industrial Momentum Indicator versus Global Industrials Sales Revision Ratio (3 months)

BofA Industrial Momentum Indicator typically leads Global Industrial Sales Revisions



Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

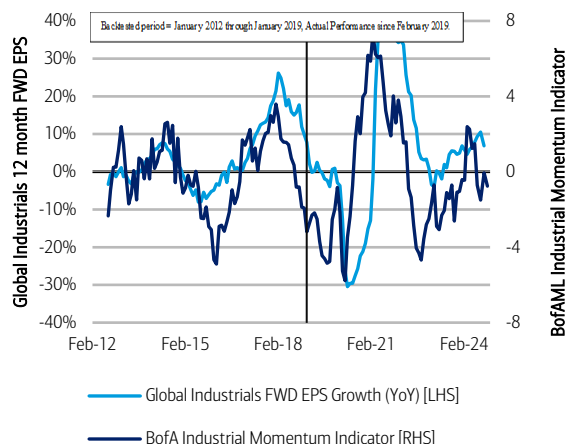
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3. Indicator leads Global Industrial earnings

The BofA Industrial Momentum Indicator could be a helpful guide for analyzing earnings trajectory for Global Industrials. As illustrated in exhibits below, there is a strong relationship between the Indicator and Global Industrial Earnings growth. In our backtest, the Global Industrial Earnings Multiple de-rated in periods when the Indicator decelerated and re-rated when the Indicator improved. Upward momentum in the Indicator over the past seven months provides the case for upward revisions to forward EPS growth going forward for industrials.

Exhibit 11: BofA Industrial Momentum Indicator versus Global Industrials Forward EPS Growth

BofA Industrial Momentum Indicator typically leads Industrial EPS growth



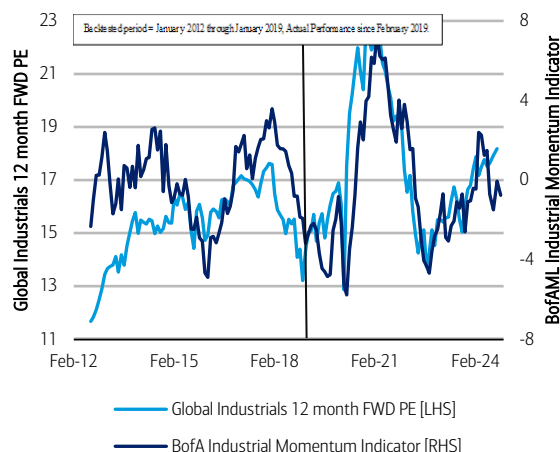
Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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Exhibit 12: BofA Industrial Momentum Indicator versus Global Industrials Forward PE

BofA Industrial Momentum Indicator typically leads Industrials multiple



Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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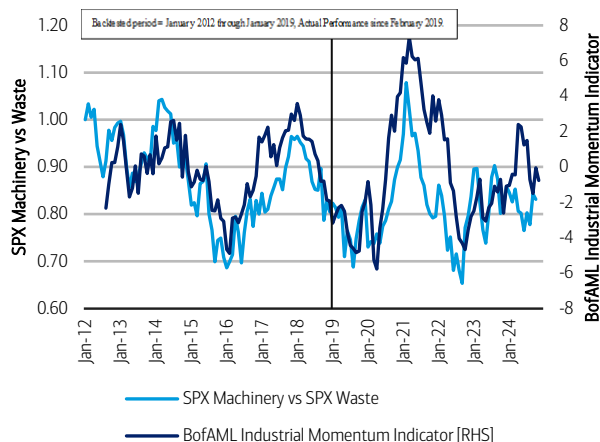


4. Cyclical versus Defensive debate

The BofA Industrial Momentum Indicator is intended to provide investors with a tool to assess cyclical versus defensive positioning from a top-down approach. When the Indicator rises, cyclical sectors of the market (i.e., Industrials, transportation) have typically outperformed defensive sectors like Utilities, based on our backtest. This holds on a global basis (see exhibits below). We believe this dynamic exists within the industrial complex as well and helps empower investors to determine if they should favor more defensive-minded industrials (i.e., waste) or be more overweight deeper cyclicals (i.e., machinery, transports). We note that historical performance is not an indicator of future performance.

