

Packaging & Paper/Forest Products

Year-ahead, 2024 – Trough on trough is what we crave

Rating Change

Trough on trough is what we crave in January 2024

We prefer value with a cyclical bias heading into 2024, and believe our sector is reasonably attractive and well-positioned for the new year, the 4Q rally notwithstanding. Valuations are at relatively low levels after a yearlong (or greater) volume and earnings recession. This limits downside, and we particularly like stocks who look relatively inexpensive v. past trough periods. Our strategists believe cyclicals (and lower quality names) are comparatively better positioned. Given how quickly consensus moved to “soft landing” we’ll try to be very tactical should macro trends reverse.

Two big ideas if you can take the risk: SEE and GPK

Our top Buy-rated idea is SEE, formerly known as Sealed Air. Probabilities are high that SEE could look quite different in the next few years. No doubt cyclical downturns in key markets have hurt but we foresee SEE needing aggressive go-to-market, cost reduction and portfolio optimization changes. Fortunately, valuation limits potential downside from here; see inside for some deep dive channel checks we’ve done recently for SEE. Next, we rate Graphic Packaging as Buy. GPK is discounted to its historical valuations because of boxboard supply concerns but op. rates will likely be better than expected given our analysis. Moreover, it’s the “matched short” for many clients’ “containerboard longs” but market worries about containerboard at some point could prompt unwinding and further GPK buying.

Other particularly unloved names: SON, OI

Sonoco Products is partly a valuation call, selling at a 50% relative P/E. It also could benefit should investors pare containerboard longs, partly as boxboard trends improve. It is also inexpensive v. other specialty companies (Amcor, Avery, Aptar and Sealed Air). At a depressed, 7x P/E and 5x EV/EBITDA multiple, O-I Glass should improve on a weaker dollar (BofA’s call) and as European macro trends improve – Europe is ~55% of earnings.

Other: AVY & BALL to U/P, BRC & PTVE to Buy

While Ball Corp and Avery have long been amongst our favorite companies, we move both to U/P. This is partly a valuation call as both stocks have gotten close to our POs in recent weeks with AVY at 22x 2024E EPS and BALL at 18x, and also given our ratings distribution. Additionally, we upgrade Brady (BRC) and Pactiv Evergreen (PTVE), both to Buy. BRC currently trades at 15x our 2024 EPS estimate, while PTVE is at 13x.

Sectors: Specialty, & boxboard relatively positive

We are most positive on specialty packaging – multiples are less expensive and there is more of a cyclical catalyst (i.e., foodservice, protective) though rigid packaging is also fairly inexpensive. Containerboard would seem to be well positioned (we’re early in the recovery, we did upgrade WestRock several quarters ago) but containerboard is not relatively inexpensive v. past, early-cycle periods. In beverage cans, multiples have also expanded. Lastly in wood/timber, we clearly could have been quicker with rating adjustments – U/P-rated Louisiana-Pacific and Boise Cascade have rebounded off lows – but we expect a potential pullback. See Exhibits 34 – 40 for summary of rating, PO, estimate and valuation changes.

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Exhibit 1: Rating changes

A summary of rating changes

	New	Old
Packaging		
AVY	Underperform	Buy
BALL	Underperform	Neutral
BRC	Buy	Underperform
PTVE	Buy	Neutral

Source: BofA Global Research
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Exhibit 2: Price objective changes

A summary of PO changes in this report

	New	Old
Packaging		
AMCR	\$990	\$930
ATR	\$150	\$146
AMBP	\$440	\$420
AVY	\$208	\$208
BALL	\$59	\$61
BERY	\$83	\$78
BRC	\$65	\$51
CCK	\$105	\$95
GEF	\$77	\$75
OI	\$22	\$22
PTVE	\$16	\$14
SEE	\$42	\$40
SLGN	\$53	\$48
SON	\$70	\$63
Paper/Forest		
BCC	\$132	\$112
GPK	\$30	\$29
IP	\$37	\$34
LPX	\$65	\$62
PKG	\$176	\$170
PCH	\$56	\$57
SLVM	\$59	\$55
WRK	\$48	\$45
WVY	\$37	\$37

Source: BofA Global Research

Stock ideas for the Year Ahead

Be brave, look for trough-on-trough

Introduction

We prefer value stocks with cyclical bias heading into 2024, and we think packaging and paper/forest stocks are well-positioned for the new year. Though the recent rally elevated stock prices, valuations are still at relatively low levels after a yearlong plus volume and earnings recession, limiting potential downside. We particularly like stocks that look relatively inexpensive when evaluating past trough periods. Our strategists believe cyclicals (& lower quality names) are comparatively better positioned for 2024's market dynamic.

