

## Illinois Tool Works

## 4Q23: the 2024 margin bridge has high hurdles

Reiterate Rating: UNDERPERFORM | PO: 235.00 USD | Price: 255.55 USD

## 4Q is an operational miss vs. the Street

ITW reported GAAP EPS that missed the Street and was an operational miss relative to our model. Organic growth of (0.5)% was in line with our (0.3)% estimate and compares to 0% consensus. The margins were 20bp shy of our 25% forecast. It seems that destock and consumer demand worsened during the quarter, but that trends improved in January. The company cited daily sales stable to improving in January and stronger-than-typical sequential revenue growth in 4Q. The margins were also dragged by increased restructuring charges in 4Q. 2024 guidance of \$10-\$10.40 came in well above the company's typical "4Q run-rate," largely on margin expansion in '24. We think the negative share reaction (down 2% vs. S&P up 1%) reflects a lack of conviction in bridging from 4Q23 earnings to the guide. Reiterate Underperform.

## Key delta for 2024: Auto OEM volumes

ITW's margin bridge (on the conference call) is for 50bp price/cost, 50bp volumes, 100bp of enterprise initiatives, and a (100)bp headcount/reinvestment headwind. We think the price/cost benefit is slightly smaller and the guide relies more on volumes. We believe the guide assumes auto volumes drive strong leverage. We are more cautious given where production forecasts are and ITW's historical challenges with growth. The company is emphasizing customer-back innovation driving incremental growth (from 1% contribution to 2% contribution), which is an upside risk.

## 4Q23 GAAP EPS comes in \$0.01 above our estimate

4Q23 GAAP EPS of \$2.38 was a penny above our estimate. Auto OEM was a \$0.03 benefit to our estimate on faster organic growth and better margin (driven by volume leverage). Food Equipment was a \$(0.04) miss on revenue and lower margins. T&M&E was a +\$0.01 beat on 1% better revenue, partially offset by 10bp worse margins. Welding was a \$(0.02) miss, as the inventory revaluation hit the hardest here (estimate 100bp impact to margin). Polymers & Fluids was a \$(0.01) miss. Construction Products was a \$(0.02) miss. Specialty Products was a \$(0.02) miss. Segments were overall a \$(0.04) miss. Corporate was a \$0.02 benefit. Below-the-line was a \$0.03 benefit.

## Maintaining our below-guide 2024 GAAP EPS estimate

We maintain our 2024 GAAP EPS estimate at \$9.87. This is below the low end of guidance at \$10-\$10.40. Organic growth guidance brackets our estimate of +2.3% y/y, which is now 20bps higher. We maintain our 2024 segment margin estimate of 24.7%.

Estimates (Dec) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	9.77	9.74	9.87	10.79	11.45
EPS Change (YoY)	14.8%	-0.3%	1.3%	9.3%	6.1%
Consensus EPS (Bloomberg)			10.16	10.89	11.84
DPS	5.06	5.42	5.79	6.15	6.51
Valuation (Dec)					
P/E	26.2x	26.2x	25.9x	23.7x	22.3x
Dividend Yield	2.0%	2.1%	2.3%	2.4%	2.5%
EV / EBITDA*	20.4x	19.2x	18.9x	17.8x	16.9x
Free Cash Flow Yield*	2.5%	4.0%	4.0%	4.2%	4.5%

\* For full definitions of *IQmethod*<sup>SM</sup> measures, see page 12.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Refer to important disclosures on page 13 to 15. Analyst Certification on page 11. Price Objective Basis/Risk on page 11.

12654512

Timestamp: 02 February 2024 07:36AM EST

02 February 2024

## Equity

## Key Changes

(US\$)	Previous	Current
2024E Rev (m)	16,295.3	16,637.5
2025E Rev (m)	17,012.9	17,372.5
2026E Rev (m)	17,745.4	18,123.3
2025E EPS	10.72	10.79
2026E EPS	11.37	11.45

**Andrew Obin**  
Research Analyst  
BofAS  
+1 646 855 1817  
[andrew.obin@bofa.com](mailto:andrew.obin@bofa.com)

**David Ridley-Lane, CFA**  
Research Analyst  
BofAS  
+1 646 855 2907  
[david.ridleylane@bofa.com](mailto:david.ridleylane@bofa.com)

**Sabrina Abrams**  
Research Analyst  
BofAS  
+1 646 556 3520  
[sabrina.abrams@bofa.com](mailto:sabrina.abrams@bofa.com)

**Devin Leonard**  
Research Analyst  
BofAS  
+1 646 855 3698  
[devin.leonard@bofa.com](mailto:devin.leonard@bofa.com)

## Stock Data

Price	255.55 USD
Price Objective	235.00 USD
Date Established	10-Jan-2024
Investment Opinion	B-3-7
52-Week Range	217.06 USD - 267.12 USD
Mkt Val (mn) / Shares Out (mn)	76,891 USD / 300.9
Free Float	95.4%
Average Daily Value (mn)	266.95 USD
BofA Ticker / Exchange	ITW / NYS
Bloomberg / Reuters	ITW US / ITW.N
ROE (2024E)	106.4%
Net Dbt to Eqty (Dec-2023A)	245.5%
ESGMeter™	High

ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company. For full details, refer to "BofA ESGMeter Methodology".

T&M&E – Test & Measurement & Electronics

W

# iQprofile<sup>SM</sup> Illinois Tool Works

## iQmethod<sup>SM</sup> – Bus Performance\*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Return on Capital Employed	23.3%	25.0%	25.1%	27.2%	29.2%
Return on Equity	90.4%	98.7%	106.4%	115.1%	110.0%
Operating Margin	23.8%	25.1%	24.7%	25.4%	25.7%
Free Cash Flow	1,936	3,082	3,092	3,256	3,445

## iQmethod<sup>SM</sup> – Quality of Earnings\*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash Realization Ratio	0.8x	1.2x	1.2x	1.1x	1.1x
Asset Replacement Ratio	1.0x	0.8x	0.8x	0.8x	0.8x
Tax Rate	21.0%	22.7%	24.2%	24.8%	24.7%
Net Debt-to-Equity Ratio	228.4%	245.5%	277.3%	239.8%	200.3%
Interest Cover	18.7x	15.2x	14.2x	17.0x	19.0x

## Income Statement Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Sales	15,936	16,115	16,637	17,373	18,123
% Change	10.2%	1.1%	3.2%	4.4%	4.3%
Gross Profit	6,507	6,799	6,937	7,243	7,556
% Change	9.1%	4.5%	2.0%	4.4%	4.3%
EBITDA	4,200	4,454	4,531	4,828	5,076
% Change	8.1%	6.1%	1.7%	6.6%	5.1%
Net Interest & Other Income	52	(217)	(240)	(209)	(195)
<b>Net Income (Adjusted)</b>	<b>3,034</b>	<b>2,957</b>	<b>2,934</b>	<b>3,159</b>	<b>3,352</b>
<b>% Change</b>	<b>12.6%</b>	<b>-2.5%</b>	<b>-0.8%</b>	<b>7.7%</b>	<b>6.1%</b>