Exhibit 13: US: Machinery vs Waste

BofA Industrial Momentum Indicator can help assess cyclical vs defensive positioning (Global Industrials vs Global Utilities)

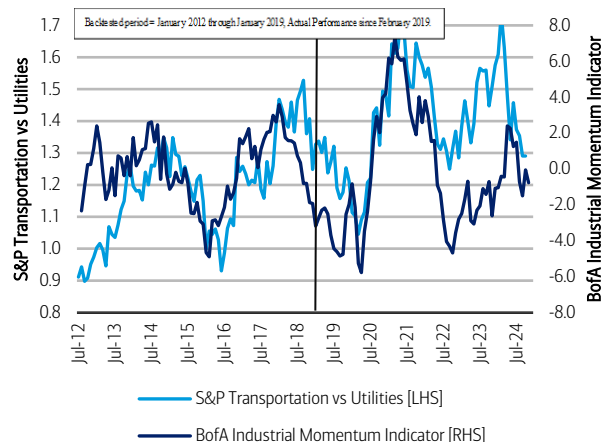


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Exhibit 14: US: S&P Transportation versus S&P Utilities

BofA Industrial Momentum Indicator can help assess cyclical vs defensive positioning (S&P Transportation vs Utilities)

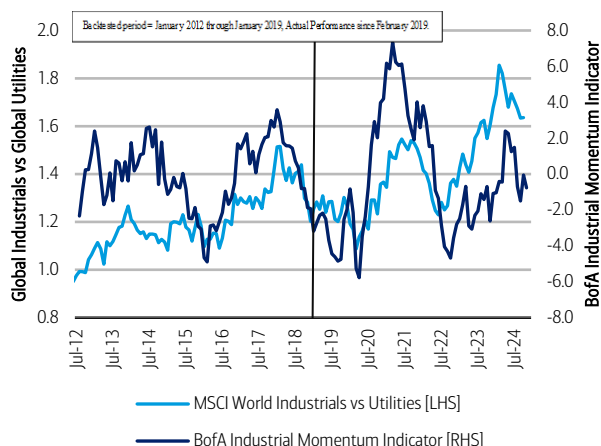


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Exhibit 15: Global MSCI Industrials versus MSCI Utilities

BofA Industrial Momentum Indicator can help assess cyclical vs defensive positioning (Global Industrials vs Global Utilities)

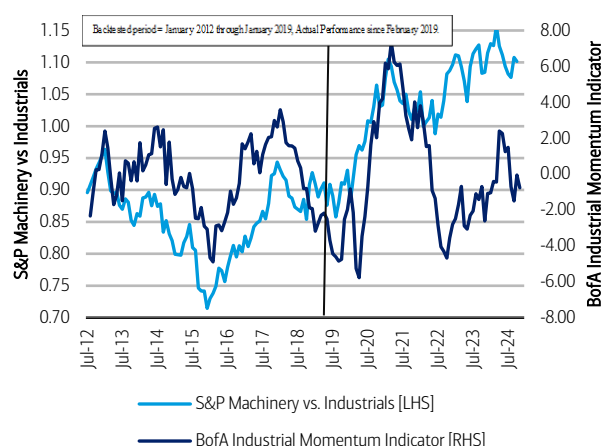


Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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Exhibit 16: US: Machinery vs Industrials

BofA Industrial Momentum Indicator can help assess cyclical vs defensive positioning (S&P Machinery vs S&P Industrials)



Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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Background on the BofA Industrial Momentum Indicator

This is not your typical regression

The primary analytics method used in our analysis is called principal component analysis, which differs from a typical linear regression. Principal component analysis is a mathematical technique that converts a set of possibly correlated variables into linearly uncorrelated variables called principal components. As most of our inputs are correlated with each other, we found principal component analysis to be an appropriate choice. We then determined a subset of the principal components (derived from our inputs) which are added together to create a series that best correlates with the target variable, or Global Manufacturing PMI.

Methodology

Our BofA Industrial Momentum Indicator was developed using principal component analysis, or PCA. Under this approach, the input data series are first standardized using their respective means and standard deviations. PCA converts the original five data series (which are likely correlated) into five new data series that are uncorrelated with each other. These five new data series are called the principal components, or PCs, and each is a combination of the five original data series, weighted and added together (see Exhibit 17). Each PC represents a portion of the total variance of the original data series.