Watch out for consensus “soft landing” and chasing

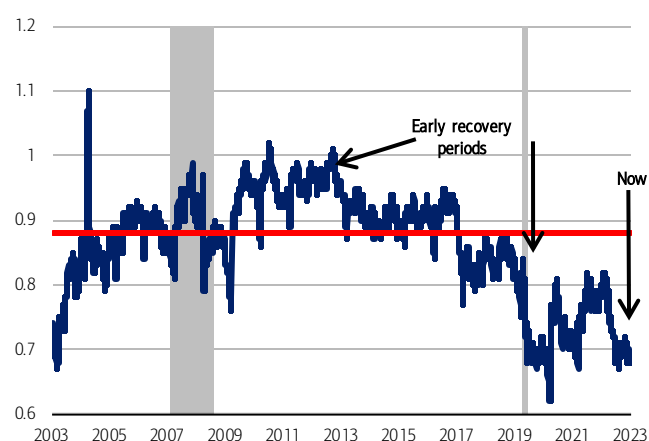
Given how quickly the market rallied, consensus moved to “soft (or no) landing,” and the yield curve further inverted, be careful about chasing. We'll be tactical and reverse strategy should conditions warrant. In our view, China weakness represents the biggest risk to our generally pro-cyclical call – recent pulp price deceleration here should be watched.

Packaging seems better positioned than paper/forest

Packaging stocks are cheaper when looking at relative valuation multiples and should have better price/cost trends. On the latter point, paper/forest companies are carrying negative pricing comparisons into 2024 versus average 2023 levels. Resin costs should also be well behaved as we review later in the report. When observing early-recovery period valuations, packagers' relative valuations are generally more attractive than paper/forest as well, given our analysis. See below.

Exhibit 3: Packaging stocks are cheaper on relative valuation

Packaging EV/EBITDA (relative to S&P 500) 2003-2023



Source: FactSet, BofA Global Research

Note: Shading indicates recession

Exhibit 4: Paper/Forest is more expensive vs. packaging

Paper/Forest EV/EBITDA (relative to S&P 500) 2003-2023



Source: FactSet, BofA Global Research

Note: Shading indicates recession

Best long ideas: SEE, GPK, SON and OI

SEE has lots of challenges but it's “value”

Our top Buy-rated idea is SEE, formerly known as Sealed Air. Probabilities are high that SEE could look quite differently in the next few years, given fundamental and investor concerns. And while SEE may wind up unsuccessful in its efforts to improve performance, the recent trends are encouraging and the 60% relative and 9x absolute P/E multiple provide potential downside protection.

After a Covid-driven boom, particularly in protective packaging, volume and margin have been both under pressure. To boot, investors have not been supportive of SEE's capital allocation priorities, particularly the company's \$1bn+ acquisition of Liquibox for 12x EV/EBITDA in 2023 which has helped drive leverage to 4x.

SEE has “digging out” to do based on channel checks, but there’s also hope

True, the cyclical downturn in key markets has hurt, but we nonetheless foresee SEE needing to aggressively reengage with customers, remove costs and optimize its portfolio, no matter the macro. **We spoke with numerous SEE customers in recent weeks and the picture that emerges:**

- SEE continues to have great capabilities in both its food and protective packaging markets. Its suite of machinery and product offerings is well thought of, though frequently viewed as a “Cadillac” (5-10% more expensive, say) in a market looking for cheaper “vehicles”, particularly with smaller distributor customers;
- The company is becoming increasingly aggressive on price to regain share. Management says it is merely reflecting cost changes and that its service model and closeness to customers are improving as it redirects resources;
- Some of SEE’s competitors have made big inroads with paper – and otherwise sustainability-driven products. Ironically SEE has similar offerings in fiber, including paper dunnage and mailers, and a ship-in-own-container (SIOC)-oriented product (i.e. StealthWrap®), but traction is only still building;
- Its markets, particularly protective, are challenging – the most recent cost takeout program (a/k/a Cost Takeout to Grow or “CTO2Grow”) is needed for commercial and cost recalibration. Additionally, Amazon (AMZN; Rated Buy by Justin Post) is quickly moving towards fiber and away from plastic, shrinking the pie for poly-based protective, including form-in-place (a.k.a InstaPak);