## Free Cash Flow Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Net Income from Cont Operations (GAAP)	3,034	2,957	2,934	3,159	3,352
Depreciation & Amortization	410	414	418	422	427
Change in Working Capital	(818)	(138)	104	40	52
Deferred Taxation Charge	NA	NA	NA	NA	NA
Other Adjustments, Net	(278)	171	(31)	(18)	(24)
Capital Expenditure	(412)	(322)	(333)	(347)	(362)
<b>Free Cash Flow</b>	<b>1,936</b>	<b>3,082</b>	<b>3,092</b>	<b>3,256</b>	<b>3,445</b>
<b>% Change</b>	<b>-14.4%</b>	<b>59.2%</b>	<b>0.3%</b>	<b>5.3%</b>	<b>5.8%</b>
Share / Issue Repurchase	(1,721)	(1,500)	(1,500)	(1,100)	(1,100)
Cost of Dividends Paid	(1,542)	(1,646)	(1,720)	(1,799)	(1,904)
Change in Debt	276	476	(340)	0	(996)

## Balance Sheet Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash & Equivalents	708	1,120	652	1,009	453
Trade Receivables	3,171	3,251	3,219	3,219	3,209
Other Current Assets	2,391	2,409	2,389	2,452	2,515
Property, Plant & Equipment	1,848	1,892	1,943	2,006	2,081
Other Non-Current Assets	7,304	7,169	7,032	6,894	6,754
<b>Total Assets</b>	<b>15,422</b>	<b>15,840</b>	<b>15,235</b>	<b>15,580</b>	<b>15,013</b>
Short-Term Debt	1,590	0	0	0	0
Other Current Liabilities	3,143	3,103	3,155	3,259	3,364
Long-Term Debt	6,173	8,239	7,899	7,899	6,903
Other Non-Current Liabilities	1,427	1,598	1,567	1,549	1,526
<b>Total Liabilities</b>	<b>12,333</b>	<b>12,940</b>	<b>12,621</b>	<b>12,707</b>	<b>11,793</b>
<b>Total Equity</b>	<b>3,089</b>	<b>2,900</b>	<b>2,614</b>	<b>2,873</b>	<b>3,221</b>
<b>Total Equity &amp; Liabilities</b>	<b>15,422</b>	<b>15,840</b>	<b>15,235</b>	<b>15,580</b>	<b>15,013</b>

\* For full definitions of iQmethod<sup>SM</sup> measures, see page 12.

## Company Sector

Industrials/Multi-Industry

## Company Description

ITW is a highly diversified industrial conglomerate that designs and manufactures fasteners, components, equipment, consumables, and a variety of specialty products and equipment for a broad array of industries. Across its seven segments, Auto OE accounts for 20% of sales, Food Equipment 16%, Test & Measurement 17%, Welding 12%, Polymers & Fluids 11%, Construction Products 12%, and Specialty Products 10%. By region, North America accounts for about 52% of sales, EMEA 27%, APAC 19%, and SA 2%.

## Investment Rationale

ITW is a large cap industrial conglomerate that has best in class margins and returns. The company has executed well but struggles to grow. Organic growth has been lackluster and we see margin challenges in 50% of the company in 2024. We see risk of multiple de-rating as '24 is likely to be another year of below-average growth for ITW.

## Stock Data

Average Daily Volume 1,044,619

## Quarterly Earnings Estimates

	2023	2024
Q1	2.33A	2.34E
Q2	2.48A	2.42E
Q3	2.55A	2.55E
Q4	2.38A	2.57E

**Exhibit 1: 4Q23 earnings variance analysis**

Actual versus estimate

	Actual			Reported		BofA Estimate		Variation Versus BofA Est.		
(in US\$ mn, except per share data)	4Q:22A	4Q:23A	y/y% chg.	4Q:23E	y/y% chg.			Dollar	Percentage	EPS
<b>Segment Sales</b>										
Automotive OEM	745	814	9%	778	3%	36			5%	
Food Equipment	631	655	4%	675	7%	(20)			-3%	
Test & Measurement & Electronics	732	731	0%	725	1%	6			1%	
Welding	481	451	-6%	464	-3%	(13)			-3%	
Polymers & Fluids	455	440	-3%	463	-2%	(23)			-5%	
Construction Products	470	459	-2%	457	-13%	2			0%	
Specialty Products	462	437	-5%	419	-4%	18			4%	
Industrial Packaging	-	-	0%	-	0%	-			-	
Intersegment	(5)	(4)	-20%	(6)	20%	-			-	
<b>Total</b>	<b>3,971</b>	<b>3,983</b>	<b>0%</b>	<b>3,975</b>	<b>-1%</b>	<b>8</b>			<b>0%</b>	
<b>Segment Operating Profit</b>										
Automotive OEM	128	143	12%	133	4%	10			8%	\$ 0.03
Food Equipment	173	177	2%	191	11%	(14)			-7%	\$ (0.04)
Test & Measurement & Electronics	198	185	-7%	183	-8%	2			1%	\$ 0.01
Welding	152	134	-12%	141	-7%	(7)			-5%	\$ (0.02)
Polymers & Fluids	117	125	7%	131	12%	(6)			-4%	\$ (0.01)
Construction Products	120	124	3%	133	11%	(9)			-7%	\$ (0.02)
Specialty Products	119	116	-3%	108	-9%	8			8%	\$ 0.02
<b>Segment Total</b>	<b>1,007</b>	<b>1,004</b>	<b>0%</b>	<b>1,020</b>	<b>1%</b>	<b>(16)</b>			<b>-2%</b>	<b>\$ (0.04)</b>
Unallocated	(21)	(16)	-24%	(25)	19%	9			-36%	\$ 0.02
<b>Total</b>	<b>986</b>	<b>988</b>	<b>0%</b>	<b>995</b>	<b>1%</b>	<b>(7)</b>			<b>-1%</b>	<b>\$ (0.02)</b>
<b>Segment Operating Margin</b>										
Automotive OEM	17.2%	17.6%	40 bp	17.1%	(10 bp)			50 bp		
Food Equipment	27.4%	27.0%	(40 bp)	28.3%	90 bp			(130 bp)		
Test & Measurement & Electronics	27.0%	25.3%	(170 bp)	25.2%	(180 bp)			10 bp		
Welding	31.6%	29.7%	(190 bp)	30.5%	(110 bp)			(80 bp)		
Polymers & Fluids	25.7%	28.4%	270 bp	28.2%	250 bp			20 bp		
Construction Products	25.5%	27.0%	150 bp	29.0%	350 bp			(200 bp)		
Specialty Products	25.8%	26.5%	80 bp	25.8%	0 bp			80 bp		
Industrial Packaging	-	0.0%	0 bp	0.0%	0 bp			-		
<b>Segment Total</b>	<b>25.4%</b>	<b>24.8%</b>	<b>(60 bp)</b>	<b>25.0%</b>	<b>30 bp</b>			<b>(20 bp)</b>		
<b>Net Sales</b>	<b>3,971</b>	<b>3,983</b>	<b>0%</b>	<b>3,975</b>	<b>0%</b>	<b>8</b>			<b>0%</b>	
COGS	2,309	2,312	0%	2,306	0%	6			0%	
<b>Gross Profit</b>	<b>1,662</b>	<b>1,671</b>	<b>1%</b>	<b>1,670</b>	<b>0%</b>	<b>1</b>			<b>0%</b>	<b>\$ 0.00</b>
SG&A	676	683	1%	675	0%	8			1%	\$ (0.02)
<b>Operating Income</b>	<b>983</b>	<b>988</b>	<b>1%</b>	<b>995</b>	<b>1%</b>	<b>(7)</b>			<b>-1%</b>	<b>\$ (0.02)</b>
Interest income / (expense)	(56)	(70)	NM	(67)	NM	(3)			4%	\$ (0.01)
Other income	191	9	-95%	10	-95%	(1)			-10%	\$ (0.00)
<b>EBT</b>	<b>1,121</b>	<b>927</b>	<b>-17%</b>	<b>938</b>	<b>-16%</b>	<b>(11)</b>			<b>-1%</b>	<b>\$ (0.03)</b>
Taxes	214	210	-2%	225	5%	(15)			-7%	
Tax Rate	19.1%	22.7%	360 bp	24.0%	490 bp			(130 bp)	=	\$ 0.04
<b>Net Income (Continuing Operations)</b>	<b>907</b>	<b>717</b>	<b>-21%</b>	<b>713</b>	<b>-21%</b>	<b>4</b>			<b>1%</b>	<b>\$ 0.01</b>
Discontinued Operations	-	-	NM	-	NM	-			NM	
<b>Net Income (GAAP)</b>	<b>907</b>	<b>717</b>	<b>-21%</b>	<b>713</b>	<b>-21%</b>	<b>4</b>			<b>1%</b>	
<b>FULLY DILUTED EPS</b>	<b>\$2.95</b>	<b>\$2.38</b>	<b>-19%</b>	<b>\$2.37</b>	<b>-20%</b>			<b>\$0.01</b>	<b>1%</b>	<b>\$ -</b>
Diluted Shares Outstanding	308	301	-2%	301	-2%	0			0%	\$ (0.00)

