

## Packaging & Paper/Forest Wrap-up

# BofA Global Ag & Materials Conference: Early in the recovery

**Industry Overview** 

#### Positive tone at BofA Global Ag. & Mats Conf.

We hosted our Global Agriculture & Materials Conference in Fort Lauderdale, FL this past week, which included "fireside chat" discussions with 11 companies across Packaging & Paper/Forest (links at right) as well as several timely panels on topics including a review of: (a) Consumer GLP-1 trends; (b) North American boxboard markets; (c) Recycling and Recycled Fiber; (d) Containerboard & Corrugated trends; (e) Sustainable Plastics & Packaging; and (f) Trends being seen by two smaller-cap companies, Sylvamo and Clearwater, in a "Lightning Round" discussion. Our separate reports upgrading Ball Corp, International Paper, and Packaging Corp. to Buy and from our colleague Steve Byrne on the ag. & commodity chemical perspective are linked as well. We thank all the presenting companies and panelists, as well as the attending investors, who took part in our conference.

#### Outlooks improving; Signs of both inflation & productivity

The tone from presenting companies was largely consistent with or ahead of previously discussed trends from December-quarter reporting. Companies that pointed to improvements in early 2024 trends relative to 4Q-reporting commentary included Ball Corp. and Packaging Corp. That said, most companies expect stronger volume during 2H of 2024. Some companies in our view missed opportunities to comment on 1Q trends and/or more strongly defend their strategies. Again, please see the company discussions at right. Meantime, labor, and other costs remain elevated – please see our discussion on recycled fiber. Automation, sharing of best practices, benchmarking and other forms of increasing productivity look to be ahead.

#### Panels: Sustainability favors paper/metal?; C'board better

Meantime, our expert panels offered much color. On balance, there remains a lot of demand for recycled resin, well above that of available supply. Procurement costs and other factors remain a headwind. Meantime, look to an increase in box shipments in 2H of 2024, even as op. rates should be a touch better this year. Early trends were "pleasantly surprising", though versus very low expectations. Meantime in boxboard, panelists saw comparatively good volumes in bleached board and coated unbleached kraft but weaker trends in coated recycled board. New capacity coming into the market was seen as manageable for now – given project delays and mill closures, perhaps ~200k tons in bleached board. Imports overall were seen as ~15% of the folding boxboard market, itself 52% of the overall boxboard market (and, at ~500k tons, about 10% of the bleached board market). Separately, GLP-1 therapies were viewed to be mild impacts to consumption at present, with some potential for positive volumes as well.

#### 05 March 2024

Equity
United States
Packaging & Paper/Forest Products

#### **George L. Staphos** Research Analyst BofAS

+1 646 855 4495 george.l.staphos@bofa.com

#### Cashen Keeler Research Analyst BofAS +1 646 855 4256 cashen.keeler@bofa.com

Lucas Hudson Research Analyst BofAS +1 917 861 6981 lucas.hudson@bofa.com

#### **Exhibit 1: BofA Conference Reports**

We include below links to reports from our 2024 Global Ag. & Materials Conference

Packaging	Paper/Forest	
<u>AMBP</u>	<u>GPK</u>	
<u>ATR</u>	<u>IP</u>	
BALL	<u>PKG</u>	
<u>BERY</u>		
<u>CCK</u>		
<u>OI</u>		
<u>SLGN</u>		
<u>SON</u>		

#### Deep-dive reports from Global Ag & Mats, 2024

BofA Packaging & Paper/Forest Upgrades
BofA Chemicals Wrap-up

Source: BofA Global Research

BofA GLOBAL RESEARCH

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 15 to 18. Analyst Certification on page 13. Price
Objective Basis/Risk on page 6.

## **Key panels from Global Ag & Materials**

#### **Consumer GLP-1 Panel Discussion**

#### Neutral implications for a possible wide-span adoption

Our opening conference panel featured a discussion on Glucagon-like peptide-1 (GLP-1) anti-obesity drugs and the implications on the consumer. The panel featured one of BofA's US packaged food & beverage analysts, Peter Galbo, and High Impact Analytics' Director of Client Growth, Matt Musgrave. The BofA house view is that there will be approximately 10mn users on GLP-1 by 2026 and 30-50mn users by the end of the decade, and which will impact calorie consumption by 2-3%.

#### Consumer trends and innovation likely mean limited impact for now

That said, key considerations to adoption include insurance reimbursement and the introduction of an oral (vs. injectable) application – injectables right now are not as favored by consumers. Additionally, smaller pack sizes, complementary consumer products and other sources of innovation were viewed to be reasons why investors should not fear these products too much from a packaging demand standpoint. From a category perspective, a key point is that bakery goods and high-caloric frozen foods may be most negatively affected should there be a wide-spread adoption of the drug and beer was viewed to be most negatively exposed on the beverage side. Meantime, protein (and protein supplements) may potentially benefit from GLP-1 trends. Interestingly, caffeine intake does not seem to be impacted by GLP-1 adoption (perhaps a positive for some beverage companies). Overall, users of GLP-1 might be losing some weight, but users are also losing muscle. According to our panelists, users may regain two-thirds of their weight loss once they get off the drug but that creates health issues – most of this comes back as fat relative to the original muscle.

#### **Sustainable Plastics Panel Discussion**

#### Demand for recycled resin still high...

We co-hosted a panel discussion on plastics sustainability with our BofA colleague analysts Steve Byrne, who covers US Chemicals & Agricultural Biotechnology and Mike Feniger, who covers US Machinery, Engineering & Construction and Environmental Services. Our panelists included Kevin Kwilinski, Chief Executive Officer of Berry Global (BERY; Buy), Katheryn Scott, General Engineer at the Department of Energy, Pankaj Gupta, VP Investor Relations at Dow Inc. (DOW; rated Buy by Steve Byrne, B-1-7, \$57.02), and Howard Coker, Chief Executive Officer of Sonoco Products (SON; Buy). Overall, it appears that there is significant demand for recycled resin but the supply of this material still remains somewhat limited, given several factors.

