

Crane Co.

Not a swan song, opportunities for upside abound – Reiterate Buy, Raise PO to \$140

Reiterate Rating: BUY | PO: 140.00 USD | Price: 123.50 USD

Stand-alone Crane is only just getting started

In its first 8-months as a stand-alone company, Crane (NYSE: CR) is demonstrating the potential that can be unlocked from a leaner, well-funded, and more focused company. CR's unique position to the comm'l aero recovery and defense modernization is creating new opportunities faster than anticipated (See Exhibit 1). Additionally, their pricing and cost reduction strategy resulted in adj. op. margins increasing 320bps Y/Y. We anticipate this pricing and cost strategy to lift margins another >100bps in 2024. These drivers coupled with an actionable M&A pipeline lead us to raise our PO to \$140 (from \$110).

Commercial Aero portfolio well hedged from OEM distress

Despite the noise surrounding the Commercial Aero OEM production ramp, Crane continues to stand out as an expert operator. Although CR is not immune to the [Boeing production ramp freeze](#), in disruption CR finds opportunities. 737MAX content (sensors, power conversion, fluid management) ear-marked for OEM delivery, can instead be transitioned to aftermarket customers at higher margins. We see additional opportunity in the widebody market which, so far, has had a smoother ramp and is accelerating.

Defense positioned to meet demand step-up

CR's [program agnostic tech development strategy](#) continues to pay dividends, especially in the defense segment. Defense aftermarket revenue increased ~16% Y/Y, in addition to Defense OEM revenue up ~9%. We expect the strong demand will lead to low-teens growth in both Defense OEM and aftermarket revenue in 2024. The defense product portfolio is well positioned to benefit over the next decade as the Department of Defense (DoD) [prioritizes fleet modernization and readiness](#). We expect near term tailwinds from new ramping programs (AESAs radars, LTAMS, Sentinel, TPY-4) and upgrades on legacy platforms (F-110 and F-16).

More M&A coming through the pipe

We expect increased M&A activity in 2024, with \$3.8bn remaining of the \$4bn allocated to CR's capital deployment strategy. We continue to see their M&A strategy of acquiring niche IP driven companies to gain access to new technologies and program content, as a winning formula. The strategy is exemplified with the recent bolt-on of the aero supplier, "Vian" which increased content on the A350, A320neo, 737MAX, and F-35.

Estimates (Dec) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	7.38	5.04	4.90	5.70	6.35
GAAP EPS	3.54	3.55	4.90	5.70	6.35
EPS Change (YoY)	7.3%	-31.7%	-2.8%	16.3%	11.4%
Consensus EPS (Bloomberg)			4.80	5.50	6.12
DPS	1.88	0.72	0.80	0.88	0.96
Valuation (Dec)					
P/E	16.7x	24.5x	25.2x	21.7x	19.4x
GAAP P/E	34.9x	34.8x	25.2x	21.7x	19.4x
Dividend Yield	1.5%	0.6%	0.6%	0.7%	0.8%
EV / EBITDA*	36.7x	21.2x	16.2x	14.5x	13.3x
Free Cash Flow Yield*	-3.0%	2.1%	3.7%	4.3%	4.8%

* For full definitions of *IQmethod*SM measures, see page 6.

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 7 to 9. Analyst Certification on page 5. Price Objective Basis/Risk on page 5.

12666948

Timestamp: 04 March 2024 09:53AM EST

04 March 2024

Equity

Key Changes

(US\$)	Previous	Current
Price Obj.	110.00	140.00
2024E Rev (m)	2,190.6	2,259.0
2025E Rev (m)	2,306.6	2,428.4
2026E Rev (m)	2,429.8	2,560.1
2024E EPS	4.60	4.90
2025E EPS	5.25	5.70
2026E EPS	5.95	6.35