	Actual	Reported	BofA Estimate	Variation (b.p.)	
Margin Analysis	4Q:22A	4Q:23A	4Q:23E	BofA Est.	4Q:22A
COGS	58.1%	58.0%	58.0%	0 bp	(10 bp)
Gross Margin	41.9%	42.0%	42.0%	0 bp	10 bp
SG&A	17.0%	17.1%	17.0%	20 bp	10 bp
Operating Margin	24.8%	24.8%	25.0%	(20 bp)	10 bp
EBT Margin	28.2%	23.3%	23.6%	(30 bp)	(500 bp)
Net Margin	22.8%	18.0%	17.9%	10 bp	(480 bp)
Segment Incremental Margin	40.1%	-25.0%	298.3%	(32330 bp)	(6510 bp)

Source: Company filings, BofA Global Research estimates

BofA GLOBAL RESEARCH



## Introducing 2024 GAAP EPS guidance

We are maintaining our 2024 GAAP EPS estimate at \$9.87. This largely reflects foreign exchange as a tailwind to our estimates (~+\$0.05) and higher below-the-line impacts from interest expense and tax. We slightly tweak our margin and revenue estimates to reflect more confidence in growth for certain segments (e.g. Test & Measurement & Electronics) and a more negative outlook in others (e.g. Food Equipment).

### Exhibit 2: ITW 2024 outlook vs. BofA estimates and Bloomberg consensus

BofA GAAP EPS maintained

As of	4Q23	Old	BofA New	Consensus
Organic Sales Growth	1-3%	2.1%	2.3%	2.6%
FX	1%	-0.8%	1.0%	-0.2%
M&A	0.0%	-0.1%	0.0%	0.2%
Total Sales Growth	2-4%	1.3%	3.2%	2.5%
<b>Sales</b>	<b>\$16.4-\$16.7bn</b>	<b>\$16.3bn</b>	<b>\$16.6bn</b>	<b>\$16.5bn</b>
Segment margin	25.5-26.5%	24.9%	24.7%	25.4%
Tax rate	24-24.5%	23.5%	24.3%	23.8%
<b>GAAP EPS</b>	<b>\$10.00-\$10.40</b>	<b>\$9.87</b>	<b>\$9.87</b>	<b>\$10.17</b>
FCF conversion	100%	106.6%	105.0%	

Source: Company filings, BofA Global Research estimates, Visible Alpha, Bloomberg

BofA GLOBAL RESEARCH

Our organic growth estimate is 20bp higher at 2.3%. The key segment we see topline risk to is Automotive OEM given the North American IHS forecast for production volumes is flat globally and in North America. We maintain our estimate at 3% organic, well below consensus but at the low end of the range.

### Exhibit 3: Organic growth guidance vs. BofAe vs. consensus

We forecast total organic growth 20bps higher at 2.3%

Segment	Guide	Old	BofAe New	Consensus
Automotive OEM	3-5%	3.0%	3.0%	6.6%
Food Equipment	3-5%	5.0%	4.5%	4.1%
Test, measurement and electronics	2-4%	1.0%	2.2%	1.3%
Welding	3-5%	1.8%	2.7%	3.0%
Polymers & Fluids	3-5%	1.5%	4.6%	2.0%
Construction Products	(3) to (1)%	0.2%	-1.5%	-1.7%
Specialty Products	(3) to (1)%	1.0%	-1.0%	0.0%
Total organic	2-4%	2.1%	2.3%	2.6%

Source: Company filings, BofA Global Research estimates, Visible Alpha, Bloomberg

BofA GLOBAL RESEARCH

## Illustrative look at getting to guidance margins

Below we indicate the assumptions that we believe are needed to get to the company's operating margin guide. We use the midpoint of the company's revenue guidance and to back into "segment income" translations from the margin impact bridge. With enterprise initiatives offset by reinvestment and moderating price/cost impact, we argue the margin guidance requires volume leverage. We note the below math is illustrative given we are translating y/y bps impact to operating profit dollars.