#### ...though, challenges remain

As discussed in prior years, the availability of feedstock is a principal hurdle to increasing the production of recycled resin and ultimately the companies appeared supportive of extended producer responsibility (EPR) legislation to fund recycling infrastructure investments. Additionally, consumer education on recycling was seen as another factor needed to improve plastic collection. Relative to other substrates, panelists noted that customers do care about packaging material in the context of sustainability, but that "fit for purpose" matters most in making substrate decisions. Interestingly, recycled polyethylene resin was seen as costing 2x as much to manufacture relative to virgin. That said, our panelists believed that consumers (and consumer product goods [CPG] companies) are willing to pay some premium for recycled and sustainable materials, but there was uncertainty as to the absolute levels. Lastly, carbon footprint was viewed as favoring plastics on a "virgin" basis but comparisons become much more difficult to make when looking at recycled materials.



#### **Containerboard Panel Discussion**

#### Destocking has concluded in c'board

We hosted a panel discussion on the demand outlook, industry news, and the new normal in containerboard (c'board). The panel included Ralph A. Young, Principal at Alternative Paper Solutions, Carl Bohm, President at CRB Consulting, Ronald D. Sasine, Principal at Hudson Windsor, and Randy Banks, President at Sharp International. Given the current market outlook our panelists saw companies prioritizing restructuring operations to modernize mill capabilities and optimize their footprints. With that in mind, our panelists saw relatively low downstream levels of inventory and the larger destocking phenomenon as largely concluded. While spotty, over demand is improving – our panelists relayed that customers were "pleasantly surprised" by 1Q volume trends relative to the low expectations from several months ago.

#### The "new normal" in c'board – improvement over time

The discussion then moved to what the "new normal" will look like. Panelists offered an optimistic growth outlook overall for containerboard over the next few years, between 2.5-3% pa. In terms of operating rates, our panel did not see operating rates exceeding 90% until 2025-26, and the consensus figure for this year was placed at ~88% in North America. On the positive side of the ledger, onshoring and nearshoring will support growth – a figure cited was that approximately 1,300 suppliers are in the process returning to or near the US. Meantime, automation investments in distribution channels will increasingly favor corrugated shipments, even as short-run supply and commercial models increasingly find their way to the US from Europe and elsewhere.

#### Sylvamo & Clearwater panel discussion

#### Companies see positive industry outlooks of paper, board, tissue

We hosted a fireside, "Lightning Round" panel with Arsen Kitch, Chief Executive Officer at Clearwater Paper (CLW; not covered), and John Sims, Chief Financial Officer of Sylvamo (SLVM; Buy).

#### Printing recession over for SLVM

Overall, Sylvamo indicated the 'Printing Recession' destocking which began last year as part of the pullback in advertising in North America and Europe has largely concluded. The company mentioned that backlogs have strengthened across all markets from a pick-up in demand. Further, SLVM mentioned that the Red Sea conflict has increased lead times for Asian imports into Europe by approximately 4-6 weeks and may cause Europe to be more reliant on domestic supply, a positive for the company. As mentioned in separate reports, Packaging Corp (PKG; Buy) is out with a \$100/ton price hike for uncoated freesheet (UCFS) effective April 1. Among other points, Sylvamo sees a positive sector structure, ability to reinvest, and good progress on its Project Horizon cost-reduction program.

#### Clearwater focusing on strategy, capital allocation

Meantime, Clearwater plans to focus on deleveraging its balance sheet after its recent acquisition announcement of the Augusta mill which will add ~600k tons of solid bleached sulfate (SBS) capacity and a strategic review of its Tissue business. Clearwater expects to have stable and growing demand in Paperboard, particularly in the food service category, as Paperboard has been the "economic engine" for the company in recent years. CLW sees room for both integrated and non-integrated suppliers to this market growing 1-2%. Meantime, Tissue is viewed by the company to have a more concentrated customer- and fragmented supplier-base. EBITDA more than doubled between 2023 and 2022 and Clearwater could continue to remain in Tissue, but it did mention, when brought up during Q&A, that higher pulp prices would be a potential risk for the company.



#### **Recycling and Recycled Fiber Panel Discussion**

#### OCC prices may rise further before stabilizing

We hosted a panel discussion on recycled fiber trends. Our panelists included Sonoco's (SON) Vice President & General Manager of Paper and Fiber Supply, Palace Stepps, and Greg Rudder, Fastmarkets RISI's Managing Editor of Pulp & Paper Week. Recall, old corrugated containers (OCC) prices have moved up significantly since January 2023 from ~\$29/ton to ~\$91/ton at current levels. Overall, our panelists predicted an increase in box shipments for 2H24 which would increase available supply. That said, considering the increase in recycled linerboard capacity in North America (2.4mn tons gross, according to Mr. Rudder, which has yet to work through learning curve) and the increase in distribution premiums, overall OCC prices look to be heading higher in 2024. Collection is viewed to be already relatively efficient, with over 50% of what winds up at a materials recovery facility (MRF) by weight being fiber. As such, we are seeing increased usage of technology allowing paper mills to run mixed- and/or lower-quality fiber in mills (with as much as 65% mixed paper, 35% OCC). Looking at recycling, paper was viewed to be the most widely recycled, followed by metal. In both cases, existing technology that sorts well allowed for this. Plastics like polyethylene terephthalate (PET) or high-density polyethylene are sorted and recycled well, though glass was viewed to be a challenge given sorting and handling economics.