Ronald J. Epstein
Research Analyst
BoFA
+1 646 855 5695
r.epstein@bofa.com

Mariana Perez Mora
Research Analyst
BoFA
mariana.perez mora@bofa.com

Jordan Lyonna
Research Analyst
BoFA
jordan.lyonna@bofa.com

Samantha Stiroh
Research Analyst
BoFA
samantha.stiroh@bofa.com

Stock Data

Price	123.50 USD
Price Objective	140.00 USD
Date Established	4-Mar-2024
Investment Opinion	C-1-7
52-Week Range	67.28 USD - 127.83 USD
Mkt Val (mn) / Shares Out (mn)	7,101 USD / 57.5
Free Float	85.4%
Average Daily Value (mn)	33.15 USD
BoFA Ticker / Exchange	CR / NYS
Bloomberg / Reuters	CR US / CR.N
ROE (2024E)	17.8%
Net Dbt to Eqty (Dec-2023A)	-6.0%
ESGMeter TM	NLA

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".

OEM: Original Equipment Manufacturer

Comm'l: Commercial

iQprofileSM Crane Co.

iQmethodSM – Bus Performance*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Return on Capital Employed	1.7%	12.0%	14.3%	14.4%	15.2%
Return on Equity	28.4%	23.2%	17.8%	17.4%	18.3%
Operating Margin	11.6%	13.6%	16.9%	17.8%	18.4%
Free Cash Flow	(210)	151	261	307	344

iQmethodSM – Quality of Earnings*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash Realization Ratio	-0.4x	0.7x	1.1x	1.1x	1.1x
Asset Replacement Ratio	0.5x	1.1x	1.2x	1.4x	1.4x
Tax Rate	35.7%	23.7%	23.0%	23.0%	23.0%
Net Debt-to-Equity Ratio	-2.4%	-6.0%	-26.9%	-25.9%	-26.3%
Interest Cover	6.8x	12.5x	17.8x	20.1x	21.9x

Income Statement Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Sales	2,035	2,086	2,259	2,428	2,560
% Change	-40.3%	2.5%	8.3%	7.5%	5.4%
Gross Profit	714	805	904	971	1,024
% Change	-51.4%	12.7%	12.2%	7.5%	5.4%
EBITDA	187	323	423	475	515
% Change	-71.2%	72.7%	30.8%	12.2%	8.5%
Net Interest & Other Income	247	(17)	(14)	(13)	(12)
Net Income (Adjusted)	422	290	283	323	354
% Change	3.6%	-31.3%	-2.3%	14.1%	9.5%

Free Cash Flow Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Net Income from Cont Operations (GAAP)	202	204	283	323	354
Depreciation & Amortization	119	39	41	42	43
Change in Working Capital	690	(50)	(48)	(47)	(37)
Deferred Taxation Charge	(15)	(22)	0	0	0
Other Adjustments, Net	(1,148)	21	36	46	46
Capital Expenditure	(58)	(43)	(51)	(57)	(63)
Free Cash Flow	-210	151	261	307	344
% Change	NM	NM	72.8%	17.7%	12.0%
Share / Issue Repurchase	(188)	22	(261)	(261)	(261)
Cost of Dividends Paid	(106)	(57)	(46)	(50)	(54)
Change in Debt	399	199	0	0	0

Balance Sheet Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash & Equivalents	427	330	741	737	767
Trade Receivables	271	306	335	360	379
Other Current Assets	432	455	469	504	531
Property, Plant & Equipment	248	271	290	315	344
Other Non-Current Assets	887	972	962	952	942
Total Assets	2,265	2,334	2,797	2,868	2,964
Short-Term Debt	0	0	0	0	0
Other Current Liabilities	446	467	461	474	484
Long-Term Debt	400	249	249	249	249
Other Non-Current Liabilities	278	258	258	258	258
Total Liabilities	1,124	973	967	980	990
Total Equity	1,142	1,360	1,830	1,888	1,974
Total Equity & Liabilities	2,265	2,334	2,797	2,868	2,964

* For full definitions of iQmethodSM measures, see page 6.

