

## James Hardie Industries Plc

**Solid demand outlook but high bar to beat  
& JHX priced for perfection; d/g to U/P**

Rating Change: UNDERPERFORM | PO: 53.80 AUD | Price: 58.82 AUD

**Downgrade James Hardie to Underperform**

We downgrade James Hardie (JHX) to Underperform (from Neutral) with a revised PO of A\$53.80/US\$35.50 (from A\$52.00/US\$34.30). We continue to like fiber cement as a product and JHX's competitive positioning, as well as JHX's mix shift towards the resilient R&R market. However, we see several reasons that warrant a more cautious view: (1) Solid US demand outlook reflected in estimates: The outlook on US new construction has turned increasingly positive recently driven by rate cut expectations. While we acknowledge that US new housing will likely remain strong, we think this is adequately reflected in our estimates where we forecast 2HFY24E/FY25E/FY26E NA revenues to grow 11%/10%/9% yoy. (2) Rich valuation: Post the recent share price appreciation (JHX +48% in the last 3-months), JHX is trading at c. 0.7 s.d. above its historical mean on EV/EBIT. (3) Consensus appears optimistic: While we have been well ahead of consensus in the past, we note that consensus has caught up and we are now below (FY24E/FY25E/FY26E NPAT -0.2%/-0.6%/-3.5% vs. consensus).

**Tweaking estimates; PO A\$53.80; 6% potential downside**

We raise our FY24E NPAT by c.3% given slightly higher NA volume assumptions (mainly new construction) to reflect recent datapoints. We forecast 3QFY24E NPAT of \$172mn (company guidance: \$165-185mn; consensus: \$170mn). We also fine-tune our outer year estimates (raise FY25E & FY26E NPAT by c.3% each) driven by slightly higher volume/margin assumptions for North America. We keep our EMEA and Asia assumptions largely unchanged. Our PO of A\$53.80 offers 6% potential downside.

**Underperform on JHX; risk-reward unfavourable**

We believe risk-reward is unfavourable as positive outlook on US housing is adequately reflected in our estimates. Based on our recent conversations with investors, we think that earnings expectations/outlook for JHX are extremely bullish. We see risk-reward skewed to the downside heading into 3Q results (Feb 13) & are 0.4% below on 2H NPAT. Finally, we note that input costs (especially pulp & freight) have moved up sequentially.

Estimates (Mar)	2022A	2023A	2024E	2025E	2026E
Net Profit - Ex. Asbestos Expense (US\$m)	620.70	605.50	707.38	760.77	827.24
Net Profit - Inc. Asbestos Expense (US\$m)	535.14	529.80	632.12	689.02	759.79
EPS - Ex. Asbestos Expense (US\$)	1.392	1.365	1.602	1.739	1.909
EPS Change (YoY)	35.4%	-1.9%	17.3%	8.6%	9.8%
Dividend / Share (US\$)	0.700	0	0	0	0
Free Cash Flow / Share (US\$)	1.120	0.037	0.511	1.338	1.565
Valuation (Mar)					
P/E - Ex. Asbestos Expense	29.5x	26.8x	23.0x	21.2x	19.3x
P/E - Inc. Asbestos Expense	30.4x	27.6x	23.7x	21.8x	19.9x
Dividend Yield	1.6%	0%	0%	0%	0%
EV / EBITDA*	21.0x	19.5x	16.0x	14.4x	12.8x

\* For full definitions of *IQmethod*<sup>SM</sup> measures, see page 11.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

**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 12 to 15. Analyst Certification on page 10. Price Objective Basis/Risk on page 10.**

12649229

Timestamp: 22 January 2024 10:16PM EST

23 January 2024

## Equity

**Key Changes**

(US\$)	Previous	Current
Inv. Opinion	B-2-7	B-3-7
Inv. Rating	NEUTRAL	UNDERPERFORM
Price Obj.	A\$52.00	A\$53.80
2024E EPS	1.56	1.60
2025E EPS	1.69	1.74
2026E EPS	1.86	1.91
2024E EBITDA (m)	1,107.7	1,131.6
2025E EBITDA (m)	1,197.9	1,223.7
2026E EBITDA (m)	1,295.6	1,323.3

**Shaurya Visen >>**  
Research Analyst  
Merrill Lynch (Australia)  
+61 2 9226 5825  
shaurya.visen@bofa.com

**Rafe Jadrosich**  
Research Analyst  
BofAS  
rafe.jadrosich@bofa.com

**Michelle Yang >>**  
Research Analyst  
Merrill Lynch (Australia)  
michelle.yang2@bofa.com

**Stock Data**

Price (Common / ADR)	58.82 AUD / 38.21 USD
Price Objective	53.80 AUD / 35.50 USD
Date Established	23-Jan-2024 / 22-Jan-2024
Investment Opinion	B-3-7 / B-3-7
52-Week Range	28.98 AUD-58.44 AUD
Market Value (mn)	16,888 USD
Market Value (mn)	25,627 AUD
Shares Outstanding (mn)	435.7 / 435.7
Average Daily Value (mn)	50.10 USD
Free Float	100.0%
BofA Ticker / Exchange	JHIUF / ASX
BofA Ticker / Exchange	JHX / NYS
Bloomberg / Reuters	JHX AU / JHXAX
ROE (2024E)	36.9%
Net Dbt to Eqty (Mar-2023A)	58.7%