**Exhibit 2: Summary of Companies Mentioned**Packaging and Paper/Forest companies mentioned in the report

Company	Ticker	Q-R-Q	PO	Recent Price
Packaging				
Amcor Plc	AMCR	B-3-7	\$9.70	9.17
AptarGroup	ATR	B-1-7	\$154	141.96
Ardagh Metal Packaging	AMBP	B-2-8	\$4.10	3.27
Avery Dennison	AVY	B-3-7	\$214	216.13
Ball Corp	BALL	B-1-7	\$72	64.52
Berry Global	BERY	B-1-7	\$83	57.67
Brady Corp	BRC	B-1-7	\$64	58.94
Crown Holdings	CCK	B-1-7	\$89	75.9
Greif	GEF	B-2-7	\$77	63.26
O-I Glass	OI	C-1-9	\$21	16.83
Pactiv Evergreen	PTVE	C-1-7	\$16	12.99
Sealed Air	SEE	B-1-7	\$40	34.57
Silgan Holdings	SLGN	B-1-7	\$53	43.37
Sonoco Products	SON	B-1-7	\$64	56.7
Paper/Forest				
Boise Cascade	BCC	B-3-7	\$132	135.55
Graphic Packaging	GPK	B-1-7	\$31	25.5
International Paper	IP	B-1-7	\$42	35.89
Louisiana-Pacific	LPX	C-3-7	\$68	75.54
Packaging Corp.	PKG	B-1-7	\$202	185.43
PotlatchDeltic	PCH	B-2-7	\$55	47.42
Sylvamo Corp.	SLVM	C-1-7	\$65	61.56
WestRock	WRK	B-1-7	\$47	44.97
Weyerhaeuser	WY	B-1-7	\$37	35.36

 $\textbf{Source:} \ \ \textbf{Bloomberg, BofA Global Research estimates. Priced as of 3/4/24.}$ 

BofA GLOBAL RESEARCH



#### Price objective basis & risk

#### Amcor PLC (AMCR / AMCCF)

Our \$9.70 price objective (AU\$14.85) is derived from a three-part valuation approach, which includes (1) a 16-17x calendarized 2024E P/E multiple, (2) a 10-12x calendarized 2024E EV/EBITDA multiple, (3) a normalized FCF estimate of \$1,100mn, an estimated cost of equity of 10% and forecast rate of growth of 0%. We believe the multiples (inline to a slight premium) are appropriate relative to peers given the company's quality, size, and low leverage.

Risks to our PO are: (1) plastic packaging markets' potential sustainability challenges, particularly in rigid plastic bottles, (2) food, beverage and other packaging fundamentals' potential to disappoint relative to expectations, (3) unfavorable resin price volatility relative to our forecasts could impact results despite contractual pass throughs, (4) competitive factors, (5) unfavorable volume and pricing trends relative to our forecasts, (6) unfavorable macroeconomic trends. Should risk factors cited here and the company fundamentals prove more benign/favorable versus our forecasts, AMCR results and its PO could exceed our forecasts over time.

#### AptarGroup Inc. (ATR)

Our \$154 PO is based on a two-part valuation approach: (1) Sum-of-the-parts (SOTP) valuation based on our projection of ATR's 2024 segment results. Given our evaluation of peer and market multiples, we project ATR's Pharma business will be valued at 26x our 2024E EBITDA forecast given where peers currently trade. We value Aptar Closures at 7-8x EV/EBITDA and we value Aptar Beauty segment at a 7x multiple given a longer than expected rebound in the beauty and fragrance market. (2) Normalized FCF valuation which reflects our expectation that it will generate nearly \$300mn of FCF on a normalized basis, an estimated COE of 10%, and a forecast growth rate of 5%.

Upside risks: (1) strength of ATR's project backlog given conversions to dispensing products, (2) specialty packagers' ability to surprise in performance in the mid-to-late cycle, (3) a stronger-than-expected recovery from Asian beverage market destocking, (4) depreciation of USD, (5) ATR's restructuring program which could add materially to forecasts.

Downside risks: (1) should consumer trends remain unfavorable for the stock, (2) acquisition risks, given ATR's balance sheet, (3) unfavorable resin swings, (4) unfavorable international growth and potential effects from coronavirus, (5) mgmt transitions, (6) should trends reverse in the policy or regulatory outlook for the US or other countries.

#### **Ardagh Metal Packaging S.A. (AMBP)**

Our \$4.10 price objective is based on a three-part valuation approach, which takes: (1) a 15x 2024E P/E multiple, (2) a 10-12x 2024E EV/EBITDA multiple and (3) our intrinsic free cash flow (FCF) valuation, which assumes \$200mn of normalized FCF, 10% cost of equity, and a 2% growth rate. These multiples are consistent with comparable company multiples and we'd expect the company to trade slightly below peers.

Downside risks to our price objective are (1) AMBP's ability to compete with well established peers, (2) growth, pricing and valuation considerations should volumes slow, (3) a more concentrated customer base relative to peers, (4) end-market mix given its weighting to hard seltzer, (5) raw material availability in light of recent supply-chain disruptions and the need to pass through primary raw materials (i.e. aluminum can sheet), (6) leverage relative to other rigid packaging companies, (7) energy cost volatility in Europe, and (8) future equity dilution related to existing warrants and an earnout agreement with Ardagh Group.



As with all paper/forest and packaging companies a multitude of micro and macro factors are at work and, coupled with operational leverage, results could be better- or worse-than-expected with downside & upside risks to our PO should fundamentals wind up above or below expectations.

#### Avery Dennison Corp. (AVY)

Our \$214 price objective is derived from a three-part valuation approach, which includes the use of (1) a 20x 2024E P/E multiple, (2) a 16-17x 2024E EV/EBITDA multiple, and (3) our intrinsic free cash flow (FCF) valuation, which estimates \$800mn of normalized FCF (please see our free cash flow model for additional information), 9% cost of equity and a 5% growth rate. Based on history, we think our valuation multiples are appropriate for a late-cycle period with limited inflation.

Risks to our price objective are (1) risk relative to AVY's ability to execute on its cost reduction plans, (2) volume and pricing trends in core Materials Group and Solutions Group segments, (3) growing dependence on emerging economies, (4) dilution from radio frequency identification (RFID) investments, (5) unfavorable volume and pricing trends, (6) unfavorable macroeconomic environment, (7) variability in governmental policy.