Company Sector

Aerospace

Company Description

Crane Co. (CR) is a diversified manufacturer of engineered industrial products operating in three segments: 1) Process Flow Technologies, which is split between Process Valves & Related products and Pumps & Systems, 2) Aerospace & Electronics, which provides one integrated source for sensing, power, braking, and electronics products, and 3) Payment & Merchandising Technologies, which provides cash and cashless payment systems and manufactures automatic merchandisers.

Investment Rationale

Crane is a mostly a mid- to late-cycle beneficiary of an economic recovery. The company is poised to expand margins in its legacy businesses while also looking to expand its portfolio across Aerospace & Electronics and Process Flow Technologies through strategic M&A.

Stock Data

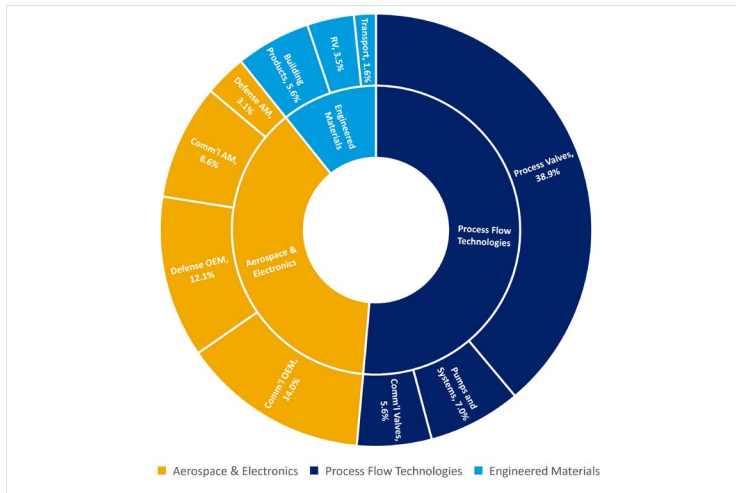
Average Daily Volume 268,459

Quarterly Earnings Estimates

	2023	2024
Q1	1.25A	NA
Q2	1.10A	NA
Q3	1.03A	NA
Q4	0.80A	NA

Exhibit 1: We see upside for A&E to expand its overall portfolio presence above the current ~38%

BofA: 2024 Revenue by sub-segment



Source: BofA Global Research

BofA GLOBAL RESEARCH

PFT – Macro constrained for now, solid long-term trends

Across our coverage, those with industrial exposure have noted the slowdown in CapEx spending in Europe and China. In the near term, we anticipate Process Flow Technologies' (PFT) organic growth to be constrained by the weaker macro. However, PFT's portfolio and IP driven product development remains poised to benefit from a recovery in CapEx with exposure in high-growth markets. We are forecasting, 4.8% growth Y/Y in the segment, primarily related to revenues from acquisitions. Additionally, we do see an opportunity for a recovery in the macro closer to the end of the 2024, after reaching a trough 3Q2024.

New wins helping offset macro decline

Even in a constrained environment CR's was able to secure multiple wins due to their unique technology developments. Strategic wins in target growing markets included a \$5mn contract in pharmaceuticals supporting oncology therapies, a \$12mn win in China supporting chemical manufacturing, and a \$4.5mn win in US liquefied natural gas (LNG) production. Additionally, new product launches in hydrogen are already being booked and delivered to new customers. Management expects to see a major inflection point of orders in Hydrogen in 2025, which will support meaningful growth through the next decade.

Margin expansion focus: Pricing and cost discipline

Crane's pricing and cost reduction strategy resulted in adjusted operating margins increasing 320bps Y/Y, and management continues to see opportunities for further improvement. In PFT the focus remains on exercising pricing power to offset volumes decline. In Aerospace & Electronics, while limited on pricing due to LTA, excess costs are being trimmed aggressively. Management has acted quickly to adjust staffing and shifting personnel to manage supply chains constraints and reduce production inefficiencies. With the assertive pricing and disciplined attention to cost we expect operating margins to improve ~100bps in 2024. In the mid-term we expect further improvements with opportunity for upside with improve overhead absorption on higher volumes and program maturation.