**Exhibit 4: Operating profit guidance, illustrative**

The implied margin of the below is 25.7%, within the 25.5%-26.5% guide

**ITW margin bridge**

	2024
Revenue BOP	16,115
Volume	460
Price	161
Acq/Divestiture	-
FX	161
Revenue EOP	16,437
Revenue EOP from model	16,437
Difference	
<b>Segment Income BOP</b>	<b>4,040</b>
Acquisitions	-
Volume leverage	115
Price/cost	49
Mix	-
FX	16
Enterprise Initiatives	164
Reinvestment	(164)
Segment income EOP	4,220

Source: BofA Global Research estimates, company files

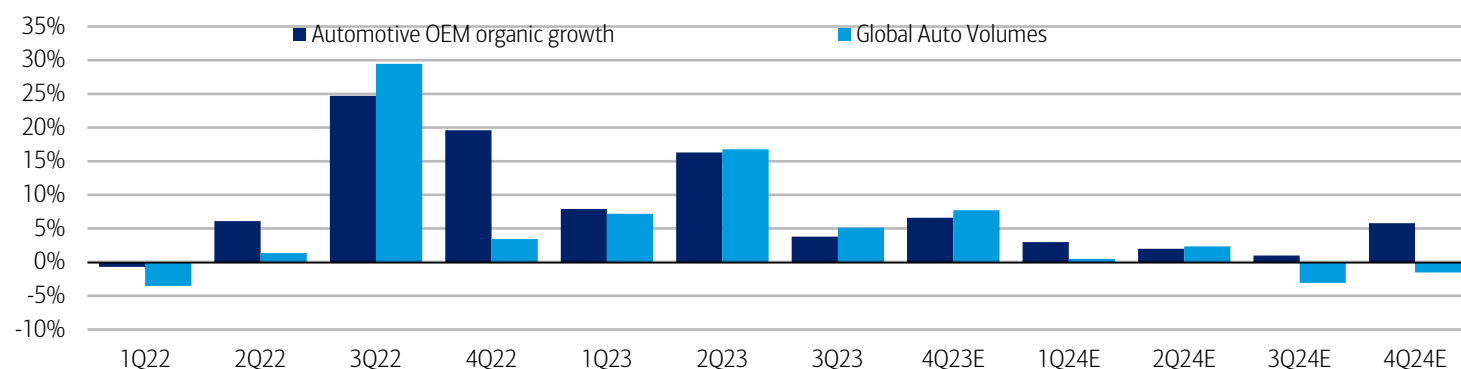
BofA GLOBAL RESEARCH

The margin guidance implies roughly ~2-3pts of y/y volume growth coming in at a 25% incremental. We would think the company gets incremental price of normal levels (e.g. ~1%) overall. As a result, the volume guide is at the high end of the company's 1-3% y/y organic growth range., with the exception of Automotive OEM.

We see risk to the company delivering on its margin target given historical struggles with volume growth and a muted forecast for Auto OEM production volumes next year and particularly in 2H24 (where we forecast ITW Auto outgrowing production 400 and 700bps, respectively).

**Exhibit 6: Auto OEM organic growth vs. Global Auto Volumes, IHS**

ITW grows with auto production



Source: BofA Global Research

BofA GLOBAL RESEARCH

**Exhibit 5: Operating margin guidance, illustrative**

The implied margin of the below is 26.2%, within the 25.5%-26.5% guide

**ITW margin bridge**

	2024
Revenue BOP	16,115
Volume	460
Price	161
Acq/Divestiture	-
FX	161
Revenue EOP	16,437
Revenue EOP from model	16,437
Difference	
<b>Segment Margin BOP</b>	<b>25.1%</b>
Acquisitions	0.0%
Volume leverage	0.7%
Price/cost	0.3%
Mix	0.0%
FX	0.1%
Enterprise Initiatives	1.0%
Reinvestment	-1.0%
<b>Segment Margin EOP</b>	<b>26.2%</b>
	<b>%</b>

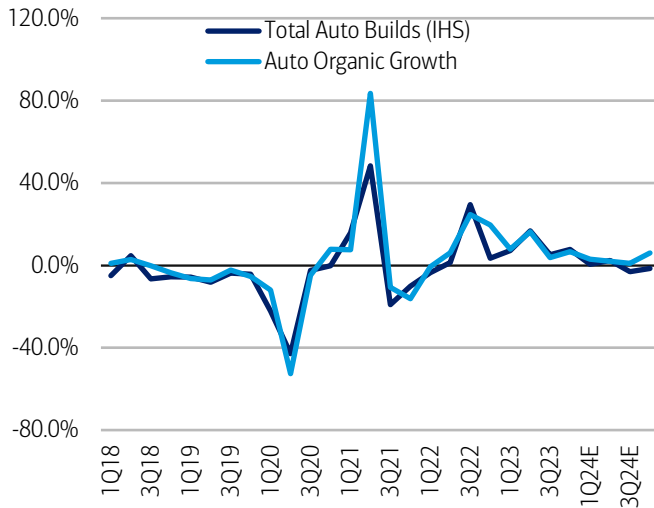
Source: BofA Global Research estimates, company files

BofA GLOBAL RESEARCH

## Segment organic growth review

### Auto OEM

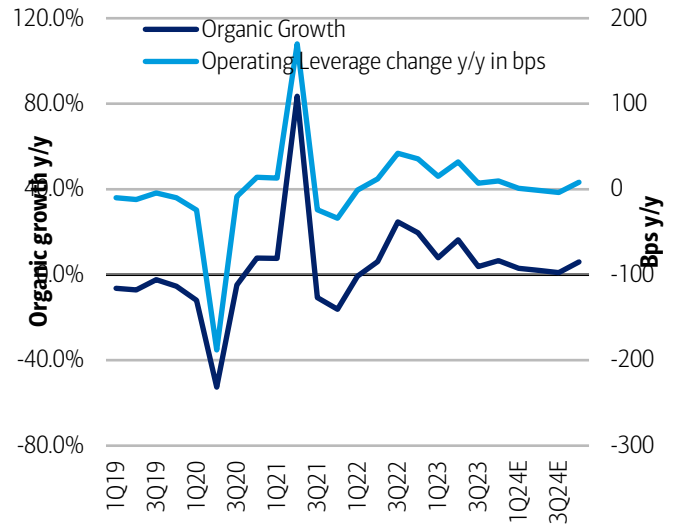
**Exhibit 7: IHS Global Production forecast vs. Auto OEM organic growth**  
93% correlation, 1Q18-4Q23