#### Ball Corp. (BALL)

Our \$72 price objective is based on a three-part valuation approach, which takes: (1) a 19x 2025E P/E multiple, (2) a sum-of-the-parts (SOTP) valuation which values North and Central America at 14x EBITDA, EMEA at 13x, South America at 13x, and Other at 12x, (3) our intrinsic free cash flow (FCF) valuation, which assumes \$1.2bn of normalized FCF, 11% cost of equity and a 3% growth rate. Multiple ranges are higher vs. past valuation levels given packaging group valuations and the growth trajectory offered by the beverage can market.

Risks to our PO are (1) increasing operational challenges from new capacity onboarding, (2) potentially increased competition arising from new entrants, (3) BALL's ability to realize benefits from prior capital spending (e.g., new capacity, custom cans, productivity, etc.), (4) input cost volatility including energy cost volatility in Europe, (5) overseas/emerging market risks (for example, currency), (6) demand trends in beverages, including the risks to overall valuation, demand and pricing should growth slow, (7) seasonal-weighting of full-year earnings to the key 2Q/3Q period, (8) potential governmental policy and regulatory changes in the US and elsewhere, (9) increasing risk from Russia and South America.

And, there are numerous macro risks and other risks around volumes, pricing, and input costs.

#### **Berry Global (BERY)**

Our \$83 price objective is derived from a three-part valuation approach, which includes: (1) a 13x calendarized 2024E P/E multiple, (2) a 9x calendarized 2024E EV/EBITDA multiple, (3) a normalized FCF estimate of \$900mn, an estimated cost of equity of 11% and forecast rate of growth of 0%. We believe the multiples (in-line to a slight discount) we use are appropriate relative to peers given the increased leverage.

Downside risks to our PO are: (1) plastic packaging markets' potential sustainability challenges, including in Europe, (2) food, beverage and other packaging fundamentals could disappoint relative to expectations, (3) unfavorable resin price volatility could impact results despite contractual pass-through, (4) competitive factors, (5) financial leverage, (6) unfavorable volume and pricing trends, (7) unfavorable macroeconomic trends.



Overall, energy, commodity and macro volatility represent ongoing risks for packaging companies. We have tried to forecast and model accurately. However, industry and economic trends could prove weaker or stronger than we modeled.

#### **Boise Cascade Company (BCC)**

Our \$132 PO is based on the average of (a) a free cash flow (FCF) valuation based on our estimate of \$400mn in FCF, a calculated cost of equity of 11% and forecast rate of growth of 3%, (b) a sum-of-the-parts (SOTP) value that values BCC's Wood segment at 6x EBITDA (which is consistent with Wood multiples at this stage of the cycle) and 0.8x sales while its Building Materials Distribution segment will be valued at 8x and 0.5x, respectively. We then discount this valuation back to derive our 12 month PO.

Downside risks to our price objective being achieved are: (1) a slower housing recovery, (2) downwards commodity pricing volatility, (3) demand, supply-chain, (4) distribution business inventory and inflation trends, (5) potential volatility in actual performance relative to consensus given operating and financial leverage, (6) potential increases in Brazilian exports of plywood to the US.

Upside risks are: (1) increases in single and multi-family construction, and/or greater-than-expected usage of BCC products in construction, (2) upwards commodity pricing volatility, (3) reduced imports of plywood from Brazil.

BCC is impacted by numerous macro, inflation, currency and other considerations. To the extent that the points above are more negative than expected, BCC's results and stock price could wind up below our forecasts. Similarly, to the extent that the points above are more positive than expected, BCC results and stock price could wind up above our forecasts.

#### Brady Corp. - CI A (BRC)

Our \$64 PO is based on a three-part valuation approach, which includes: (1) a 17-18x calendarized 2024E P/E multiple, (2) a 10-11x calendarized 2024E EV/EBITDA multiple, and (3) our intrinsic free cash flow (FCF) valuation, which assumes \$185mn normalized FCF, 10% cost of equity, and a 3% growth rate. We apply multiple ranges to reflect a more normalized environment. The selected ranges reflect historical company ranges as well as current peer market multiples.

Downside risks to our PO: (1) risk relative to BRC's ability to generate performance from its comprehensive industrial track and trace investments & other efforts, (2) unfavorable organic growth (volume/pricing) trends in key economies, (3) acquisition/integration risk, (4) senior management succession and bench development risk, (5) unfavorable macroeconomic environments, (6) potential for BRC's future valuation to be impaired relative to our expectations given secular headwinds, or other factors, (8) risks associated with trade & other administration policies.

#### **Crown Holdings Inc. (CCK)**

We calculate our PO of \$89 by using our 2024 estimates and averaging the fair values derived from (1) a 15-16x '24E P/E multiple (adj. for asbestos), (2) a sum-of-the-parts (SOTP) valuation which values the Americas Beverage segment at 11x EBITDA, European Beverage at 7x, Asia Pacific at 9x, Transit Packaging at 10x and Other at 7x, (3) our intrinsic FCF valuation, which assumes \$800mn normalized FCF, a 11% cost of equity and a 2% growth rate.

Downside risks to our PO are (1) weather uncertainties during key seasonal periods in 2Q-3Q, (2) asbestos liabilities that could present a greater drain on cash flow than we currently expect, (3) FX translation, as the majority of sales are outside the US, (4) increasing investment, particularly in EM, (5) share loss to aseptic or plastic/flexible pkgg or other materials, particularly as regards its food can ops, (6) unfavorable demand



trends in key food & beverage end markets, and the overall risks to valuation, demand and pricing should growth slow, (7) unfavorable volume and pricing trends, (8) potential governmental policy and regulatory changes in the US and elsewhere.