Exhibit 17: “Principal components” weights by input

Weights by input

Inputs	PC1	PC2	PC3	PC4	PC5
Net % overweight in Basic Materials	0.32	0.80	-0.05	0.51	-0.01
Net % say global profit will improve	0.41	0.25	-0.51	-0.71	-0.01
LME Copper cash (\$)	0.38	0.11	0.84	-0.34	-0.13
BofA Truckload Diffusion Indicator (Demand)	0.52	-0.42	-0.17	0.29	-0.66
BofA Truckload Rates Indicator (Rates)	0.55	-0.34	-0.01	0.19	0.74

Source: BofA Global Research

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We then ran an exhaustive list of various combinations of the PCs against the target variable (Global Manufacturing PMI) to determine the correlation for each combination. This results in a table of the various combinations of the PCs and their respective results, which we use to choose a combination (based on our discretion) that we found had a high correlation to be our indicator.

Framework specification

Based on the results from the principal component analysis, our BofA Industrial Momentum Indicator is PC1+PC2+PC5. As a way of back-testing the model, we split the model into training (range: August 2012 – April 2018) and test (May 2018 – January 2019) periods. This combination results in a correlation with Global Manufacturing PMI during the training period of 0.70 and during the test period of 0.97.

Exhibit 18: Components of BofA Industrial Momentum Indicator

Components

Inputs	PC1	PC2	PC5	Indicator Weights(PC1+PC2+PC5)
Net % overweight in Basic Materials	0.32	0.80	-0.01	1.11
Net % say global profit will improve	0.41	0.25	-0.01	0.65
LME Copper cash (\$)	0.38	0.11	-0.13	0.36
BofA Truckload Diffusion Indicator (Demand)	0.52	-0.42	-0.66	-0.56
BofA Truckload Rates Indicator (Rates)	0.55	-0.34	0.74	0.95

Source: BofA Global Research

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These components can then be combined to give a final indicator:

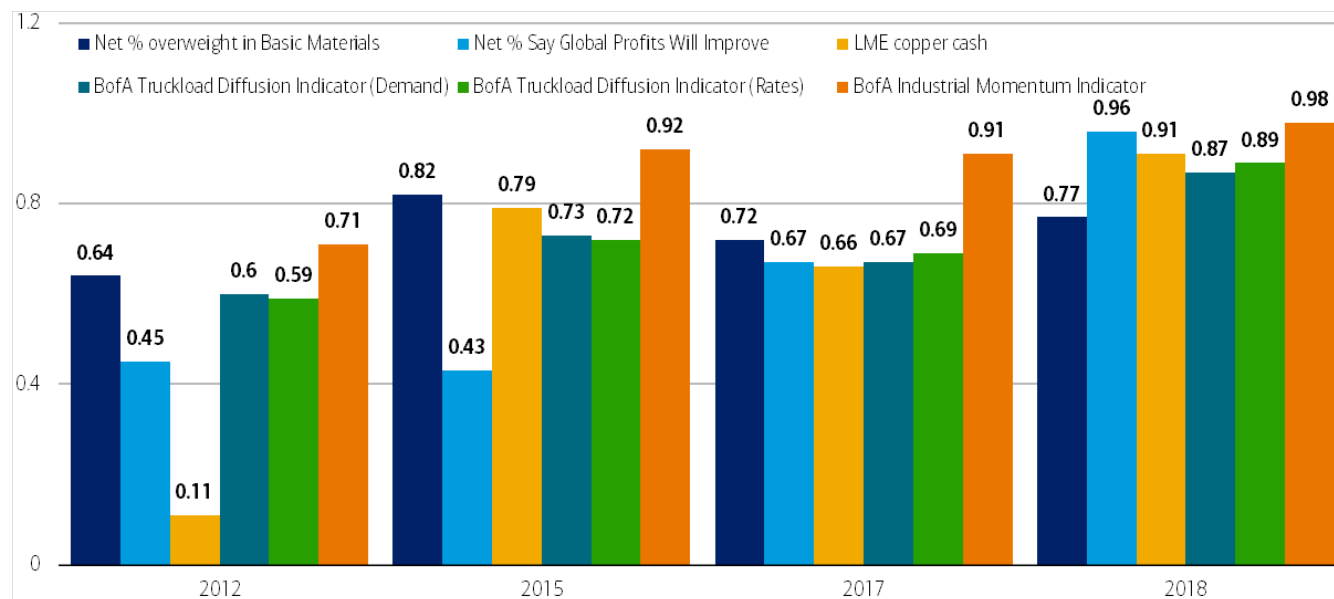
$$\begin{aligned} \text{Indicator} = & (\text{Net \% overweight in Basic Materials Sector}) \times 1.11 + \\ & (\text{Net \% say global profit will improve}) \times 0.65 + \\ & (\text{LME copper cash}) \times 0.36 + \\ & (\text{BofA Truckload Diffusion Indicator (Demand)}) \times -0.56 + \\ & (\text{BofA Truckload Diffusion Indicator (Rates)}) \times 0.95 \end{aligned}$$

Indicator Performance Comparison

We have observed that none of the individual inputs is as highly correlated to the Global Manufacturing PMI as the BofA Industrial Momentum Indicator.