R&amp;R: repair &amp; remodel

# iQprofile<sup>SM</sup> James Hardie Industries Plc

## Key Income Statement Data (Mar)

(US\$ Millions)

	2022A	2023A	2024E	2025E	2026E
<b>Sales</b>	<b>3,615</b>	<b>3,777</b>	<b>3,848</b>	<b>4,234</b>	<b>4,576</b>
Operating Expenses	(2,637)	(2,825)	(2,717)	(3,010)	(3,252)
<b>EBITDA</b>	<b>977</b>	<b>952</b>	<b>1,132</b>	<b>1,224</b>	<b>1,323</b>
Depreciation & Amortization	(162)	(173)	(183)	(196)	(209)
<b>EBIT</b>	<b>816</b>	<b>780</b>	<b>948</b>	<b>1,028</b>	<b>1,114</b>
Net Interest & Other income	(39)	(31)	(25)	(33)	(33)
Associates	NA	NA	NA	NA	NA
Pretax Income	776	749	923	994	1,081
Tax (expense) / Benefit	(156)	(144)	(216)	(234)	(254)
<b>Net Profit b/f Abnormals</b>	<b>621</b>	<b>606</b>	<b>707</b>	<b>761</b>	<b>827</b>
Non-Recurring Items	0	(94)	0	0	0
Net Income (Reported)	621	512	707	761	827
Avg F Diluted Shares Outstanding	446	444	442	437	433

## Key Cash Flow Statement Data

EBITDA	977	952	1,132	1,224	1,323
Change in Working Capital	24	(91)	0	0	0
Deferred Taxation Charge	16	(6)	36	9	10
Other Adjustments, Net	250	(98)	(115)	(101)	(88)
<b>Cash Flow from Operations</b>	<b>757</b>	<b>608</b>	<b>776</b>	<b>855</b>	<b>948</b>
<b>Capital Expenditure</b>	<b>(258)</b>	<b>(591)</b>	<b>(550)</b>	<b>(270)</b>	<b>(270)</b>
(Acquisition) / Disposal of Investments	0	0	0	0	0
Other Cash Inflow / (Outflow)	(90)	(83)	0	0	0
<b>Cash Flow from Investing</b>	<b>(348)</b>	<b>(660)</b>	<b>(550)</b>	<b>(270)</b>	<b>(270)</b>
Shares Issue / (Repurchase)	0	(78)	(100)	(250)	(250)
Cost of Dividends Paid	(484)	(130)	0	0	0
<b>Cash Flow from Financing</b>	<b>(450)</b>	<b>(25)</b>	<b>(100)</b>	<b>(250)</b>	<b>(250)</b>
<b>Free Cash Flow</b>	<b>499</b>	<b>16</b>	<b>226</b>	<b>585</b>	<b>678</b>
<b>Net Debt</b>	<b>752</b>	<b>946</b>	<b>820</b>	<b>485</b>	<b>57</b>
Change in Net Debt	NA	NA	NA	NA	NA

## Key Balance Sheet Data

Property, Plant & Equipment	1,457	1,840	2,206	2,280	2,341
Other Non-Current Assets	1,300	1,214	1,214	1,214	1,214
Trade Receivables	398	355	355	355	355
Cash & Equivalents	125	113	239	574	1,002
Other Current Assets	321	263	263	263	263
<b>Total Assets</b>	<b>4,243</b>	<b>4,479</b>	<b>4,972</b>	<b>5,381</b>	<b>5,870</b>
Long-Term Debt	877	1,059	1,059	1,059	1,059
Other Non-Current Liabilities	1,145	988	873	771	683
Short-Term Debt	0	0	0	0	0
Other Current Liabilities	312	310	310	310	310
<b>Total Liabilities</b>	<b>2,910</b>	<b>2,868</b>	<b>2,753</b>	<b>2,651</b>	<b>2,563</b>
<b>Total Equity</b>	<b>1,333</b>	<b>1,611</b>	<b>2,219</b>	<b>2,730</b>	<b>3,307</b>
Total Equity & Liabilities	4,243	4,479	4,972	5,381	5,870

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

Return on Capital Employed	19.6%	17.5%	18.0%	17.6%	17.3%
Return on Equity	51.9%	41.1%	36.9%	30.7%	27.4%
Operating Margin	22.6%	20.6%	24.6%	24.3%	24.3%
EBITDA Margin	27.0%	25.2%	29.4%	28.9%	28.9%

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

Cash Realization Ratio	1.2x	1.0x	1.1x	1.1x	1.1x
Asset Replacement Ratio	NA	NA	NA	NA	NA
Tax Rate (Reported)	20.0%	19.2%	23.4%	23.5%	23.5%
Net Debt-to-Equity Ratio	56.4%	58.7%	37.0%	17.8%	1.7%
Interest Cover	20.3x	22.3x	37.7x	29.9x	31.6x

## Key Metrics

Franking	0%	0%	0%	0%	0%
Asbestos Expense (post tax)	86	76	75	72	67

Note: Income Statement includes annual asbestos cash payment as an operating item. See bottom of table for pre asbestos metrics.

\* For full definitions of iQmethod<sup>SM</sup> measures, see page 11.