And, as with most packaging companies, there are numerous macro risks and other risks around volumes, pricing, input costs and other factors that could negatively affect fundamental & stock price performance. Similarly should these factors prove more constructive than expected, CCK's performance/PO could exceed our forecasts.

#### **Graphic Packaging (GPK)**

Our \$31 PO is based on the average of (a) an EV/EBITDA valuation calculated by applying a 8x EV/EBITDA multiple to our 2024 EBITDA estimate of \$1.8bn (our multiple is consistent with where comparable companies have traded), (b) a P/E valuation calculated by applying a 15x P/E multiple to our 2024 EPS estimate of \$2.75 (our multiple is consistent with where comparable companies have traded), (c) a free cash flow (FCF) valuation based on our estimate of \$676mn in FCF, a calculated cost of equity of 10% and forecast rate of growth of 2%.

Risks to our PO: (1) closing and integration risks associated with the acquisitions, (2) demand trends in food & bev and other GPK end markets, (3) potential volatility in fiber, energy, other input costs, (4) paper/board sector volatility & demand trends, including trade flow volatility created by exchange rates, (5) fundamental trends that could wind up being worse than expected, (6) should trends reverse in the policy outlook for the current Administration, that would present a source of volatility and risk for the shares, (7) various factors associated with its new CRB machine

Also, industry & economic trends could prove weaker or stronger than modeled. Greater-than-expected weakness could lead to valuation multiples and earnings below our forecasts, even as better-than expected trends could lead to a higher relative multiple premium & stock price.

#### Greif Inc. (GEF)

Our \$77 PO for Class A shares is based on (1) a 14x calendarized 2024E P/E, (2) an 10x calendarized 2024E EV/EBITDA which derives a value for the combined equity market cap of Class A and B shares. We believe the multiples (a discount versus market and peers) are appropriate given weaker fundamentals against past normalized ranges (PE of 10-17x) and 5-10x EV/EBITDA for peers. We assume the elimination of a premium or discount to our combined equity value will occur equally for Class A and B, driving our target for Class A shares on this method, and (3) our intrinsic FCF valuation assumes \$400mn normalized FCF, 10% cost of equity and 2% growth rate.

Risks to our PO: (1) unfavorable demand in GEF's markets and geographies, (2) volatility in steel, resin, OCC, energy and other inputs, (3) acquisition/integration risks, (4) Class B share ownership, which retains voting power, is 70% held by insiders, (5) Regulatory review or litigation, (6) trade policy.

#### International Paper Co. (IP)

Our \$42 price objective is based on an average of (a) an EPS forecast of \$2.70 in 2025E and a P/E of 14x, which is consistent with historical ranges, (b) a normalized free cash flow (FCF) estimate of \$1bn, a calculated cost of equity of 10% and forecast rate of growth of 2%, (c) our IP sum-of-the-parts (SOTP) value, based on normal EBITDA, which is an average of historical periods 2016-22 and our forecasts through '25E.

Risks to our price objective are (1) the broader employment & macro picture, (2) paper/board sector volatility & demand trends, (3) wastepaper/input cost volatility, (4) trends in the US\$ and its effect on trade flows, (5) emerging market risk, (6) operational risks related to investment projects, (7) IP's pension, (8) the potential for new capacity to



come into the market, (9) potential volatility coming from any future Administration policy changes. Fundamental trends could wind up worse than expected, causing further downside to the shares relative to our PO. Better performance or macro news could cause the shares to perform better than our price objective.

#### Louisiana-Pacific Corp. (LPX)

Our \$68 PO is based on an average of (a) a normalized free cash flow (FCF) estimate of \$383mn, a calculated cost of equity of 13% and forecast rate of growth of 4%, (b) a SOTP value, using our evaluation of normal EBITDA, which is an average of historical periods 2016-22 and our forecasts through '25E. We project LPX's OSB segment will be valued at 5x our 2024E EBITDA forecast and its Siding segment will be valued at 10x EBITDA given building product/siding peer comps. We apply 6-8x EBITDA multiples to its other businesses. Separately, we value LPX's OSB business at 1.5x sales, its siding business at 2.5x sales and its other businesses at 1-2x sales. We assume the average of our EV/EBITDA and EV/Sales valuations, and then discount this to derive our 12-month PO.

Downside risks: (1) the broader housing picture, (2) weak demand and supply-chain, (3) changes in average home size, (4) OSB supply/demand dynamics, (5) cost volatility (wood fiber, resin, and foreign exchange), (6) operational risks associated with the expansion of LPX's siding segment, (7) regulatory and policy changes, and (8) supply/demand and market risks in Siding, and across LPX's business.

Upside risks: Should housing and related demand trends or supply/demand in LPX's various product markets prove better-than-expected, LPX stock could exceed our PO.

#### O-I Glass Inc (OI)

Our \$21 PO is based on an average of P/E, EV/EBITDA and intrinsic free cash flow (FCF) valuations. We use a 8x 2024E P/E multiple, a 6-7x 2024E EV/EBITDA multiple, and our intrinsic FCF valuation, which assumes \$350mn normalized FCF, 13% cost of equity, and a -3% growth rate. Multiples are in line with those of metal/rigid packaging peers. Similar to CCK, OI has a larger international presence relative to its peers.

Risks to our PO are: (1) unfavorable demand and pricing, (2) the potential for pension or asbestos risks/claims to consume greater amounts of earnings or cash flow, (3) unfavorable international market volatility and FX risks, (4) integration risk with acquisitions, (5) risks in Mexican pricing and pack mix, (6) potential governmental policy changes in the US and other portions of the world. As is the case with all our coverage, packaging and paper/forest stocks are highly sensitive to macro, FX, commodity inflation and other factors which could create variances with our forecasts and POs. Similarly, should the factors discussed above prove less negative or more positive to forecasts, Ol's price could exceed our PO.