Exhibit 19: Correlation: We have observed that none of the individual inputs is as highly correlated to the Global Manufacturing PMI as the BofA Industrial Momentum Indicator

Correlation analysis



Source: BofA Global Research

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Risks to our Indicator

Fund managers positioning in basic materials and shipping manager's rate expectations have the highest weightings in the BofA Industrial Momentum Indicator. Changes in these inputs may significantly impact the Indicator. Additionally, any spikes in the copper market due to supply events rather than demand could impact the Indicator.

Historical framework testing

In order to test the model over various historical time periods, a rolling 2-year window (starting 2013) correlation of the modeled indicator and the corresponding historical target variable was examined. According to our backtest, the overall average correlation across all 2 year rolling windows is 0.82.

The performance of the Indicator as set out in this report is backtested and does not represent the actual performance of any account or fund. Backtested performance depicts the hypothetical backtested performance of a particular strategy over the time period indicated. In future periods, market and economic conditions will differ and the same strategy will not necessarily produce the same results. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. In fact, there are frequently sharp differences between backtested returns and the actual results realized in the actual management of a portfolio. Backtested performance results are created by applying an investment strategy or methodology to historical data and attempts to give an indication as to how a strategy might have performed during a certain period in the past if the product had been in existence during such time. Backtested results have inherent limitations including the fact that they are calculated with the full benefit of hindsight, which allows the security selection methodology to be adjusted to maximize the returns. Further, the results shown do not reflect actual trading or the impact that material economic and market factors might



have had on a portfolio manager's decision-making under actual circumstances.
Backtested returns do not reflect advisory fees, trading costs, or other fees or expenses.

Abbreviations & Stock symbols:

PMI = Purchasing Manager Index

FMS = Fund Manager Survey

ISM = Institute of Supply management

Manuf = Manufacturing

UNP = Union Pacific Corp

URI = United Rentals

TDY = Teledyne Technologies Inc

PH = Parker Hannifin

LMT = Lockheed Martin

FAST = Fastenal

KNX = Knight-Swift Transportation

RSG = Republic Services



Exhibit 20: Stocks mentioned

Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
FAST	FAST US	Fastenal	US\$ 85.00	B-1-7
KNX	KNX US	Knight-Swift	US\$ 51.95	B-1-7
LMT	LMT US	Lockheed Martin	US\$ 611.81	B-1-7
PH	PH US	Parker Hannifin	US\$ 640.44	B-1-7
RSG	RSG US	Republic Services	US\$ 204.8	A-1-7
TDY	TDY US	Teledyne Technologies	US\$ 550.0	B-1-9
UNP	UNP US	Union Pacific	US\$ 244.1	B-1-7
URI	URI US	United Rentals	US\$ 910.00	C-1-7

Source: BofA Global Research

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Price objective basis & risk**Fastenal Company (FAST)**

We base our \$85 PO on 25x our 2025E EV/EBITDA estimate, at a premium to the distributor peer set trading at 15x on 2024E. We believe Fastenal warrants a premium multiple to its peer set given nearly double the average EBITDA margins and faster EPS growth.

Downside risks to our PO are 1) industrial end markets continue to soften with no recovery in 2025, 2) leading signals of market share gains re-accelerating fail to translate to above-market growth, and 3) the company is unable to offset gross margin contraction with automation and other productivity investments. Upside risks are 1) a faster-than-expected cyclical recovery and 2) FAST initiates targeted expansion into an adjacent product category.

Knight-Swift Transportation Holdings Inc (KNX)

Our \$64 price objective is based on a 31.0x target multiple on our 2025 EPS estimate. Our target multiple is above the top of its one-standard-deviation 22-year historical trading range of 14x-25x on year ahead estimates, as it moves past trough earnings in '24.