Paper/Forest Valuation Summary Table

Exhibit 5: Paper/Forest Comparables Summary Valuation Table

Review of valuations for companies in Paper/Forest

Company	Ticker	Rating	Market Cap.	Recent Price	PO	Dividend Yield	TSR	Total Debt	Other LT-Liabs	Cash	Enterprise Value*	Reported P/E				Reported EV/EBITDA			
												2022A	2023E	2024E	2025E	2022A	2023E	2024E	2025E
Boise Cascade	BCC	U/P	\$5,172	\$129.36	\$132	0.5%	2.5%	\$445	\$195	\$1,273	\$4,539	6.0x	10.7x	10.8x	10.8x	3.6x	6.0x	5.8x	5.8x
Graphic Packaging	GPK	B	\$7,619	\$24.65	\$30	1.6%	23.3%	\$5,509	\$1,106	\$125	\$14,109	10.6x	8.9x	9.0x	8.0x	8.8x	7.5x	7.7x	7.3x
International Paper	IP	U/P	\$12,526	\$36.15	\$37	5.1%	7.5%	\$5,820	\$3,530	\$746	\$21,130	9.3x	17.1x	16.1x	12.9x	7.6x	9.7x	9.2x	8.4x
Louisiana-Pacific	LPX	U/P	\$5,100	\$70.83	\$65	1.4%	-7.3%	\$613	\$266	\$160	\$5,819	6.0x	23.2x	20.5x	18.9x	4.0x	14.8x	12.3x	11.7x
Packaging Corp.	PKG	N	\$14,580	\$162.91	\$176	3.1%	11.1%	\$2,475	\$936	\$677	\$17,314	14.6x	19.4x	20.0x	17.6x	8.9x	10.8x	11.0x	10.2x
PotlatchDeltic	PCH	N	\$3,948	\$49.10	\$56	3.7%	17.7%	\$1,033	\$45	\$331	\$4,695	10.2x	N/M	N/M	N/M	8.4x	5.4x	5.5x	5.5x
Sylvamo Corp.	SLVM	B	\$2,063	\$49.11	\$59	2.0%	22.2%	\$999	\$329	\$254	\$3,137	6.3x	7.9x	10.3x	8.4x	4.6x	5.7x	6.7x	6.2x
WestRock	WRK	B	\$10,708	\$41.52	\$48	2.6%	18.3%	\$8,584	\$4,376	\$393	\$23,274	8.9x	15.0x	17.4x	12.4x	8.6x	8.0x	8.6x	7.8x
Weyerhaeuser	WY	B	\$25,464	\$34.77	\$37	2.2%	8.6%	\$5,797	\$805	\$1,760	\$30,306	11.5x	36.2x	31.6x	30.2x	8.5x	19.3x	17.3x	16.7x
Average			\$87,181			2.5%	11.5%	\$31,275	\$11,587	\$5,720	\$124,324	9.3x	17.3x	17.0x	14.9x	7.0x	9.7x	9.4x	8.8x

Company	Ticker	Rating	FCF Yield		Reported EPS, Calendarized				Reported EBITDA			FCF		ROIC		Q-R-Q
			2023E	2024E	2022A	2023E	2024E	2025E	2022A	2023E	2024E	2023E	2024E	2023E	2024E	
Boise Cascade	BCC	U/P	6.9%	9.9%	\$21.56	\$12.05	\$11.95	\$12.00	\$1,259	\$757	\$776	\$355	\$512	42.3%	44.2%	B-3-7
Graphic Packaging	GPK	B	8.1%	6.9%	\$2.33	\$2.78	\$2.75	\$3.10	\$1,609	\$1,881	\$1,822	\$619	\$528	25.0%	23.5%	B-1-7
International Paper	IP	U/P	4.3%	5.1%	\$3.88	\$2.11	\$2.25	\$2.80	\$2,794	\$2,168	\$2,291	\$543	\$645	15.0%	15.4%	B-3-7
Louisiana-Pacific	LPX	U/P	3.5%	3.3%	\$11.77	\$3.05	\$3.45	\$3.75	\$1,461	\$394	\$471	\$177	\$166	25.9%	26.3%	C-3-7
Packaging Corp.	PKG	N	5.6%	5.4%	\$11.14	\$8.39	\$8.15	\$9.25	\$1,938	\$1,605	\$1,577	\$815	\$781	27.8%	27.6%	B-2-7
PotlatchDeltic	PCH	N	1.1%	2.8%	\$4.80	\$0.48	\$0.58	\$0.90	\$562	\$862	\$851	\$45	\$112	5.9%	7.4%	B-2-7
Sylvamo Corp.	SLVM	B	10.3%	7.7%	\$7.84	\$6.19	\$4.75	\$5.85	\$684	\$553	\$469	\$211	\$158	34.1%	28.3%	C-1-7
WestRock	WRK	B	7.6%	9.7%	\$4.69	\$2.78	\$2.38	\$3.36	\$2,720	\$2,909	\$2,712	\$810	\$1,036	-0.2%	13.3%	B-1-7
Weyerhaeuser	WY	B	3.4%	3.7%	\$3.02	\$0.96	\$1.10	\$1.15	\$3,560	\$1,574	\$1,753	\$862	\$933	10.4%	10.6%	B-1-7
Average			5.6%	6.0%	\$71.02	\$38.79	\$37.36	\$42.17	\$16,587	\$12,703	\$12,723	\$4,438	\$4,870	20.7%	21.8%	