Source: BofA Global Research, IHS Markit

BofA GLOBAL RESEARCH

**Exhibit 8: Auto OEM organic growth vs. operating leverage y/y**  
98% correlation

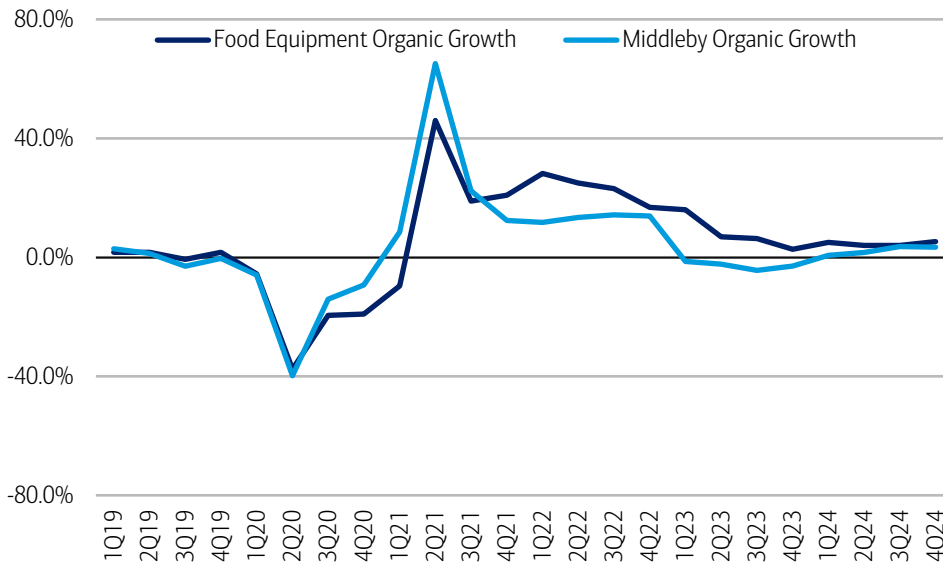


Source: BofA Global Research, company filings

BofA GLOBAL RESEARCH

### Food Equipment

**Exhibit 9: Food Equipment organic growth vs. Middleby Organic growth**  
87% correlation



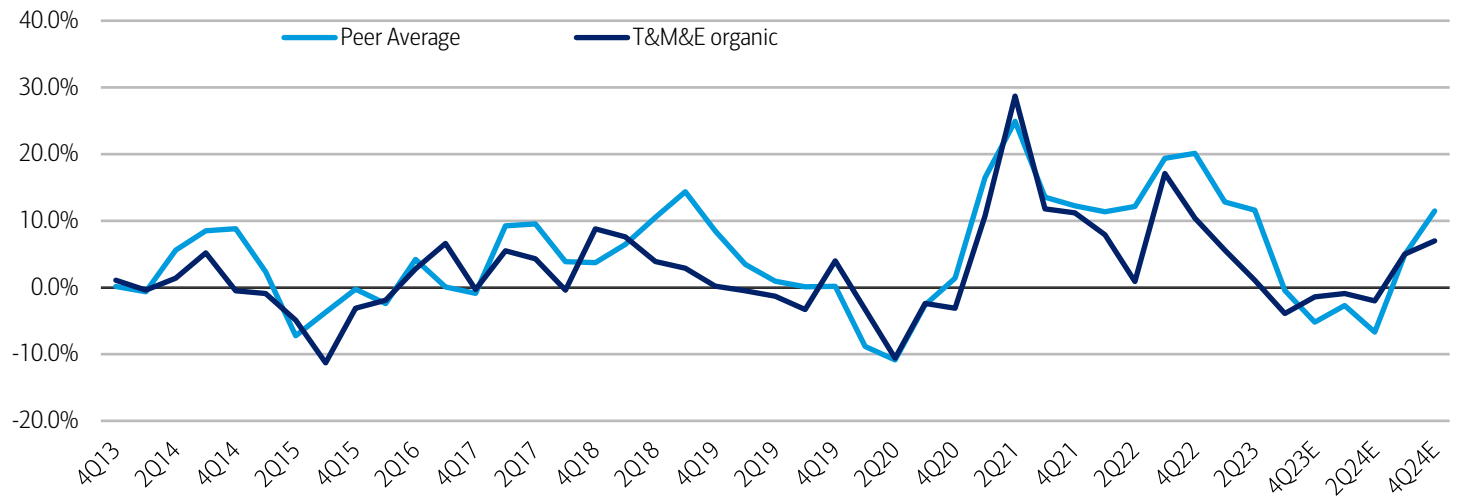
Source: BofA Global Research, Visible Alpha consensus for Middleby

BofA GLOBAL RESEARCH

## Test & Measurement & Electronics

### Exhibit 10: Test & Measurement & Electronics organic growth vs. peer set

92% correlation



Source: BofA Global Research

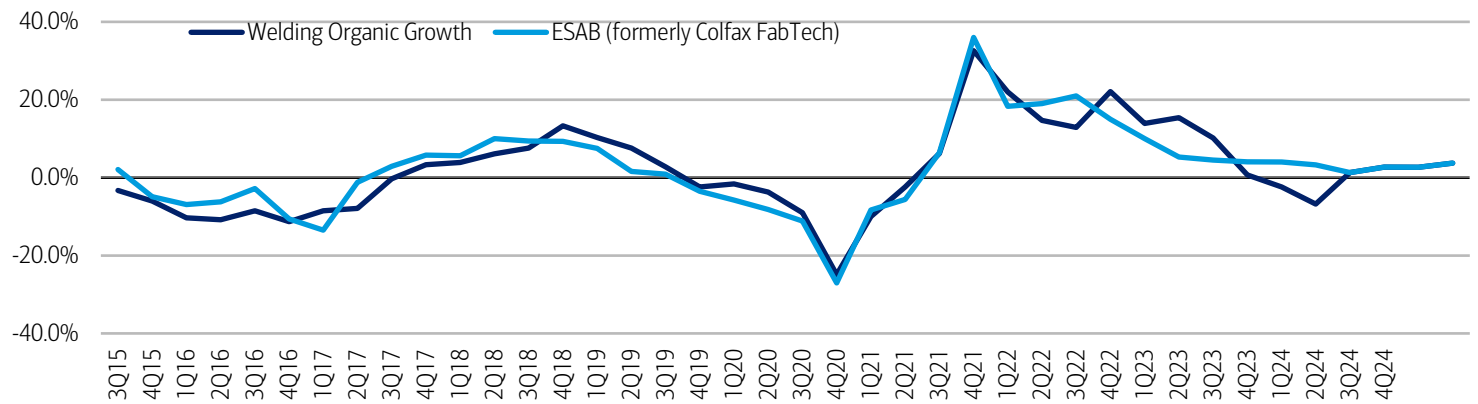
\*\*NOTE: KEYS is not calendarized in the Peer Average

BofA GLOBAL RESEARCH

## Welding

### Exhibit 11: Welding organic growth vs. ESAB

92% correlation



Source: BofA Global Research

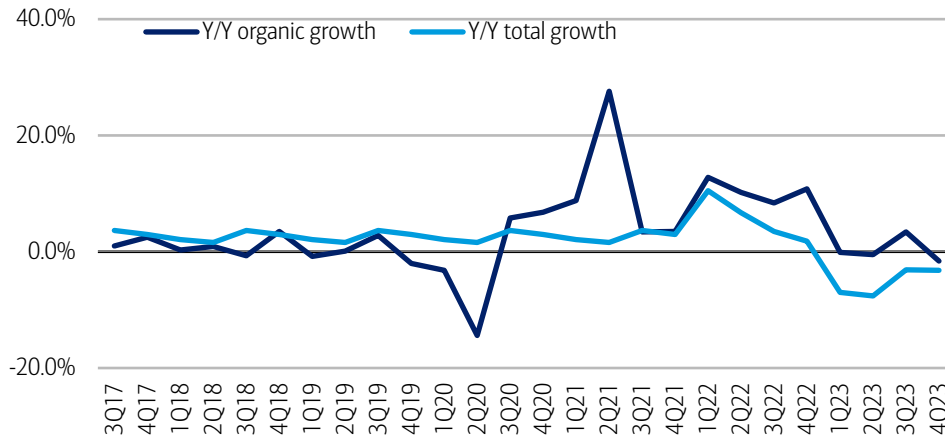
Note: We use consensus forecasts for ESAB 2024E