Increasing estimates on stronger aftermarket demand

With the strong demand environment supporting Aerospace & Electronics growth (especially in the aftermarket) along with the margin expansion strategy offsetting lower PFT volumes we are increase our EPS estimates. In 2024E we now anticipate \$4.90 (vs.

prior \$4.60), in 2025E: \$5.70 (vs. prior \$5.25), 2026E: \$6.35 (vs. prior \$5.95), and 2027E \$7.05 (vs. prior \$6.70).

Reiterate Buy; Increase PO to \$140

We reiterate our Buy and increase our PO to \$140 (from \$110) to account for stronger aftermarket growth and market rerating. We value CR on relative EV/EBITDA multiple and roll our estimate forward one year to 2025 (from 2024). Our valuation uses 1.3x (unchanged) relative multiple to the S&P500 on 2025. We believe this fairly reflects the strong performance CR has demonstrated as a stand-alone company, the value unlocked from both operational and portfolio shaping over the last seven years, and the upside of inorganic growth as the company aggressively pursues M&A. Applying this multiple we derive a \$140 PO.

Price objective basis & risk

Crane Co. (CR)

We value CR on relative EV/EBITDA multiple on 2025 estimates. We assume a 1.3x relative multiple to the S&P500 on 2025. We believe this fairly reflects the strong performance CR has demonstrated as a stand-alone company, the value unlocked from both operational and portfolio shaping over the last seven years, and the upside of inorganic growth as the company aggressively pursues M&A. Applying this multiple we derive a \$140 PO.

Downside risks to our PO are: Another downturn in commercial aviation, due to an exogenous factor or natural business cyclicity, could adversely affect CR's financial results. CR could be materially affected by increased R&D expense if serious complications should arise from new platforms. A decline in US bill circulation could negatively affect Payment. Weakness in chemicals, oil and gas, and power, could materially affect the outlook for Process Flow Technologies. Increasing asbestos claims could result in higher settlement or defense costs and thus affect CR's financial results.

Upside risks to our PO are: a faster recovery in its end-markets than expected, particularly in commercial aerospace, acquisitions could provide upside to our estimates, better than-expected execution could increase the company's earnings power, and share buybacks could be greater than anticipated.

Analyst Certification

I, Ronald J. Epstein, 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 - Aerospace and Defense Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	AerCap Holdings N.V.	AER	AER US	Ronald J. Epstein
	Air Lease Corporation	AL	AL US	Ronald J. Epstein
	Booz Allen Hamilton	BAH	BAH US	Mariana Perez Mora
	BWX Technologies, Inc.	BWXT	BWXT US	Ronald J. Epstein
	CACI International	CACI	CACI US	Mariana Perez Mora
	Cadre Holdings Inc	CDRE	CDRE US	Ronald J. Epstein
	Crane Co.	CR	CR US	Ronald J. Epstein
	Embraer	ERJ	ERJ US	Ronald J. Epstein
	General Dynamics	GD	GD US	Ronald J. Epstein
	HEICO Corporation	HEI	HEI US	Ronald J. Epstein
	Howmet Aerospace Inc.	HWM	HWM US	Ronald J. Epstein
	KBR	KBR	KBR US	Mariana Perez Mora
	Leidos Holdings	LDOS	LDOS US	Mariana Perez Mora
	Leonardo DRS, Inc.	DRS	DRS US	Ronald J. Epstein
	Northrop Grumman	NOC	NOC US	Ronald J. Epstein
	Palantir Technologies	PLTR	PLTR US	Mariana Perez Mora
	Parsons Corporation	PSN	PSN US	Mariana Perez Mora
	RBC Bearings Inc	RBC	RBC US	Ronald J. Epstein
	Rocket Lab	RKLB	RKLB US	Ronald J. Epstein
	Teledyne Technologies Inc	TDY	TDY US	Ronald J. Epstein
	TransDigm Group Inc.	TDG	TDG US	Ronald J. Epstein
	Triumph Group	TGI	TGI US	Ronald J. Epstein
NEUTRAL				
	Albany International	AIN	AIN US	Ronald J. Epstein
	Boeing	BA	BA US	Ronald J. Epstein
	Garmin	GRMN	GRMN US	Ronald J. Epstein
	Hexcel Corporation	HXL	HXL US	Ronald J. Epstein