Source: Company filings, BofA Global Research estimates Priced on 12/29/22. WRK reported figures and estimates calendarized.

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- As shipping cycle times have shortened to 24-48 hours, SEE's superior nylon technologies and non-deflating bubbles and pillows (and their better air retention) are less required by the market;
- Increased focus by shippers on Dimensional Weight (Dim Weight), the space that a package occupies relative to weight, and e-comm retailers' increased control of their shipping have both lessened packaging requirements and consumption;
- Food packaging markets face headwinds. The industry is still working through the decline in the cattle cycle (hopefully we are nearing the trough). Meantime, consumer preferences for convenience (i.e., pre-cooked, on-the-go, smaller packs) are directing protein markets less to SEE's stronghold, rotary-vacuum-chamber bag and machinery markets and more to roll-stock/form, fill and seal lines, where its market shares are weaker. The company does see growing vacuum-bag applications over the next few years.

Packaging Valuation Summary Table

Exhibit 6: Packaging Comparables Summary Valuation Table

Review of valuations for companies in Packaging

Company	Ticker	Rating	Market Cap.	Recent Price	PO	Dividend Yield	TSR	Total Debt	Other LT-Liabs	Cash	Enterprise Value*	Reported P/E				Reported EV/EBITDA			
												2022A	2023E	2024E	2025E	2022A	2023E	2024E	2025E
Amcort Plc	AMCR	U/P	\$13,894	\$9.66	\$9.90	5.1%	7.6%	\$7,097	\$1,735	\$524	\$22,202	11.8x	14.5x	13.3x	12.5x	10.4x	11.5x	10.8x	10.5x
AptarGroup	ATR	B	\$8,324	\$124.17	\$150	1.2%	22.0%	\$1,171	\$187	\$152	\$9,530	32.7x	26.6x	24.6x	22.6x	15.4x	13.8x	12.7x	11.9x
Ardagh Metal Packaging	AMBP	N	\$2,295	\$3.84	\$4.40	10.4%	25.0%	\$3,655	\$41	\$154	\$5,837	12.3x	25.1x	19.5x	15.0x	9.3x	9.5x	8.9x	8.4x
Avery Dennison	AVY	U/P	\$16,343	\$201.76	\$208	1.5%	4.6%	\$3,314	\$728	\$210	\$20,174	22.1x	25.8x	22.6x	20.0x	14.8x	16.2x	14.7x	13.7x
Ball Corp.	BALL	U/P	\$18,308	\$57.70	\$59	1.4%	3.6%	\$9,591	\$1,796	\$1,335	\$28,360	20.7x	19.6x	18.3x	15.8x	14.5x	13.4x	12.6x	11.8x
Berry Global	BERY	B	\$8,294	\$67.71	\$83	1.5%	24.4%	\$9,307	\$1,688	\$1,203	\$18,086	9.1x	9.1x	8.8x	8.2x	8.7x	8.9x	8.7x	8.4x
Brady Corp.	BRC	B	\$2,873	\$58.85	\$65	1.6%	12.0%	\$52	\$84	\$175	\$2,834	17.4x	15.0x	14.2x	13.3x	11.8x	10.5x	10.1x	9.7x
Crown Holdings	CCK	B	\$11,066	\$92.61	\$105	1.0%	14.4%	\$7,065	\$1,296	\$807	\$18,620	13.7x	15.4x	14.6x	13.0x	10.7x	9.9x	10.0x	9.6x
Greif (I)	GEF	N	\$3,081	\$65.85	\$77	3.0%	20.4%	\$2,289	\$789	\$181	\$5,978	8.6x	11.4x	17.7x	13.2x	6.7x	7.4x	9.2x	8.3x
O-I Glass	OI	B	\$2,604	\$16.35	\$22	0.0%	28.4%	\$4,913	\$798	\$792	\$7,523	7.1x	5.4x	7.1x	5.9x	6.3x	5.1x	5.3x	5.0x
Pactiv Evergreen	PTVE	B	\$2,444	\$13.70	\$16	2.9%	19.7%	\$4,022	\$1,090	\$233	\$7,323	7.7x	18.6x	13.0x	10.9x	9.3x	8.8x	8.6x	8.3x
Sealed Air	SEE	B	\$5,287	\$36.49	\$42	2.2%	17.3%	\$4,871	\$609	\$281	\$10,485	8.9x	12.7x	12.2x	10.9x	8.7x	9.6x	9.3x	8.9x
Silgan Holdings	SLGN	B	\$4,941	\$45.41	\$53	1.6%	18.3%	\$4,210	\$802	\$307	\$9,646	11.3x	13.6x	12.3x	11.2x	10.2x	11.1x	10.8x	10.6x
Sonoco Products	SON	B	\$5,549	\$56.10	\$70	3.5%	28.3%	\$3,255	\$540	\$258	\$9,086	8.7x	10.6x	9.7x	9.0x	8.7x	8.7x	8.0x	7.8x
Average			\$105,302			2.6%	17.6%	\$64,812	\$12,182	\$6,612	\$175,684	13.7x	16.0x	14.9x	13.0x	10.4x	10.3x	10.0x	9.5x