BofA GLOBAL RESEARCH

## Polymers & Fluids

### Exhibit 12: Polymers & Fluids fell (3.2)% organically

Polymers & Fluids y/y organic vs. total growth



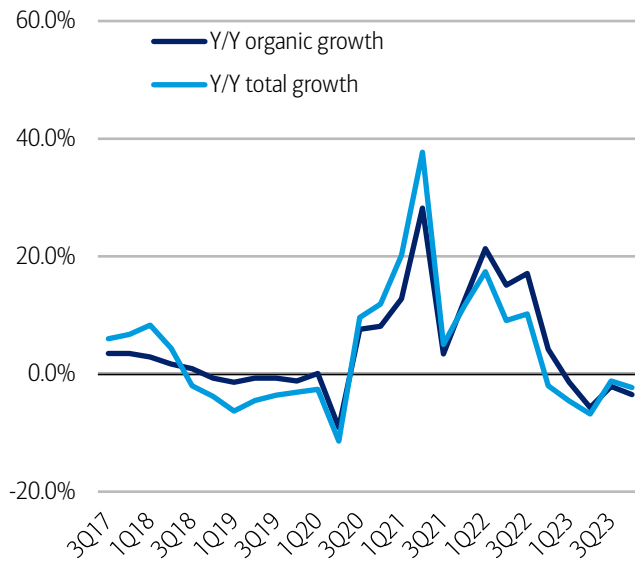
Source: BofA Global Research

BofA GLOBAL RESEARCH

## Construction Products & Specialty Products

### Exhibit 13: Construction Products fell (3.5)% organically

Construction Products y/y organic vs. revenue growth

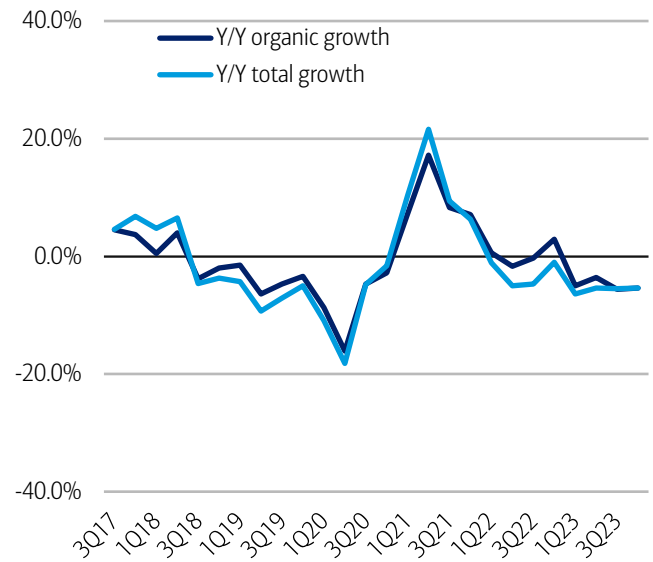


Source: BofA Global Research, company filings

BofA GLOBAL RESEARCH

### Exhibit 14: Specialty Products fell (5.4)% organically

Specialty Products y/y organic vs. revenue growth



Source: BofA Global Research, company filings

BofA GLOBAL RESEARCH



## Segment operating margin review

### Exhibit 15: BofAe segment margin estimates, 2021-2024E

We forecast (40)bp of contraction in 2024E

	2021				2022				2023				2024 E			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Automotive OEM</b>	<b>24.1%</b>	<b>18.8%</b>	<b>17.3%</b>	<b>16.7%</b>	<b>18.2%</b>	<b>14.2%</b>	<b>17.5%</b>	<b>17.2%</b>	<b>16.1%</b>	<b>16.8%</b>	<b>18.9%</b>	<b>17.6%</b>	<b>17.7%</b>	<b>18.2%</b>	<b>19.5%</b>	<b>20.4%</b>
Food Equipment	21.3%	22.0%	23.9%	22.8%	22.3%	24.8%	26.4%	27.4%	26.6%	27.8%	27.3%	27.0%	26.6%	27.6%	27.6%	27.6%
Test & Measurement & Electronics	28.4%	28.1%	26.8%	26.4%	21.8%	22.6%	25.2%	27.0%	24.5%	23.1%	23.9%	25.3%	24.4%	22.8%	25.3%	27.2%
Welding	30.2%	28.6%	30.1%	29.9%	30.9%	29.2%	31.4%	31.6%	31.8%	34.1%	31.4%	29.7%	31.5%	31.3%	31.3%	29.8%
Polymers & Fluids	25.7%	27.3%	24.3%	23.9%	24.5%	25.2%	25.2%	25.7%	24.4%	25.9%	28.2%	28.4%	25.4%	26.3%	26.8%	27.3%
Construction Products	27.7%	27.6%	27.8%	25.8%	24.7%	27.6%	25.8%	25.5%	27.6%	29.3%	29.7%	27.0%	25.6%	27.8%	28.0%	25.1%
Specialty Products	27.6%	27.2%	27.5%	26.6%	26.3%	27.1%	27.6%	25.8%	25.8%	27.8%	26.5%		26.3%	26.3%	28.3%	26.5%
<b>TOTAL operating income</b>	<b>25.5%</b>	<b>24.3%</b>	<b>23.8%</b>	<b>22.7%</b>	<b>22.7%</b>	<b>23.1%</b>	<b>24.5%</b>	<b>24.8%</b>	<b>24.1%</b>	<b>24.8%</b>	<b>26.5%</b>	<b>24.8%</b>	<b>24.0%</b>	<b>24.4%</b>	<b>25.4%</b>	<b>25.2%</b>
<b>Incremental margins</b>																
<b>Automotive OEM</b>	<b>50.6%</b>	<b>46.5%</b>	<b>55.2%</b>	<b>58.4%</b>	<b>221.7%</b>	<b>-800.0%</b>	<b>18.9%</b>	<b>20.7%</b>	<b>-27.8%</b>	<b>33.0%</b>	<b>41.3%</b>	<b>21.7%</b>	<b>53.9%</b>	<b>64.3%</b>	<b>54.6%</b>	<b>56.0%</b>
Food Equipment	65.6%	46.1%	44.2%	24.5%	26.1%	39.0%	41.6%	69.4%	62.3%	75.0%	40.0%	16.7%	27.0%	22.6%	33.6%	37.8%
Test & Measurement & Electronics	53.7%	35.1%	50.8%	14.7%	-6.0%	-14.4%	19.6%	31.3%	127.8%	125.0%	76.5%	1300.0%	5.8%	47.8%	50.5%	50.1%
Welding	41.4%	49.0%	40.5%	35.2%	36.7%	32.1%	42.3%	44.1%	41.9%	625.0%	33.3%	60.0%	12.4%	-60.5%	27.4%	31.0%
Polymers & Fluids	45.2%	40.2%	-27.8%	-40.0%	13.0%	-6.7%	47.1%	125.0%	26.5%	16.2%	-66.7%	-53.3%	43.8%	32.1%	-19.1%	13.5%
Construction Products	49.4%	37.3%	22.7%	24.0%	7.3%	27.7%	6.1%	40.0%	-36.0%	5.1%	-380.0%	-36.4%	69.8%	98.9%	-32.0%	-93.4%
Specialty Products	39.5%	35.7%	51.3%	17.9%	600.0%	29.2%	23.8%	100.0%	33.3%	50.0%	25.0%	12.0%	137.0%	347.1%	1192.9%	26.5%
<b>TOTAL</b>	<b>46.2%</b>	<b>42.7%</b>	<b>35.7%</b>	<b>-4.4%</b>	<b>-1.3%</b>	<b>7.5%</b>	<b>25.7%</b>	<b>40.1%</b>	<b>75.0%</b>	<b>123.8%</b>	<b>220.0%</b>	<b>-25.0%</b>	<b>31.0%</b>	<b>12.8%</b>	<b>28.5%</b>	<b>37.5%</b>

Source: BofA Global Research estimates, company filings

BofA GLOBAL RESEARCH



# Valuation

We base our \$235 price objective on 16x 2025E EV/EBITDA. This compares to the peer average at 15x and high-quality compounders at ~18x. Shares currently trade at 18.5x 2024E; we think de-rating from here is likely given a lack of earnings growth. We maintain a slight premium to the industrial group given above-average EBITDA margins.