Downside risks to our price objective are volatility at its truckload segment (particularly its historical USX/SWFT segments, which is more exposed to large retail and project pricing), slower earnings growth from its LTL acquisitions, weaker-than-expected economic conditions, an inability for the company to have trucking rates offset rising costs (driver pay, insurance, depreciation, and fuel), a severe accident impacting the company's image and finances, over-expanding (or acquiring assets) without maintaining its focus on cost controls, and a lack of growth opportunities, and the failure to complete the effective integration of US Xpress, which may affect its growth outlook.

Lockheed Martin (LMT)

We derive our \$685 PO based on 17x 2025E EV/EBITDA vs. the S&P500 multiple of 14.7x. We see the 1.2x relative premium to the S&P 500 (vs. historical range 0.7x-1.5x and one standard deviation above average) as fairly reflecting LMT turning the corner on the recent F-35 delays, strong demand tailwinds, and defense exposure entering a period of reignited growth.

Downside risks: as LMT derives nearly 30% of revenue from the Aeronautics division, should the company run into any execution issues on the F-35 program, we believe this could materially affect the company's financials in addition to posing headline risks. Execution risk on defense programs could result in cost overruns and margin contractions. Unexpected cancellations to programs in both commercial and military



could materially impact Lockheed Martin as a result. Orders from international programs are difficult to time due to the complexity of the process. Thus, we could see some lumpiness with regard to international orders.

Upside risks: F-35 program performs better than anticipated, defense spending is higher than expected, and LMT continues to buy back more shares than we forecast, driving higher EPS growth.

Parker Hannifin Corporation (PH)

We base our \$750 price objective on a 18x EV/EBITDA multiple applied to our CY26E estimate. Our 18x target multiple is in line with multi-industrial and aerospace supplier peers trading at 18x 2025E EV/EBITDA.

Downside risks are 1) industrial short-cycle destocking worse than expected, 2) Meggitt integration, and 3) the ability to offset material inflation through pricing.

Upside risks are 1) Aerospace recovery has more upside given more exposure from Meggitt, and 2) Multiple expansion as the company closes the performance gap.

Republic Services (RSG)

Our \$225 price objective is based on 15.0x EV/EBITDA for 2025E, near the high end of its historical valuation range and consistent with peers. We believe the high end of the range is appropriate as earnings are likely to continue to recover in 2024, waste offers higher visibility than other sectors, pricing backdrop continues to improve, and FCF is likely to remain positive. Relative to history, higher multiple stems from an improving pricing discipline for the waste industry, sustainability initiatives and overall stability in an uncertain, global industrial backdrop, in our view.

Upside risks to our PO are: 1) stronger-than-expected housing data, 2) higher-than-expected pricing trends, and 3) more aggressive cash return to shareholders than we currently envision. Downside risks to our PO are: 1) lower-than-expected CPI, 2) environmental liabilities. 3) Mix impact from higher waste generation at the home. 4) continued COVID-19 concerns.

Teledyne Technologies Inc (TDY)

We value TDY based on a 1.2x EV/EBITDA multiple relative to the S&P500. Historically, TDY has traded on average 1.2x the market on an EV/EBITDA. We see a multiple in line with the historical average as this fairly balances the near-term headwinds, the recovery in the short-cycle business and strong demand in Defense and Aerospace. Applying this to our 2026 estimates, we derive a \$550 PO.

Upside risks to our PO are higher accretion from acquisitions, a more rapid top- and bottom-line recovery in the industrials businesses and even further operating leverage.

Downside risks are poor integration of FLIR, another industrials downturn, a significant decline in the Department of Defense (DOD) budget, an exogenous event that prevents international sales.

Union Pacific (UNP)

Our \$271 price objective is based on a 22.5x multiple on our 2025 EPS estimate, as we move above the top of its 14x-20x historical range given improving service gains under CEO Jim Vena. We believe 2024 earnings will rebound from 2023's trough, particularly aided by the operational and cultural turnaround launched by Mr. Vena. The company aims to post upper single digit to low double digit growth in subsequent years, drive improved cash flow, and continue to scale share buybacks. We target leverage to remain between 2.7x-3.0x, and look for it to re-engage in top-line growth and drive improved returns.

Risks to our price objective are a more muted economic recovery, accelerating coal volume declines, muted winter weather impacting coal demand, increased pricing competition neutralizing the benefits from the pricing currently enjoyed by the rail industry, higher than expected fuel prices, employee/union strikes, inability to exercise pricing power due to regulatory changes or legal challenges from customers, disruptive rail re-regulation that limits the company's ability to earn proper returns on its investments or mandates open access with unfavorable terms, risk from the Canadian Pacific (CP)-Kansas City Southern (KSU) merger absorbing Mexico vols, or harsh weather that disrupts operations beyond normal. Additionally, aggressive moves by in-region peer BNSF to take share, or if UNP's service metrics retrace recent gains, it could see sustained higher costs.