## Company Sector

Building Materials

## Company Description

James Hardie is the largest fibre cement manufacturer in NA. Majority of JHX's products are used for exterior siding (c. 88% of NA volume in FY22), while the remaining products are used in interiors (e.g. backerboards). JHX is domiciled in Ireland but derives majority of its earnings from the US, Europe, and APAC (mainly Australia). Roughly two-thirds of JHX's NA volumes are driven by R&R and the remaining one-third by new construction. JHX sells c. 80% of its NA volumes to its top 20 customers.

## Investment Rationale

We are Underperform on JHX. While we have a positive view on fiber cement and repair & remodel end-markets, we believe risk-reward is unfavourable with a cautious view given: (1) Solid US demand outlook reflected in estimates. (2) Rich valuation. (3) Consensus appears optimistic.

## Stock Data

Shares / ADR	1.00
Price to Book Value	7.6x

## Key Changes

(US\$)	Previous	Current
Inv. Opinion	B-2-7	B-3-7
Inv. Rating	NEUTRAL	UNDERPERFOR
		M
Price Obj.	34.30	35.50
2024E EPS	1.56	1.60
2025E EPS	1.69	1.74
2026E EPS	1.86	1.91

## Downgrade JHX to U/P from Neutral

We downgrade James Hardie (JHX) to Underperform (from Neutral) with an updated PO of A\$53.80 (prior: A\$52.00). We believe the risk-reward is unfavourable as the positive outlook on US housing is adequately reflected in our estimates. While we raise our estimates and PO to reflect recent datapoints, our updated PO offers 6% potential downside. Our long-term positive view on fiber cement remains unchanged given its ability to gain market share over vinyl. Similarly, we are sanguine on long-term prospects of repair & remodel market (c. 65% of JHX North America volumes) which is aided by the structural tailwind of an aging household stock. However, we are cautious and see downside risks to current share price. Key drivers of our downgrade:

### Solid US demand reflected in estimates & costs rising

#### Demand remains solid but baked-in

The outlook on US new construction has turned increasingly positive recently driven by rate cut expectations. December 2023 housing starts pace (seasonally adjusted annualised rate) decreased to 1.46mm, compared to November starts of 1.53mm (-4.3% MoM) but was up 7.6% YoY (vs. 1.36mm starts in December 2022). Our US team expects single-family housing starts to increase 20% YoY in 1Q24 and expects 9% YoY increase in 2024. See [note on Jan 18](#) for further details.

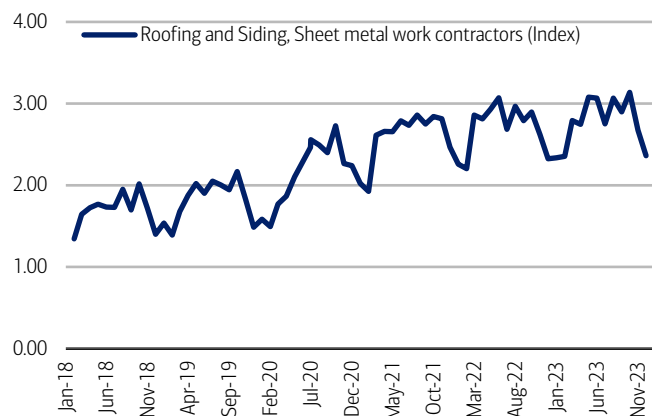
For the month of December, spending on roofing and siding, sheet metal work contractors further moderated and rose +1.6% YoY but down 11.7% MoM (+58.8% vs December 2019) per BAC US aggregated credit and debit card data. For context, October/November card spend was up 8.3%/1.9% yoy. For CY23, BAC US card spending on the category is +2.6%. 4Q23 spending was up 4.2% YoY vs. a +3.3 YoY increase in 3Q23. For more details, see our [siding monthly edition 8](#) and [Building Product monthly published on Jan 11](#).

See [BofA on USA](#) report for methodology, limitations, and disclaimers related to BAC aggregated credit and debit card data.

While we acknowledge that US new housing will likely remain strong, we think this is adequately reflected in our estimates where we forecast 2HFY24/FY25/FY26 North America revenues to grow 11%/10%/9% yoy. Our estimates factor in North America volumes to grow 7%/7%/5% yoy in 2HFY24/FY25/FY26.

#### Exhibit 1: Monthly BAC US aggregated card data for roofing and siding, sheet metal work contractors (indexed; base =1 (Jan'15))

December 2023 spending rose 1.6% YoY but down 11.7% MoM

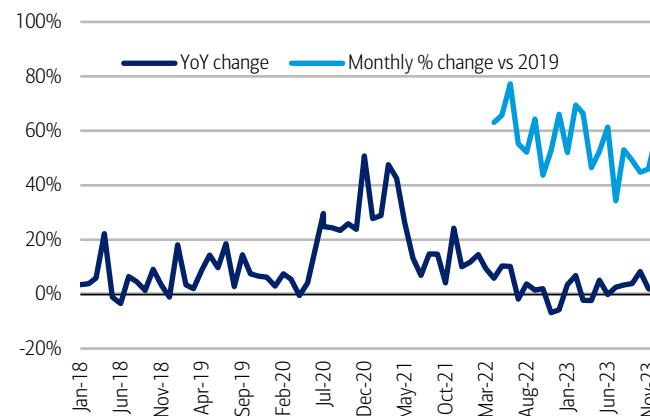


Source: BAC internal data (Data through December 2023)

BofA GLOBAL RESEARCH

#### Exhibit 2: Monthly BAC US aggregated card data for roofing and siding, sheet metal work contractors (YoY and change vs 2019)

December 2023 spending was up 1.6% YoY and +58.8% vs Dec 2019



Source: BAC internal data (Data through December 2023)

BofA GLOBAL RESEARCH

### Input costs rising from a low base

Input costs (especially pulp and freight) have ticked up recently: (1) Pulp prices: while pulp prices have been down significantly on a year-over-year basis, there has been a sequential uptick in price during 4Q23 (2) Freight costs: freight rates have recovered since Feb23 and are expected to rise going forward. While we do not forecast a significant decline in JHX's NA margins, we do expect them to moderate as input costs increase (BofAe NA EBIT margin: 31.8%/31.2%/30.9% in FY24/FY25/FY26).