## Exhibit 16: Comparable company analysis

ITW trades at 18x 2024E EV/EBITDA vs. peers at 15x

Company	Ticker	Stock Price 2/1/2024	P/E		EV/EBITDA		EBITDA Margin		EPS Growth		P/FCF	
			2024E	2025E	2024E	2025E	2024E	2025E	2024E	2025E	2024E	2025E
Ametek	AME	\$165.87	24.3 x	22.4 x	18.1 x	17.1 x	30.4%	30.7%	7.7%	8.5%	25.4 x	23.6 x
Dover	DOV	\$156.55	17.3 x	15.6 x	13.1 x	12.2 x	21.6%	22.1%	2.8%	10.7%	17.0 x	15.4 x
Emerson	EMR	\$93.76	17.5 x	16.1 x	12.8 x	11.9 x	28.8%	27.4%	15.5%	8.6%	20.0 x	18.0 x
Eaton	ETN	\$264.57	26.6 x	25.0 x	20.6 x	19.3 x	22.4%	22.5%	10.3%	6.4%	31.2 x	28.5 x
Fortive	FTV	\$82.23	23.0 x	21.3 x	18.3 x	17.2 x	27.8%	28.2%	5.6%	8.1%	22.1 x	20.4 x
Honeywell	HON	\$197.31	19.5 x	17.6 x	13.3 x	12.4 x	26.7%	27.1%	9.9%	11.2%	21.3 x	18.8 x
Ilex	IEX	\$220.18	26.8 x	24.8 x	19.2 x	18.3 x	26.4%	25.7%	0.7%	8.1%	26.5 x	23.4 x
ITT	ITT	\$124.08	20.5 x	18.4 x	13.2 x	12.0 x	21.5%	22.3%	16.3%	11.4%	20.7 x	17.7 x
Johnson Controls	JCI	\$54.03	13.9 x	12.1 x	9.8 x	8.8 x	15.3%	16.5%	9.5%	14.5%	17.2 x	13.1 x
3M	MMM	\$95.91	9.2 x	8.7 x	7.1 x	6.8 x	27.9%	28.3%	14.2%	5.9%	16.1 x	10.2 x
Rockwell	ROK	\$263.01	19.2 x	17.9 x	16.1 x	13.7 x	21.6%	24.6%	10.2%	7.1%	19.4 x	17.4 x
Trane Technologies	TT	\$270.74	<u>28.1 x</u>	<u>26.4 x</u>	<u>19.4 x</u>	<u>18.3 x</u>	<u>18.0%</u>	<u>18.2%</u>	<u>7.0%</u>	<u>6.6%</u>	<u>28.2 x</u>	<u>26.6 x</u>
<b>Average</b>			<b>20.5 x</b>	<b>18.9 x</b>	<b>15.1 x</b>	<b>14.0 x</b>	<b>24.0%</b>	<b>24.5%</b>	<b>9.2%</b>	<b>8.9%</b>	<b>22.1 x</b>	<b>19.4 x</b>
<b>ILLINOIS TOOL WORKS</b>		<b>\$255.55</b>	<b>25.9 x</b>	<b>23.7 x</b>	<b>18.1 x</b>	<b>17.0 x</b>	<b>27.2%</b>	<b>27.8%</b>	<b>1.3%</b>	<b>9.3%</b>	<b>24.6 x</b>	<b>23.0 x</b>
<b>ILLINOIS TOOL WORKS at PO</b>		<b>\$235.00</b>	<b>23.8 x</b>	<b>21.8 x</b>	<b>16.8 x</b>	<b>15.7 x</b>	<b>27.2%</b>	<b>27.8%</b>	<b>1.3%</b>	<b>9.3%</b>	<b>22.6 x</b>	<b>21.1 x</b>

Source: BofA Global Research estimates, company files

BofA GLOBAL RESEARCH

## Price objective basis & risk

### Illinois Tool Works (ITW)

We base our \$235 price objective on 16x 2025E EV/EBITDA. This compares to the peer average at 15x and high-quality compounders at 18x. We maintain a slight premium to the industrial group given above-average EBITDA margins.

Upside risks to our PO are 1) Auto production volumes revised upward, driving better near-term margin expansion and topline, 2) Welding price/cost and volumes better than expected, and 3) T&M&E recovers from cyclical downturn faster than forecasted. More margin expansion vs. our forecast would alleviate pressure on the multiple and drive positive earnings revisions. Downside risks are: 1) Auto volumes remain depressed, limiting near-term margin expansion, 2) investor sentiment pressured more than expected on lackluster earnings growth.

## Analyst Certification

I, Andrew Obin, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

### US - Multi-Industrials/Engineering and Construction Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	APi Group	APG	APG US	Andrew Obin
	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
	Flowserve	FLS	FLS US	Andrew Obin
	General Electric Company	GE	GE US	Andrew Obin
	Honeywell International Inc.	HON	HON US	Andrew Obin
	ITT Inc.	ITT	ITT US	Andrew Obin
	Montrose Environmental Group, Inc.	MEG	MEG 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
<b>NEUTRAL</b>				
	3M Company	MMM	MMM US	Andrew Obin
	AMETEK Inc	AME	AME US	Andrew Obin
	Fortive Corporation	FTV	FTV US	Andrew Obin
	Johnson Controls International PLC	JCI	JCI US	Andrew Obin
	Pentair plc	PNR	PNR US	Andrew Obin
	Rockwell	ROK	ROK US	Andrew Obin
	Trane Technologies PLC	TT	TT US	Andrew Obin
<b>UNDERPERFORM</b>				
	Allegion	ALLE	ALLE US	Andrew Obin
	Carrier Global Corp.	CARR	CARR US	Andrew Obin
	Core & Main	CNM	CNM 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