United Rentals Inc (URI)

Our PO of \$910 is based on 9.25x 2025E EV/EBITDA multiple, at the high end of the historical range (5-9.5x). We believe a higher multiple is warranted given impressive free cash flow characteristics and a fed easing cycle that is underway.

Upside risks to our price objective are better-than-expected rental pricing, stronger-than-expected FCF, a better-than-expected resurgence in non-residential construction, and overall cost cutting effort.

Downside risks to our price objective are a more hawkish Federal Reserve Board trying to keep a lid on inflation, increased volatility in the high yield credit markets, renewed weakness in energy markets, or a slower than expected recovery in rental rates in the event that the rental sector accumulates too much fleet in the next 12-18 months.

Analyst Certification

We, Andrew Obin, Ken Hoexter, Michael Feniger, Ronald J. Epstein and Sabrina Abrams, hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers. We also certify that no part of our respective compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.



US - Aerospace and Defense Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	AerCap Holdings N.V.	AER	AER US	Ronald J. Epstein
	Air Lease Corporation	AL	AL US	Ronald J. Epstein
	Axon Enterprise Inc	AXON	AXON US	Jordan Lyounnais
	Bombardier	BDRBF	BDRBF US	Ronald J. Epstein
	Bombardier Inc.	YBBD B	BBD/B CN	Ronald J. Epstein
	Booz Allen Hamilton	BAH	BAH US	Mariana Perez Mora
	BWX Technologies, Inc.	BWXT	BWXT US	Ronald J. Epstein
	CACI International	CACI	CACI US	Mariana Perez Mora
	Cadre Holdings Inc	CDRE	CDRE US	Ronald J. Epstein
	Crane Co.	CR	CR US	Ronald J. Epstein
	Embraer	ERJ	ERJ US	Ronald J. Epstein
	GE Aerospace	GE	GE US	Ronald J. Epstein
	General Dynamics	GD	GD US	Ronald J. Epstein
	HEICO Corporation	HEI	HEI US	Ronald J. Epstein
	Howmet Aerospace Inc.	HWM	HWM US	Ronald J. Epstein
	KBR	KBR	KBR US	Mariana Perez Mora
	L3Harris	LHX	LHX US	Ronald J. Epstein
	Leidos Holdings	LDOS	LDOS US	Mariana Perez Mora
	Lockheed Martin	LMT	LMT US	Ronald J. Epstein
	Northrop Grumman	NOC	NOC US	Ronald J. Epstein
	OSI Systems	OSIS	OSIS US	Mariana Perez Mora
	Palantir Technologies	PLTR	PLTR US	Mariana Perez Mora
	Parsons Corporation	PSN	PSN US	Mariana Perez Mora
	Rocket Lab	RKLB	RKLB US	Ronald J. Epstein
	RTX Corp	RTX	RTX US	Ronald J. Epstein
	Teledyne Technologies Inc	TDY	TDY US	Ronald J. Epstein
	Textron	TXT	TXT US	Ronald J. Epstein
	TransDigm Group Inc.	TDG	TDG US	Ronald J. Epstein
NEUTRAL				
	Boeing	BA	BA US	Ronald J. Epstein
	Leonardo DRS, Inc.	DRS	DRS US	Ronald J. Epstein
	RBC Bearings Inc	RBC	RBC US	Ronald J. Epstein
	StandardAero	SARO	SARO US	Ronald J. Epstein
UNDERPERFORM				
	Albany International	AIN	AIN US	Ronald J. Epstein
	CAE Inc.	YCAE	CAE CN	Ronald J. Epstein
	CAE Inc.	CAE	CAE US	Ronald J. Epstein
	Garmin	GRMN	GRMN US	Ronald J. Epstein
	Hexcel Corporation	HXL	HXL US	Ronald J. Epstein
	Huntington Ingalls Industries	HII	HII US	Ronald J. Epstein
	Mercury Systems	MRCY	MRCY US	Ronald J. Epstein