US - Aerospace and Defense Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	L3Harris	LHX	LHX US	Ronald J. Epstein
	Lockheed Martin	LMT	LMT US	Ronald J. Epstein
	RTX Corp	RTX	RTX US	Ronald J. Epstein
	Textron	TXT	TXT US	Ronald J. Epstein
UNDERPERFORM				
	Bombardier	BDRBF	BDRBF US	Ronald J. Epstein
	Bombardier Inc.	YBBD B	BBD/B CN	Ronald J. Epstein
	CAE Inc.	YCAE	CAE CN	Ronald J. Epstein
	CAE Inc.	CAE	CAE US	Ronald J. Epstein
	Huntington Ingalls Industries	HII	HII US	Ronald J. Epstein
	Mercury Systems	MRCY	MRCY US	Ronald J. Epstein

iQmethodSM 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

iQmethodSM 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.

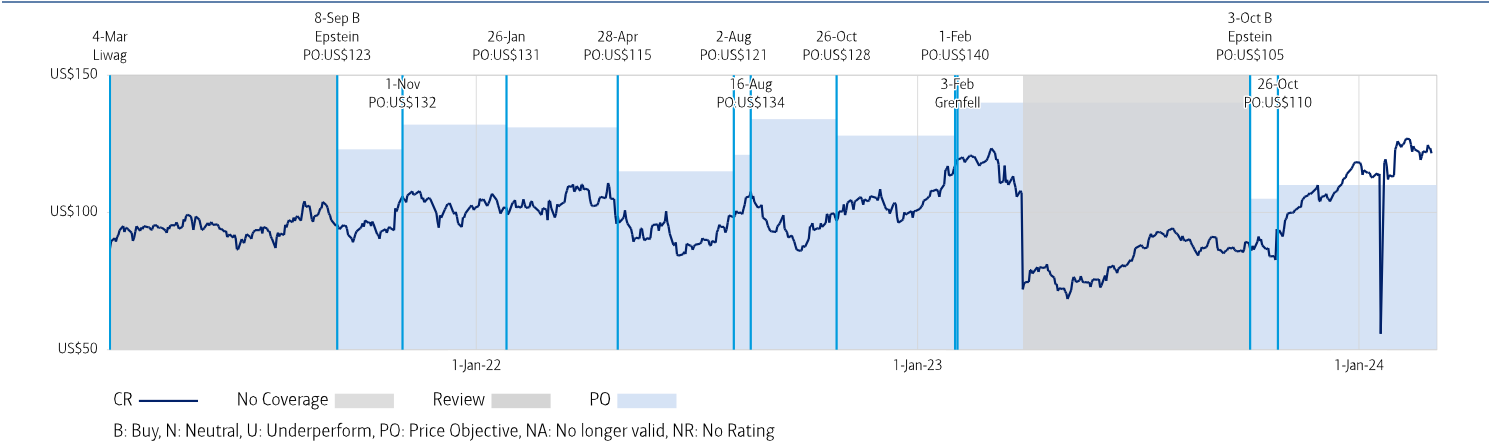
iQdatabase[®] is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

iQprofileSM, iQmethodSM are service marks of Bank of America Corporation. iQdatabase[®] is a registered service mark of Bank of America Corporation.

Disclosures

Important Disclosures

Crane (CR) 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: Aerospace/Defense Electronics Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	31	62.00%	Buy	23	74.19%
Hold	11	22.00%	Hold	9	81.82%
Sell	8	16.00%	Sell	6	75.00%

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

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	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%

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

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 ^{R2}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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

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