#### Packaging Corp. of America (PKG)

Our \$202 price objective is based on an average of (a) an EPS forecast of \$8.50 in 2024E and a P/E of 20x, in line with peer multiples, (b) a normalized free cash flow (FCF) estimate of \$800mn, a calculated cost of equity of 8% and forecast rate of growth of 4%, (c) a sum-of-the-parts (SOTP) value, based on forecast midcycle EBITDA or per ton(ne) replacement values.

Risks to our price objective being achieved are (1) PKG's leverage to economic cycles, (2) containerboard market volatility and demand trends, (3) input cost volatility, (4) demand, supply-chain and other risks created by the Covid-19 pandemic, (5) potential structural changes in the economy, (6) the potential for mill or converting operations to perform less well than anticipated, (7) the potential for new capacity to come into the market, (8) volatility coming from changes by the Administration. While we've tried to be conservative in our modeling, fundamental trends could wind up worse than expected,



causing downside risk to the shares relative to our price objective. Similarly, PKG results could wind up stronger than our forecasts, causing the shares to move beyond our PO.

#### Pactiv Evergreen (PTVE)

Our \$16 price objective is derived from a three-part valuation approach using our estimates, which includes (1) a 12x 2024E P/E multiple, (2) an 9x 2024E EV/EBITDA multiple, (3) a normalized FCF estimate of \$185mn, an estimated cost of equity of 11% and forecast rate of growth of -2%. Our multiples represent discounts to foodservice/food packaging peers given the company's leverage and its weak earnings performance from 2018 to 2020.

Risks to our PO are (1) financial leverage, (2) rising labor and other costs, (3) Rank Group majority ownership, (4) unfavorable resin price volatility and/or price/cost, (5) the competitive landscape, (6) potential missteps with its Strategic Investments, (7) potential volatility in food, beverage and other packaging fundamentals, (8) COVID-related volatility, (9) macro and geopolitical risks, (10) sustainability trends. We have tried to forecast accurately, but risk factors could significantly affect results relative to forecasts

#### PotlatchDeltic Corp. (PCH)

Our \$55 PO is based on: (a) an assumed mid-cycle dividend yield of 3% and dividend of \$1.80-2.00/share, (b) a 21-25x mid-cycle AFFO multiple, and (c) a sum-of-the-parts (SOTP) value. Our SOTP model values PCH's Resources business based on our estimates of the per acre values for its timberlands, and values its Wood Products business based on our forecast for mid-cycle EBITDA and applying a 5x EV/EBITDA multiple. Meanwhile, we value its Real Estate operations based on the average premium generated over time, and assuming properties sold are ultimately replaced with other timberlands.

Risks to our PO being achieved are: (1) Flattening yield curve, (2) Housing market weakness, which can impact PCH's Wood Products and Real Estate operations, as well as timberland profits, (3) Broader housing and economic trends, which can impact timberland and REIT valuations, including the threat of deflation, (4) Risk that synergies with CatchMark is not realized (5) Dividend trends, (6) Demand, supply chain and other risks created by the Covid-19 pandemic, (7) Regulations on tax status of REITs. Upside risks to our PO are better-than-expected improvement in the housing market and dividend trends.

While we have tried to be conservative in our modeling, certain fundamental trends could wind up worse than expected, causing further downside to the shares relative to our price objective. Similarly, PCH performance could prove better than our forecast, lifting the shares above our PO.

#### Sealed Air Corp. (SEE)

Our \$40 price objective is derived from a three-part valuation approach, which includes: (1) a 14-15x 2024E P/E multiple, (2) a 10x 2023E EV/EBITDA multiple, and (3) our intrinsic free cash flow (FCF) valuation, which assumes \$450mn of normalized FCF, 11% cost of equity, and a 3% growth rate. Our target multiples are based on SEE's past trading history and also peer multiples. SEE has been able to trade in the high teens to low twenties on a P/E basis, and a premium to the market when fundamentals improve.

Downside risks to our price objective are (1) risks relative to the company's ability to manage pricing and spreads, given (2) energy volatility, resin price volatility and agricultural market risks, (3) international business risks (approximately 65% of sales derived abroad), including FX and emerging market trends, (4) competitive and other factors negatively impacting volume to a greater degree than expected, (5) risks relative to execution of the company's transformation strategies over the last several years, (6)



challenges associated with management transitions.

Overall, energy and commodity volatility represent ongoing risks for packaging companies. Industry and economic trends could prove weaker or stronger than we modeled. Greater-than-expected weakness could lead to valuation multiples and earnings that are below our forecasts.

#### Silgan Holdings Inc. (SLGN)

Our \$53 PO is based on a 13x 2024E P/E multiple, a 10x 2024E EV/EBITDA multiple, and our intrinsic FCF valuation which assumes \$375mn normalized FCF, 9% cost of equity and 1% growth rate. We believe SLGN should trade about in line with to slightly below its packaging peers given its relatively defensive profile.

Downside risks: (1) potential for metal cans to lose a greater amount of share over time, (2) potential for raw material costs to swing sufficiently so as to alter normal purchasing patterns, (3) food can business' heavy seasonality during 2Q/3Q pack, (4) SLGN's ability to integrate its recent acquisitions, (5) potential for bisphenol A (BPA) concerns to again impact demand, (6) operational considerations related to SLGN's new metal and plastic packaging ops, (7) risks related to policy changes.

#### Sonoco Products Co. (SON)

Our \$64 price objective is derived from a three-part valuation approach, which includes: (1) a 13-14x 2024E P/E multiple, (2) an 9-10x 2024E EV/EBITDA multiple, and (3) our intrinsic free cash flow (FCF) valuation, which assumes \$600mn of normalized FCF, 10% cost of equity, and -2% growth rate. The P/E and EV/EBITDA multiples are consistent with past valuation multiples within packaging.