US - Machinery Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	AECOM	ACM	ACM US	Michael Feniger
	Blue Bird Corp	BLBD	BLBD US	Sherif El-Sabbahy
	Bowman Consulting Group Ltd	BWMN	BWMN US	Sherif El-Sabbahy
	Caterpillar Inc	CAT	CAT US	Michael Feniger
	Construction Partners Inc.	ROAD	ROAD US	Michael Feniger
	ESAB Corp	ESAB	ESAB US	Sherif El-Sabbahy
	Finning International Inc.	YFTT	FTT CN	Sherif El-Sabbahy
	H&E Equipment Services Inc	HEES	HEES US	Sherif El-Sabbahy
	Knife River Corp	KNF	KNF US	Sherif El-Sabbahy
	Republic Services	RSG	RSG US	Michael Feniger
	Techtronic Industries Co Ltd	TTNDF	669 HK	Michael Feniger
	Techtronic Industries Co Ltd	TTNDY	TTNDY US	Michael Feniger
	United Rentals Inc	URI	URI US	Michael Feniger
	Vulcan Materials	VMC	VMC US	Michael Feniger



US - Machinery Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Waste Connections Inc	WCN	WCN US	Michael Feniger
	WillScot Mobile Mini	WSC	WSC US	Sherif El-Sabbahy
NEUTRAL				
	AGCO Corp	AGCO	AGCO US	Michael Feniger
	CNH Industrial NV	CNH	CNH US	Michael Feniger
	Deere & Co	DE	DE US	Michael Feniger
	Fluor	FLR	FLR US	Michael Feniger
	GFL Environmental Inc	GFL	GFL US	Michael Feniger
	GFL Environmental Inc	YGFL	GFL CN	Michael Feniger
	Jacobs Eng.	J	J US	Michael Feniger
	Martin Marietta Materials	MLM	MLM US	Michael Feniger
	NV5 Global Inc.	NVEE	NVEE US	Michael Feniger
	PACCAR Inc	PCAR	PCAR US	Michael Feniger
	RB Global, Inc	RBA	RBA US	Michael Feniger
	Waste Management	WM	WM US	Michael Feniger
UNDERPERFORM				
	Allison Transmission Holdings Inc.	ALSN	ALSN US	Sherif El-Sabbahy
	Casella	CWST	CWST US	Michael Feniger
	Centuri Holdings Inc	CTRI	CTRI US	Sherif El-Sabbahy
	Cummins Inc	CMI	CMI US	Michael Feniger
	Herc Holdings Inc	HRI	HRI US	Sherif El-Sabbahy
	IPG Photonics	IPGP	IPGP US	Michael Feniger
	Kennametal Inc.	KMT	KMT US	Michael Feniger
	Oshkosh Corp.	OSK	OSK US	Michael Feniger
	Snap-on	SNA	SNA US	Sherif El-Sabbahy
	Terex Corp.	TEX	TEX US	Michael Feniger
	Timken Company	TKR	TKR US	Michael Feniger

US - Multi-Industrials/Engineering and Construction Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	3M Company	MMM	MMM US	Andrew Obin
	Applied Industrial Technologies	AIT	AIT US	Sabrina Abrams
	AspenTech	AZPN	AZPN US	Andrew Obin
	Atmus Filtration	ATMU	ATMU US	Andrew Obin
	Dover Corp	DOV	DOV US	Andrew Obin
	Eaton Corp PLC	ETN	ETN US	Andrew Obin
	Emerson Electric Co	EMR	EMR US	Andrew Obin
	Fastenal Company	FAST	FAST US	Sabrina Abrams
	Flowserve	FLS	FLS US	Andrew Obin
	GE Vernova	GEV	GEV US	Andrew Obin
	ITT Inc.	ITT	ITT US	Andrew Obin
	Johnson Controls International PLC	JCI	JCI US	Andrew Obin
	Parker Hannifin Corporation	PH	PH US	Andrew Obin
	PTC Inc.	PTC	PTC US	Andrew Obin
	Rush	RUSHA	RUSHA US	Andrew Obin
	Vertiv	VRT	VRT US	Andrew Obin
	Vontier	VNT	VNT US	Andrew Obin
NEUTRAL				
	AMETEK Inc	AME	AME US	Andrew Obin
	Carrier Global Corp.	CARR	CARR US	Andrew Obin
	Fortive Corporation	FTV	FTV US	Andrew Obin
	Honeywell International Inc.	HON	HON US	Andrew Obin
	Montrose Environmental Group, Inc.	MEG	MEG US	Andrew Obin
	Pentair plc	PNR	PNR US	Andrew Obin
	Rockwell	ROK	ROK US	Andrew Obin
	Trane Technologies PLC	TT	TT US	Andrew Obin
UNDERPERFORM				
	Allegion	ALLE	ALLE US	Andrew Obin
	Core & Main	CNM	CNM US	Andrew Obin