#### Exhibit 3: US SW pulp price

Pulp prices are down significantly yoy but ticked up in 4Q23

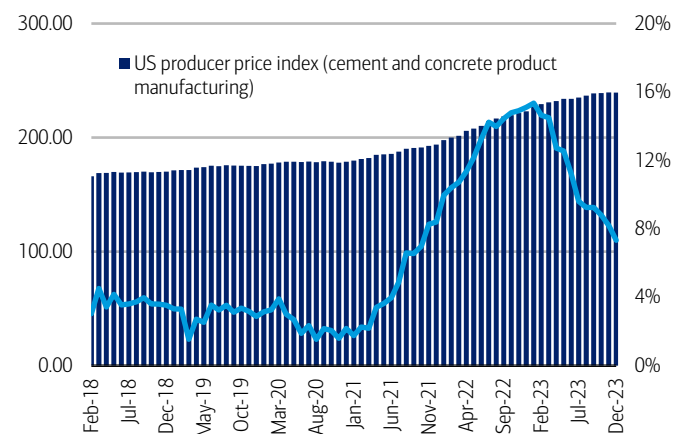


Source: RISI, BofA Global research

BofA GLOBAL RESEARCH

#### Exhibit 4: US producer price index (cement and concrete product manufacturing)

Cement price increases have moderated

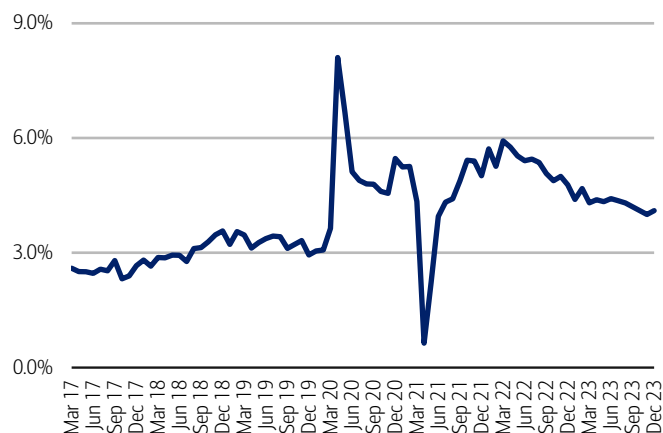


Source: US Bureau of Labour Statistics, BofA Global research

BofA GLOBAL RESEARCH

#### Exhibit 5: US average hourly earnings (private) yoy seasonally adjusted

Labour costs remain stable



Source: US Bureau of Labour Statistics, BofA Global research

BofA GLOBAL RESEARCH

#### Exhibit 6: FTR truckload rates net of fuel surcharge yoy

Freight rates have recovered from Feb 2023 bottom and are expected to rise going forward



Source: Bloomberg, BofA Global research

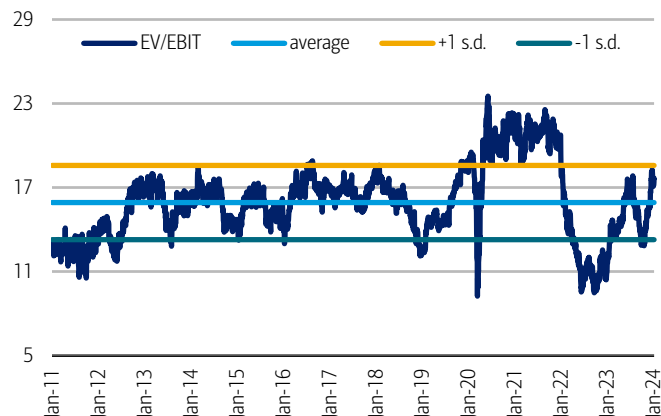
BofA GLOBAL RESEARCH

## Risk-reward unfavourable; valuation rich

Valuation appears expensive with JHX trading at the upper end of its trading range (c. 0.7 s.d above mean) on EV/EBIT post the recent share price appreciation (JHX +48% in the last 3-months). JHX is trading at historical average premium of 29% versus the sector. Moreover, JHX shares have been up sharply and have significantly outperformed the US Homebuilders (JHX: +89%; XHB: +41% in the last 12 months).