## iQmethod<sup>SM</sup> Measures Definitions

### Business Performance

Return On Capital Employed

Return On Equity

Operating Margin

Earnings Growth

Free Cash Flow

### Quality of Earnings

Cash Realization Ratio

Asset Replacement Ratio

Tax Rate

Net Debt-To-Equity Ratio

Interest Cover

### Valuation Toolkit

Price / Earnings Ratio

Price / Book Value

Dividend Yield

Free Cash Flow Yield

Enterprise Value / Sales

EV / EBITDA

### Numerator

NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization

Net Income

Operating Profit

Expected 5 Year CAGR From Latest Actual

Cash Flow From Operations – Total Capex

### Numerator

Cash Flow From Operations

Capex

Tax Charge

Net Debt = Total Debt – Cash &amp; Equivalents

EBIT

### Numerator

Current Share Price

Current Share Price

Annualised Declared Cash Dividend

Cash Flow From Operations – Total Capex

EV = Current Share Price × Current Shares + Minority Equity + Net Debt +

Other LT Liabilities

Enterprise Value

### Denominator

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill

Amortization

Shareholders' Equity

Sales

N/A

N/A

### Denominator

Net Income

Depreciation

Pre-Tax Income

Total Equity

Interest Expense

### Denominator

Diluted Earnings Per Share (Basis As Specified)

Shareholders' Equity / Current Basic Shares

Current Share Price

Market Cap = Current Share Price × Current Basic Shares

Sales

Basic EBIT + Depreciation + Amortization

iQmethod<sup>SM</sup> is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

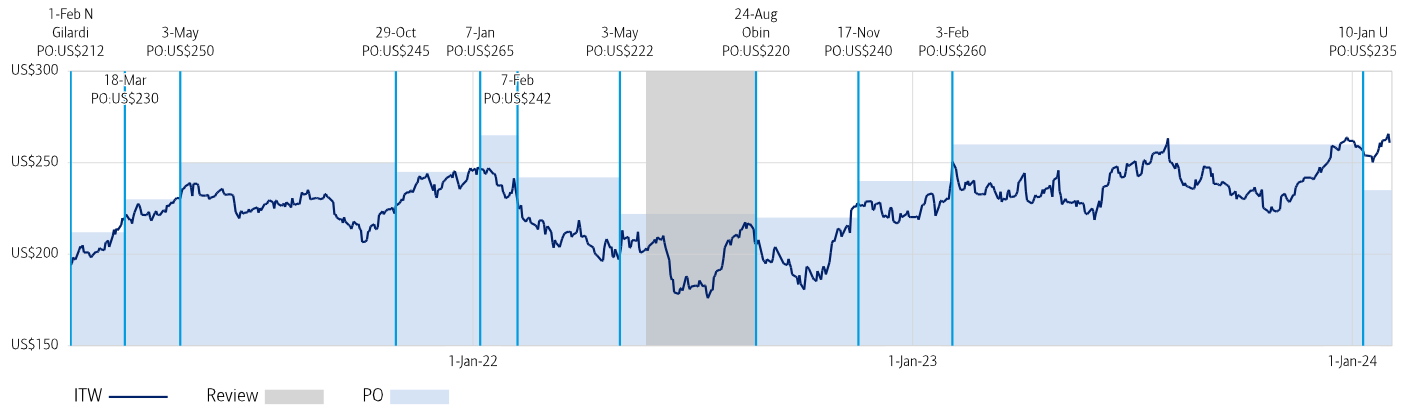
iQdatabase<sup>®</sup> is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

iQprofile<sup>SM</sup>, iQmethod<sup>SM</sup> are service marks of Bank of America Corporation. iQdatabase<sup>®</sup> is a registered service mark of Bank of America Corporation.

# Disclosures

## Important Disclosures

### Illinois Tool Works (ITW) Price Chart



ITW — Review PO

B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

### Equity Investment Rating Distribution: Industrials/Multi-Industry Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	45	50.56%	Buy	25	55.56%
Hold	26	29.21%	Hold	13	50.00%
Sell	18	20.22%	Sell	7	38.89%

### Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

<sup>R1</sup> 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.

**FUNDAMENTAL EQUITY OPINION KEY:** Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

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

<sup>R2</sup> 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.

**INCOME RATINGS**, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. **Coverage Cluster** is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

Price Charts for the securities referenced in this research report are available on the [Price Charts website](#), or call 1-800-MERRILL to have them mailed.

BofAS or one of its affiliates acts as a market maker for the equity securities recommended in the report: Illinois Tool Works.

The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Illinois Tool Works.

The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: Illinois Tool Works.

BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Illinois Tool Works.

BofAS together with its affiliates beneficially owns one percent or more of the common stock of this issuer. If this report was issued on or after the 9th day of the month, it reflects the ownership position on the last day of the previous month. Reports issued before the 9th day of a month reflect the ownership position at the end of the second month preceding the date of the report: Illinois Tool Works.

BofAS or one of its affiliates is willing to sell to, or buy from, clients the common equity of the issuer on a principal basis: Illinois Tool Works.



BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

## Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

Officers of BofA or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

**"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.**

### Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at [www.bofam.com/BofASEdisclaimer](http://www.bofam.com/BofASEdisclaimer); BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

### General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including,



among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BoFA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BoFA or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BoFA or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BoFA Securities, through business units other than BoFA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BoFA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information. In the event that the recipient received this information pursuant to a contract between the recipient and BoFA for the provision of research services for a separate fee, and in connection therewith BoFA may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BoFA has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BoFA). If such recipient uses the services of BoFA in connection with the sale or purchase of a security referred to herein, BoFA may act as principal for its own account or as agent for another person. BoFA is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

#### **BoFA ESGMeter Methodology:**

ESGMeter is a proprietary metric based on quantitative analysis and fundamental analyst inputs that reflects our assessment of a company's Environmental, Social and Governance-related attributes. The ESGMeter is intended to indicate a company's likelihood of experiencing stronger financial stability (higher return on equity and lower earnings and price volatility) over the next three years relative to peer group. There are three ESGMeter levels - Low, Medium, and High - which indicate whether a company has attributes most likely to translate into superior financial stability (in the case of a High level) or weaker financial stability (in the case of a Low level) over the next three years relative to its peer group. A Medium level suggests that a company exhibits ESG characteristics that are likely associated with financial stability results in line with its peer group over the next three years. Full details of our methodology, financial stability definition and disclaimers are available at [BoFA ESGMeter methodology](#). ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of the BoFA Global Research fundamental equity analyst's investment rating, volatility risk rating, income rating or price objective for that company.

#### **Copyright and General Information:**

Copyright 2024 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BoFA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BoFA Securities. BoFA Global Research information is distributed simultaneously to internal and client websites and other portals by BoFA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BoFA Securities.

Materials prepared by BoFA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BoFA Securities, including investment banking personnel. BoFA Securities has established information barriers between BoFA Global Research and certain business groups. As a result, BoFA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BoFA Global Research personnel's knowledge of legal proceedings in which any BoFA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BoFA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BoFA or any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BoFA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BoFA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BoFA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BoFA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BoFA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BoFA Securities is under no obligation to update this information and BoFA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BoFA Securities will not update any fact, circumstance or opinion contained herein.

Subject to the quiet period applicable under laws of the various jurisdictions in which we distribute research reports and other legal and BoFA Securities policy-related restrictions on the publication of research reports, fundamental equity reports are produced on a regular basis as necessary to keep the investment recommendation current.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BoFA or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BoFA Securities nor any officer or employee of BoFA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