Downside risks to our price objective are: (1) potential volatility in old corrugated container (OCC) prices, (2) execution on restructuring and integration initiatives, (3) integration of present acquisitions, (4) periodic volatility in its business, (5) execution of its consumer/growth strategies in packaging, (6) unexpected volume and pricing trends, (7) macroeconomic trends, (8) potential trend reversals related to Administration policies. In addition, energy and commodity cost volatility represent ongoing risk for all packaging companies.

Upside risks to our PO are: (1) Sonoco's ability to acquire businesses accretively, making our forecasts too pessimistic, driving SON above our PO, (2) Additionally, should volumes accelerate while input costs stay benign, this could lead to higher earnings than we are projecting and result in the stock exceeding our PO, (3) The factors noted earlier could play out in a way that causes results to exceed our forecast and drive the shares above our PO.

#### Sylvamo Corp. (SLVM)

Our \$65 price objective is based on an average of: (a) an EPS forecast of \$5.75 in 2024E and a P/E of 12x, which is within the range in which paper companies have traded, (b) a normalized FCF estimate of around \$245mn, a calculated cost of equity of 8% and forecast rate of decline of 3%, (c) our SLVM sum-of-the-parts (SOTP) value, based on forecast midcycle EBITDA values and applying multiples of 4-7x across the regions.

Risks to our PO are: (1) Broader employment and macro picture, (2) Paper sector volatility and demand trends, (3) Changes in the cost or availability of key inputs, energy and transportation, (4) Demand, supply chain and other risks created by the pandemic, (5) Potential cash outflow related to the pending tax ruling on the deductibility of goodwill from IP's 2007 acquisition of the Luis Antonio mill, (6) Emerging market risk, including potential for volatility in Latin America, (7) Potential dis-synergies and operational risks related to the spin-off from IP, (8) Operational risks associated with the Svetogorsk recovery boiler project, (9) Potential for supply/demand imbalances in UCFS,



(10) Potential loss of a key customer, (11) Risks of fragmentation in Europe. Volatility in macro and micro factors and the earnings leverage that exists could mean fundamental trends wind up worse than expected, causing further downside to the shares relative to our PO. Alternatively, better performance could cause the shares to perform better than our PO.

#### WestRock (WRK)

Our \$47 PO is based on an average of (a) a calendarized EPS forecast of \$2.38 in C24 and a P/E of 16x, given optionality with the potential Smurfit Kappa deal, (b) a normalized free cash flow (FCF) of \$1.1bn, a cost of equity of 11% and forecast growth rate of 3%, (c) our WRK sum-of-the-parts (SOTP) value, based on our evaluation of normal EBITDA, which is an average of historical periods 2020-22 and our forecasts through '25E. Based on current market and sector valuations, we estimate 9x to 10x EV/EBITDA multiple for Corrugated Packaging and an 8x to 9x multiple for Consumer Packaging. Separately, we apply 6x EV/EBITDA multiple for WRK's Global Paper business and a 5x EV/EBITDA multiple for WRK's Distribution businesses.

Risks to our PO are (1) the broader employment, macro and consumer spending outlook, (2) potential volatility in OCC prices, (3) paper/board sector volatility and demand trends across end markets, (4) supply-chains, (5) potential governmental policy and regulatory changes, (6) risks related to the closing of the Smurfit Kappa transaction. As with all our packaging and paper/forest product companies, WRK must contend with a variety of macro, FX, commodity inflation and other considerations. Should the factors above impact WRK more negatively than expected, its results and stock price will have difficulty achieving our forecasts. Similarly, should these factors combine more positively than expected, WRK's results and stock price could exceed our forecasts.

#### Weyerhaeuser Co. (WY)

Our \$37 PO is based on the average of (a) an assumed mid-cycle dividend yield of 1.8% and dividend of \$0.80-0.90/share, (b) a 21-25x mid-cycle AFFO multiple, and (c) a sum-of-the-parts (SOTP) value. Our SOTP model values WY's Timberlands business based on our estimates of the per acre values for its timberlands, and values its Wood Products business based on our forecast for mid-cycle EBITDA and applying a 5.5x EV/EBITDA multiple. Meanwhile, we value its Real Estate operations based on the average premium generated over time, and assuming properties sold are ultimately replaced with other timberlands.

Risks to our PO being achieved are (1) weak employment, (2) weak housing fundamentals, (3) regulations on the tax status of REITs - given WY's REIT status, some elements of the company's future performance (i.e., tax rate, corporate expense) could prove difficult to forecast, (4) Emerging market and FX trends, which could impact demand and pricing for WY timber, (5) dividend trends, (6) trends in China. As with all of our stocks, WY will be sensitive to changes in the domestic and global macro outlook, input cost trends, and potential policy and regulatory changes.

## Analyst Certification

We, George L. Staphos and Cashen Keeler, hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers. We also certify that no part of our respective compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

## **Special Disclosures**

BofA Securities is currently acting as Financial Advisor to Graphic Packaging Holding Company in connection with its proposed sale of Augusta Paperboard



Manufacturing Facility to Clearwater Paper Corporation, which was announced on 20 February 2024.



#### **US - Paper and Packaging Coverage Cluster**

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	AptarGroup Inc.	ATR	ATR US	George L. Staphos
	Ball Corp.	BALL	BALL US	George L. Staphos
	Berry Global	BERY	BERY US	George L. Staphos
	Brady Corp Cl A	BRC	BRC US	Cashen Keeler
	Crown Holdings Inc.	CCK	CCK US	George L. Staphos
	Graphic Packaging	GPK	GPK US	George L. Staphos
	International Paper Co.	IP	IP US	George L. Staphos
	O-I Glass Inc	OI	OI US	George L. Staphos
	Packaging Corp. of America	PKG	PKG US	George L. Staphos
	Pactiv Evergreen	PTVE	PTVE US	George L. Staphos
	Sealed Air Corp.	SEE	SEE US	George L. Staphos
	Silgan Holdings Inc.	SLGN	SLGN US	George L. Staphos
	Sonoco Products Co.	SON	SON US	George L. Staphos
	Sylvamo Corp.	SLVM	SLVM US	George L. Staphos
	WestRock	WRK	WRK US	George L. Staphos
	Weyerhaeuser Co.	WY	WY US	George L. Staphos
NEUTRAL				
	Ardagh Metal Packaging S.A.	AMBP	AMBP US	George L. Staphos
	Greif Inc.	GEF	GEF US	George L. Staphos
	PotlatchDeltic Corp.	PCH	PCH US	George L. Staphos
UNDERPERFORM				
	Amcor Plc	AMCCF	AMC AU	George L. Staphos
	Amcor PLC	AMCR	AMCR US	George L. Staphos
	Avery Dennison Corp.	AVY	AVY US	George L. Staphos
	Boise Cascade Company	BCC	BCC US	George L. Staphos
	Louisiana-Pacific Corp.	LPX	LPX US	George L. Staphos