### Exhibit 7: JHX EV/EBIT multiple over time

JHX is trading at the upper end of its trading range

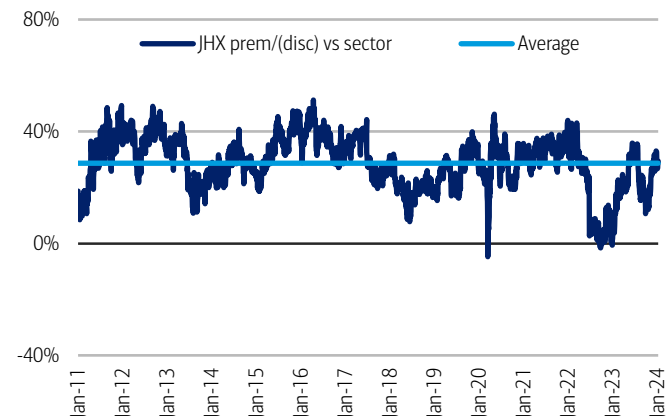


Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

### Exhibit 8: JHX EV/EBIT premium/(discount) vs. peers over time

JHX is trading at historical average premium of 29% versus peers

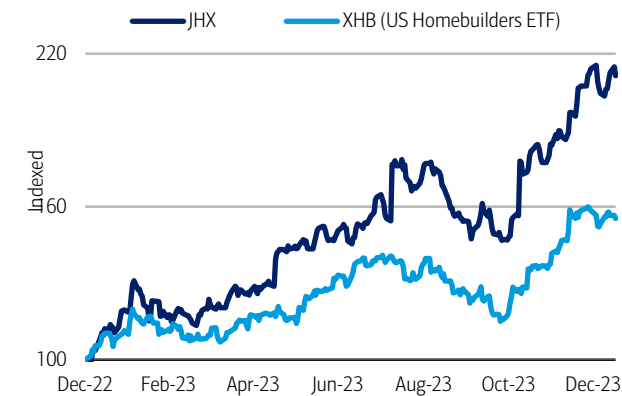


Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

### Exhibit 9: Price performance of JHX vs. XHB (indexed, base = 100 (30 Dec 22))

JHX has significantly outperformed XHB



Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

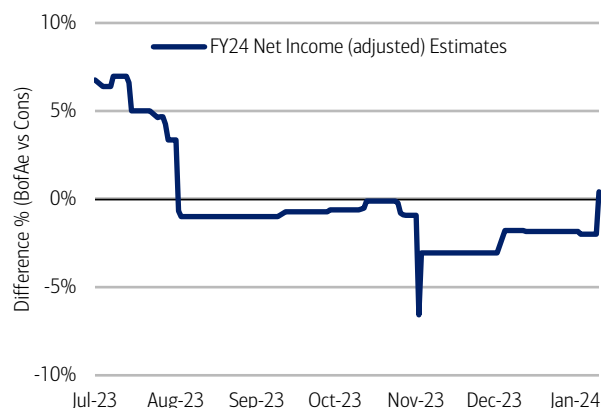
## Consensus appears optimistic/investors bullish

Consensus estimates for JHX have moved up significantly. While we have been well ahead of consensus in the past (cf FY25 NPAT c. 8% ahead of consensus in July 2023), we note that consensus has caught up & we are now below consensus (FY24/FY25/FY26 NPAT -0.2%/-0.6%/-3.5% vs. consensus). We think an earnings surprise to the upside is unlikely.

Separately, we met more than 25 investors during our marketing trip to Singapore and Hong Kong (week of January 8). Majority of investors we spoke with had a positive view on JHX given the optimism around US new construction (in part driven by rate cut expectations). We got significant pushback on our below consensus estimates on JHX. As we highlighted above, while we like JHX fundamentals, we believe that recent share price move adequately captures the positive outlook on US new construction.

### Exhibit 10: FY24 Net Income (adjusted) BofA estimates vs Consensus

Consensus estimates have moved above BofAe for FY24...

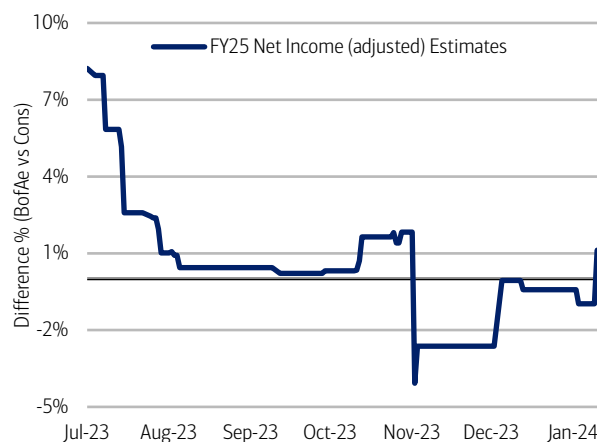


Source: Bloomberg, BofA Global Research estimates

BofA GLOBAL RESEARCH

### Exhibit 11: FY25 Net Income (adjusted) BofA estimates vs Consensus

...as well as for FY25.



Source: Bloomberg, BofA Global Research estimates

BofA GLOBAL RESEARCH

# Estimate changes summary & PO revision

## Tweaking estimates; PO to A\$53.80; 6% potential downside

We raise our FY24E NPAT by c.3% driven by slightly higher NA volume assumptions (mainly new construction) to reflect recent datapoints. We forecast 3QFY24E NPAT of \$172mn (company guidance: \$165-185mn; consensus: \$170mn). We also fine-tune our outer year estimates (raise FY25E & FY26E NPAT by c. 3% each) driven by slightly higher volume/margin assumptions for North America. We keep our EMEA and Asia assumptions largely unchanged. Our updated PO of A\$53.80 offers 6% potential downside. Our PO is based on 17.3x target EV/EBIT multiple applied to an average of FY24E and FY25E EBIT (prior: 17.2x). Our target multiple is still based on 0.5 s.d. above JHX's long term historical mean.