US - Multi-Industrials/Engineering and Construction Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	E2open	ETWO	ETWO US	Andrew Obin
	Illinois Tool Works	ITW	ITW US	Andrew Obin
	John Bean Technologies	JBT	JBT US	Andrew Obin
	Keysight	KEYS	KEYS US	David Ridley-Lane, CFA
	W.W. Grainger, Inc.	GWW	GWW US	Sabrina Abrams

US - Transportation Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	C.H. Robinson	CHRW	CHRW US	Ken Hoexter
	Canadian Pacific Kansas City Ltd	CP	CP US	Ken Hoexter
	FedEx Corp.	FDX	FDX US	Ken Hoexter
	J.B. Hunt Transport Services	JBHT	JBHT US	Ken Hoexter
	Kirby Corp	KEX	KEX US	Ken Hoexter
	Knight-Swift Transportation Holdings Inc	KNX	KNX US	Ken Hoexter
	Norfolk Southern	NSC	NSC US	Ken Hoexter
	Saia Inc.	SAIA	SAIA US	Ken Hoexter
	Schneider National	SNDR	SNDR US	Ken Hoexter
	Union Pacific	UNP	UNP US	Ken Hoexter
	Wabtec Corp.	WAB	WAB US	Ken Hoexter
	XPO, Inc.	XPO	XPO US	Ken Hoexter
NEUTRAL				
	Canadian National	CNI	CNI US	Ken Hoexter
	CSX Corporation	CSX	CSX US	Ken Hoexter
	Expeditors International	EXPD	EXPD US	Ken Hoexter
	Old Dominion Freight Line	ODFL	ODFL US	Ken Hoexter
	RXO, Inc.	RXO	RXO US	Ken Hoexter
	Scorpio Tankers Inc.	STNG	STNG US	Ken Hoexter
	TFI International	TFII	TFII US	Ken Hoexter
	TFI International	YTFII	TFII CN	Ken Hoexter
	UPS	UPS	UPS US	Ken Hoexter
UNDERPERFORM				
	ArcBest Corporation	ARCB	ARCB US	Ken Hoexter
	Teekay Tankers Limited	TNK	TNK US	Ken Hoexter
	The Greenbrier Companies	GBX	GBX US	Ken Hoexter
	Werner Enterprises	WERN	WERN US	Ken Hoexter
	World Kinect	WKC	WKC US	Ken Hoexter

Disclosures

Important Disclosures

Equity Investment Rating Distribution: Aerospace/Defense Electronics Group (as of 30 Sep 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	34	65.38%	Buy	27	79.41%
Hold	11	21.15%	Hold	8	72.73%
Sell	7	13.46%	Sell	5	71.43%

Equity Investment Rating Distribution: Engineering Group (as of 30 Sep 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	6	60.00%	Buy	3	50.00%
Hold	1	10.00%	Hold	1	100.00%
Sell	3	30.00%	Sell	0	0.00%



Equity Investment Rating Distribution: Engineering & Construction Group (as of 30 Sep 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	11	47.83%	Buy	6	54.55%
Hold	8	34.78%	Hold	5	62.50%
Sell	4	17.39%	Sell	3	75.00%

Equity Investment Rating Distribution: Industrials/Multi-Industry Group (as of 30 Sep 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	49	55.06%	Buy	26	53.06%
Hold	17	19.10%	Hold	9	52.94%
Sell	23	25.84%	Sell	8	34.78%

Equity Investment Rating Distribution: Machinery/Diversified Manufacturing Group (as of 30 Sep 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	28	43.75%	Buy	10	35.71%
Hold	14	21.88%	Hold	7	50.00%
Sell	22	34.38%	Sell	12	54.55%

Equity Investment Rating Distribution: Transport/Infrastructure Group (as of 30 Sep 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	71	52.21%	Buy	40	56.34%
Hold	32	23.53%	Hold	13	40.63%
Sell	33	24.26%	Sell	17	51.52%

Equity Investment Rating Distribution: Global Group (as of 30 Sep 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1863	54.91%	Buy	1079	57.92%
Hold	768	22.63%	Hold	447	58.20%
Sell	762	22.46%	Sell	349	45.80%

^{R1} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R2}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R2} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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