## **Disclosures**

## **Important Disclosures**

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

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	14	60.87%	Buy	10	71.43%
Hold	6	26.09%	Hold	5	83.33%
Sell	3	13.04%	Sell	2	66.67%

#### Equity Investment Rating Distribution: Paper/Forest Products Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	9	45.00%	Buy	8	88.89%
Hold	2	10.00%	Hold	1	50.00%
Sell	9	45.00%	Sell	5	55.56%

#### 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<sup>R2</sup>

 Buy
 ≥ 10%
 ≤ 70%

 Neutral
 ≥ 0%
 ≤ 30%

 Underperform
 N/A
 ≥ 20%

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: Amcor PLC, AptarGroup Inc., Ardagh Metal Pkgg, Avery Dennison, Ball Corp, Berry Global, Boise Cascade, Brady Corp - A, Crown Holdings, GraphicPackaging, Greif Inc., Intl Paper Co, Louisiana-Pacific, O-I Glass Inc, Packaging Corp, Pactiv Evergreen, PotlatchDeltic Corp, Sealed Air Corp, Silgan Holdings, Sonoco Products, Sylvamo, WestRock, Weyerhaeuser Co.

BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Avery Dennison, Ball Corp, Packaging Corp, Sealed Air Corp., WeyerhaeuserCo. The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Amcor, AptarGroup, Ardagh Metal Pack, Avery Dennison, Ball Corp, Berry Global, Crown Holdings, GraphicPackaging, Greif, Inc., Intl Paper, Packaging Corp, Pactiv Evergreen, PotlatchDeltic Corp, Sealed Air Corp., Silgan Holdings, Sonoco Products, Sylvamo, WestRock, WeverhaeuserCo.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Amcor, AptarGroup, Ardagh Metal Pack, Avery Dennison, Ball Corp, Berry Global, Boise Cascade, Brady Corp - A, Crown Holdings, GraphicPackaging, Greif, Inc., Intl Paper, Louisiana-Pacific, Packaging Corp, Pactiv Evergreen, PotlatchDeltic Corp, Sealed Air Corp., Silgan Holdings, Sonoco Products, Sylvamo, WestRock, WeyerhaeuserCo.

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: Amcor, AptarGroup, Ardagh Metal Pack, Avery Dennison, Ball Corp, Berry Global, Boise Cascade, Brady Corp - A, Crown Holdings, GraphicPackaging, Greif, Inc., Intl Paper, Louisiana-Pacific, Packaging Corp, Pactiv Evergreen, PotlatchDeltic Corp, Sealed Air Corp., Silgan Holdings, Sonoco Products, Sylvamo, WestRock, WeyerhaeuserCo.

BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Amcor, Avery Dennison, Ball Corp, Berry Global, Crown Holdings, GraphicPackaging, Greif, Inc., Intl Paper, Packaging Corp, PotlatchDeltic Corp, Sealed Air Corp., Sonoco Products, Sylvamo, WeyerhaeuserCo.

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: Amcor, AptarGroup, Ardagh Metal Pack, Avery Dennison, Ball Corp, Berry Global, Crown Holdings, GraphicPackaging, Intl Paper, Packaging Corp, Pactiv Evergreen, PotlatchDeltic Corp, Sealed Air Corp., Silgan Holdings, Sonoco Products, Sylvamo, WestRock, WeyerhaeuserCo.

BofAS together with its affiliates beneficially owns one percent or more of the common stock of this issuer. If this report was issued on or after the 9th day of the month, it reflects the ownership position on the last day of the previous month. Reports issued before the 9th day of a month reflect the ownership position at the end of the second month preceding the date of the report: Avery Dennison, Berry Global, GraphicPackaging, Intl Paper, O-I Glass Inc, Packaging Corp, Sealed Air Corp., Sonoco Products.

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: Amcor PLC, AptarGroup Inc., Ardagh Metal Pkgg, Avery Dennison, Ball Corp, Berry Global, Boise Cascade, Brady Corp - A, Crown Holdings, GraphicPackaging, Greif Inc., Intl Paper Co, Louisiana-Pacific, O-I Glass Inc, Packaging Corp, Pactiv Evergreen, PotlatchDeltic Corp, Sealed Air Corp, Silgan Holdings, Sonoco Products, Sylvamo, WestRock, Weyerhaeuser Co.

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: Amcor, AptarGroup, Ardagh Metal Pack, Avery Dennison, Ball Corp, Berry Global, Boise Cascade, Brady Corp - A, Crown Holdings, GraphicPackaging, Greif, Inc., Intl Paper, Louisiana-Pacific, Packaging Corp, Pactiv Evergreen, PotlatchDeltic Corp, Sealed Air Corp., Silgan Holdings, Sonoco Products, Sylvamo, WestRock, WeyerhaeuserCo.

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



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.

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 <a href="https://www.bofaml.com/BofASEdisclaimer">www.bofaml.com/BofASEdisclaimer</a>; 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 (HKSFC); 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): Merri

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 HKSFC; 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 in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securit

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.

#### 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 inform

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.