### Exhibit 12: JHX summary of estimate changes

We raise our FY24 net profit estimates by 3%

	New			Old			New vs Old		
	FY24	FY25	FY26	FY24	FY25	FY26	FY24	FY25	FY26
Revenue (US\$m)	3,848	4,234	4,576	3,815	4,191	4,529	1%	1%	1%
EBITDA (US\$m)	1,132	1,224	1,323	1,108	1,198	1,296	2%	2%	2%
EBIT (US\$m)	948	1,028	1,114	924	1,002	1,086	3%	3%	3%
Net profit (US\$m)	707	761	827	689	741	806	3%	3%	3%

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

### Exhibit 13: JHX P&L summary

We forecast FY24E Net profit of \$707mn

P&L summary	2021A	2022A	2023A	2024E	2025E	2026E
Revenue	2,909	3,615	3,777	3,848	4,234	4,576
- growth	12%	24%	4%	2%	10%	8%
Operating costs	2,145	2,637	2,825	2,717	3,010	3,252
EBITDA	764	977	952	1,132	1,224	1,323
- Margin	26%	27%	25%	29%	29%	29%
- growth	21%	28%	-3%	19%	8%	8%
D&A	135	162	173	183	196	209
EBIT	629	816	780	948	1,028	1,114
- Margin	22%	23%	21%	25%	24%	24%
- growth	26%	30%	-4%	22%	8%	8%
Net interest income/(expense)	48	39	31	25	33	33
Profit before tax	581	776	749	923	994	1,081
Income tax benefit/(expense)	123	156	144	216	234	254
NPAT (Underlying)	458	621	606	707	761	827
NPAT (Reported)	263	621	512	707	761	827
EPS (cps)	86	120	119	143	174	191
- growth	36%	40%	0%	20%	21%	10%

Source: Company Data, BofA Global Research estimates

BofA GLOBAL RESEARCH

**Exhibit 14: JHX divisional summary**

We forecast North America FY24 EBIT to \$912mn

<b>Divisional summary</b>	<b>2021A</b>	<b>2022A</b>	<b>2023A</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>
<b>North America</b>						
<b>Volume</b>	<b>2,713</b>	<b>3,112</b>	<b>3,039</b>	<b>3,029</b>	<b>3,227</b>	<b>3,384</b>
- Volume yoy	9%	15%	-2%	0%	7%	5%
<b>Pricing yoy</b>	<b>3%</b>	<b>9%</b>	<b>12%</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>
<b>Revenue</b>	<b>2,040</b>	<b>2,551</b>	<b>2,788</b>	<b>2,868</b>	<b>3,162</b>	<b>3,432</b>
- growth	12%	25%	9%	3%	10%	9%
<b>EBITDA</b>	<b>677</b>	<b>856</b>	<b>894</b>	<b>1,048</b>	<b>1,134</b>	<b>1,218</b>
- Margin	33%	34%	32%	37%	36%	35%
- growth	21%	26%	4%	17%	8%	7%
<b>EBIT</b>	<b>588</b>	<b>741</b>	<b>768</b>	<b>912</b>	<b>988</b>	<b>1,060</b>
- Margin	29%	29%	28%	32%	31%	30.9%
- growth	25%	26%	4%	19%	8%	7%
<b>APAC</b>						
<b>Revenue</b>	<b>458</b>	<b>575</b>	<b>539</b>	<b>523</b>	<b>554</b>	<b>592</b>
- growth	10%	25%	-6%	-3%	6%	7%
<b>EBITDA</b>	<b>142</b>	<b>174</b>	<b>158</b>	<b>175</b>	<b>171</b>	<b>182</b>
- Margin	31%	30%	29%	33%	31%	31%
- growth	32%	23%	-10%	11%	-2%	6%
<b>EBIT</b>	<b>128</b>	<b>161</b>	<b>143</b>	<b>160</b>	<b>156</b>	<b>166</b>
- Margin	28%	28%	26%	31%	28%	28%
- growth	35%	25%	-11%	12%	-3%	7%
<b>Europe</b>						
<b>Revenue</b>	<b>410</b>	<b>489</b>	<b>450</b>	<b>458</b>	<b>517</b>	<b>552</b>
- growth	10%	19%	-8%	2%	13%	7%
<b>EBITDA</b>	<b>71</b>	<b>93</b>	<b>55</b>	<b>76</b>	<b>78</b>	<b>83</b>
- Margin	17%	19%	12%	17%	15%	15%
- growth	26%	31%	-41%	40%	3%	5%
<b>EBIT</b>	<b>43</b>	<b>63</b>	<b>27</b>	<b>47</b>	<b>48</b>	<b>51</b>
- Margin	10%	13%	6%	10%	9%	9%
- growth	40%	47%	-58%	76%	2%	8%

**Source:** Company Data, BofA Global Research estimates

BofA GLOBAL RESEARCH



# Risks

---

Upside risks to our investment view:

- (1) **Stronger-than-expected R&R and new construction activity:** Fiber cement volumes (and revenues) are exposed to construction cycle. The end markets (repair & remodel (65% of NA volumes) and new construction (35% of NA volumes)) are cyclical in nature which impacts demand for fiber cement. A strong-than-expected end-market will have a positive impact on volume estimates.
- (2) **Lower-than-expected costs:** Roughly 60-70% of JHX variable costs are comprised of pulp, cement, freight and labour. While input costs have been favourable (especially pulp and freight) with pulp prices down c.28% yoy and freight down c.9% yoy, we do note that freight costs have moved up sequentially. That said, lower-than-expected costs will drive the margins higher versus our expectations.
- (3) **Markets share gains for fiber cement or versus competitors:** While fiber cement has made consistent market share gains over other siding alternatives, any further markets share gains from other fiber cement competitors will also drive volume assumptions higher versus our expectations.
- (4) **Favourable FX:** JHX has exposure to the US, Europe and Asia Pacific (mainly Australia) and reports earnings in USD. A strong-expected AUD/USD or EUR/USD will result in translation gains.



## Price objective basis & risk

### James Hardie Industries Plc (JHIUF / JHX)

Our 12-month PO of A\$53.80/US\$35.50 is based on 17.3x target multiple applied to an average of FY24E and FY25E EBIT. Our target multiple is 0.5 standard deviation above JHX's long term historical mean. We believe a higher multiple versus mean is warranted given the improving earnings profile.

Upside/downside risks are: (1) Stronger-than-expected/weaker-than-expected R&R and new construction activity. (2) Lower-than-expected/higher-than-expected costs. (3) Markets share gains/losses for fiber cement or versus competitors. (4) Favourable/unfavourable FX.

## Analyst Certification

I, Shaurya Visen, 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.

### Australia - Materials & Industrials Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	29Metals Limited	XMLNF	29M AU	James Redfern
	AGL Energy	AGLNF	AGL AU	Reinhardt van der Walt
	APA Group	APAJF	APA AU	Reinhardt van der Walt
	BHP Group Limited	BHPLF	BHP AU	James Redfern
	BHP Group Limited	ZBHPP	BHP LN	James Redfern
	BHP Group-ADR	BHP	BHP US	James Redfern
	BlueScope	BLSFF	BSL AU	Chen Jiang
	Boral Ltd	BOALF	BLD AU	Shaurya Visen
	Boss Energy	BQSSF	BOE AU	Cameron Taylor
	Brambles Limited	BMBLF	BXB AU	Reinhardt van der Walt
	Champion Iron	CIAFF	CIA AU	Chen Jiang
	Champion Iron	YCIA	CIA CN	Chen Jiang
	Coronado	CODQL	CRN AU	Chen Jiang
	Evolution Mining	CAHPF	EVN AU	Meredith Schwarz
	Gold Road Resources	ELKMF	GOR AU	Meredith Schwarz
	GWA Group	GWAXF	GWA AU	Shaurya Visen
	Incitec Pivot	ICPVF	IPL AU	Reinhardt van der Walt
	Mineral Resources	MALRF	MIN AU	Matt Chalmers, CFA
	Monadelphous	MDPHF	MND AU	Josephine Forde
	Nickel Industries	NICMF	NIC AU	Cameron Taylor
	Northern Star Resources	NESRF	NST AU	Meredith Schwarz
	NRW Holdings	NRWWF	NWH AU	Josephine Forde
	Nufarm	NUFMF	NUF AU	Reinhardt van der Walt
	Orica	OCLDF	ORI AU	Reinhardt van der Walt
	Origin Energy	OGFGF	ORG AU	Reinhardt van der Walt
	Orora	ORRAF	ORA AU	Roy Harrison
	Paladin Energy	PALAF	PDN AU	Cameron Taylor
	Regis Resources	RGRNF	RRL AU	Meredith Schwarz
	Reliance Worldwide Corporation Limited	RLLWF	RWC AU	Shaurya Visen
	Rio Tinto Ltd	RTNTF	RIO AU	James Redfern
	Seven Group Holdings	XSEVF	SVW AU	Shaurya Visen
	South32 Ltd	SHTLF	S32 AU	James Redfern
	South32 Ltd	XKTPF	S32 LN	James Redfern
	South32 Ltd	XMWTF	S32 SJ	James Redfern
	Ventia	VXVGF	VNT AU	Roy Harrison
	Whitehaven Coal Limited	WHITF	WHC AU	Chen Jiang
<b>NEUTRAL</b>				
	Codan	CODAF	CDA AU	Sriharsh Singh
	CSR Limited	CSRLF	CSR AU	Shaurya Visen

## Australia - Materials &amp; Industrials Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Deterra Royalties	DETRF	DRR AU	Chen Jiang
	Downer EDI Limited	DNERF	DOW AU	Roy Harrison
	Fletcher Building	FRCEF	FBU NZ	Shaurya Visen
	Fletcher Building	YFLBF	FBU AU	Shaurya Visen
	James Hardie Industries Plc	JHX	JHX US	Shaurya Visen
	Pilbara Minerals	PILBF	PLS AU	Matt Chalmers, CFA
	Qube Holdings	QUBHF	QUB AU	Reinhardt van der Walt
	Reece Limited	REECF	REH AU	Shaurya Visen
	Sandfire Resources	SFRRF	SFR AU	James Redfern
	Sims Limited	SMUPF	SGM AU	Chen Jiang
	Transurban Group	XTRAF	TCL AU	Reinhardt van der Walt
	Transurban Group	TRAUF	TRAUF US	Reinhardt van der Walt
	Worley Limited	WYGPF	WOR AU	Cameron Taylor

## UNDERPERFORM

	ALS Limited	CPBLF	ALQ AU	Reinhardt van der Walt
	Alumina Limited	AWCMF	AWC AU	Chen Jiang
	Atlas Arteria Ltd	MAQAF	ALX AU	Reinhardt van der Walt
	Cleanaway Waste Management	TSPCF	CWY AU	Reinhardt van der Walt
	Fortescue Ltd.	FSUMF	FMG AU	James Redfern
	IGO	IPGDF	IGO AU	Matt Chalmers, CFA
	James Hardie Industries Plc	JHIUF	JHX AU	Shaurya Visen
	Vulcan Steel Limited	XVULF	VSL AU	Shaurya Visen
	Vulcan Steel Limited	XVSTF	VSL NZ	Shaurya Visen

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 & 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.

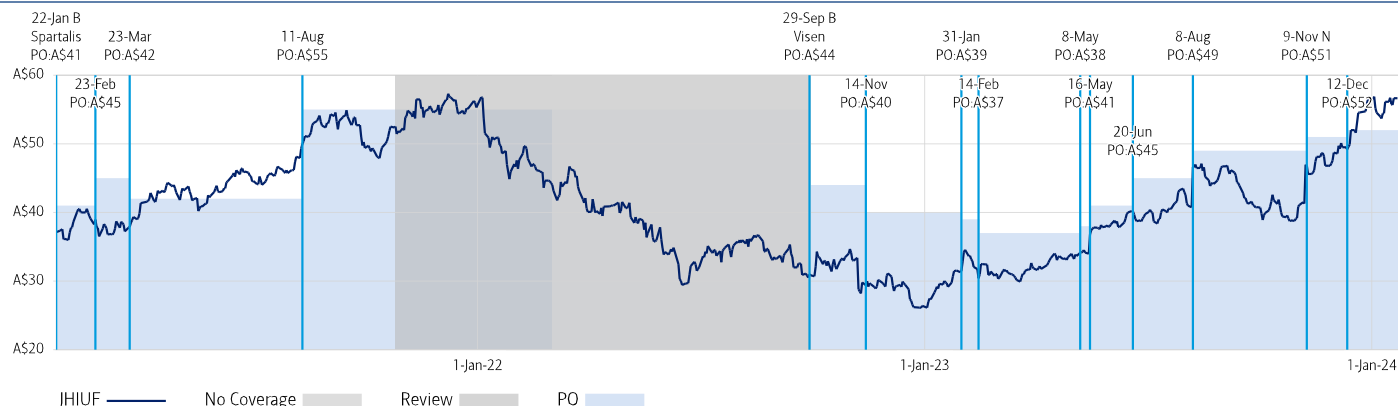
**IQdatabase<sup>®</sup>** is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

**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

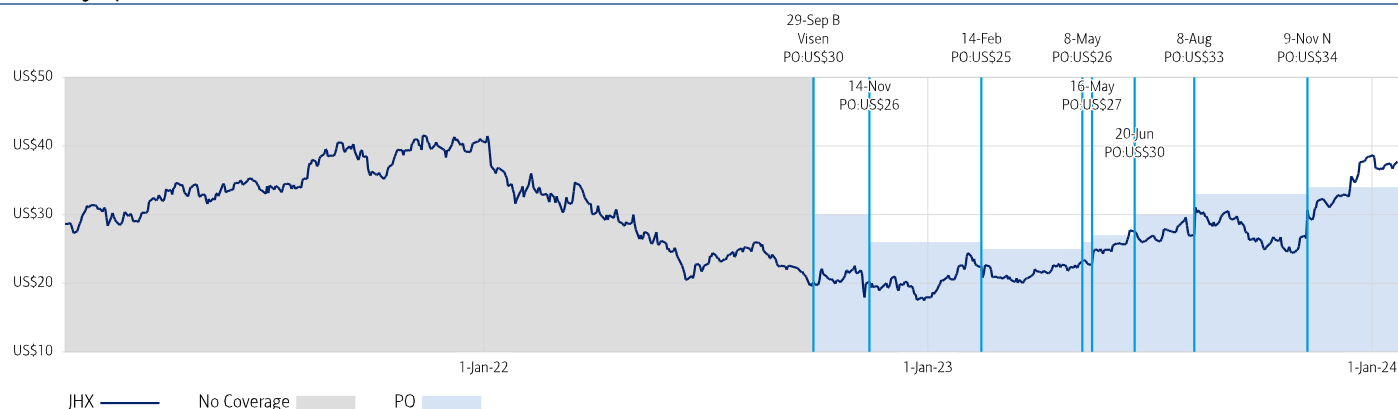
## Important Disclosures

### James Hardie (JHIUF) Price Chart



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.

### James Hardie (JHX) Price Chart



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: Building Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	39	44.83%	Buy	22	56.41%
Hold	18	20.69%	Hold	11	61.11%
Sell	30	34.48%	Sell	8	26.67%

### 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: James Hardie.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: James Hardie.

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: James Hardie.

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: James Hardie.

The issuer is or was, within the last 12 months, a securities business client (non-investment banking) of BofAS and/or one or more of its affiliates: James Hardie.

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 BofAS 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.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS 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 BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS 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.

#### 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 BofAS 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 BofAS 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.