Company	Ticker	Rating	FCF Yield		Reported EPS, Calendarized				Reported EBITDA			FCF		ROIC		Q-R-Q
			2023E	2024E	2022A	2023E	2024E	2025E	2022A	2023E	2024E	2023E	2024E	2023E	2024E	
Amcort Plc	AMCR	U/P	5.5%	6.4%	\$0.82	\$0.67	\$0.73	\$0.77	\$2,136	\$1,937	\$2,047	\$765	\$894	20.6%	19.1%	B-3-7
AptarGroup	ATR	B	3.1%	3.7%	\$3.79	\$4.67	\$5.05	\$5.50	\$620	\$693	\$750	\$257	\$307	23.3%	24.9%	B-1-7
Ardagh Metal Packaging	AMBP	N	1.2%	7.2%	\$0.31	\$0.15	\$0.20	\$0.26	\$625	\$612	\$654	\$27	\$165	16.2%	17.8%	B-2-8
Avery Dennison	AVY	U/P	3.8%	4.2%	\$9.15	\$7.82	\$8.95	\$10.10	\$1,364	\$1,249	\$1,372	\$613	\$686	24.9%	29.1%	B-3-7
Ball Corp.	BALL	U/P	4.0%	5.0%	\$2.78	\$2.94	\$3.15	\$3.65	\$1,957	\$2,112	\$2,255	\$734	\$920	18.3%	19.9%	B-3-7
Berry Global	BERY	B	17.6%	10.1%	\$7.45	\$7.44	\$7.67	\$8.21	\$2,087	\$2,043	\$2,088	\$1,457	\$841	18.2%	19.2%	B-1-7
Brady Corp.	BRC	B	6.6%	6.5%	\$3.38	\$3.92	\$4.15	\$4.43	\$240	\$271	\$280	\$190	\$188	28.8%	29.4%	B-1-7
Crown Holdings	CCK	B	4.5%	6.7%	\$6.75	\$6.01	\$6.35	\$7.10	\$1,744	\$1,883	\$1,870	\$493	\$737	22.3%	22.2%	B-1-7
Greif (I)	GEF	N	12.7%	8.4%	\$7.66	\$5.77	\$3.71	\$5.00	\$891	\$812	\$652	\$391	\$260	21.0%	16.3%	B-2-7
O-I Glass	OI	B	4.8%	13.8%	\$2.30	\$3.00	\$2.30	\$2.75	\$1,193	\$1,462	\$1,411	\$124	\$359	26.4%	25.4%	C-1-9
Pactiv Evergreen	PTVE	N	11.4%	12.0%	\$1.78	\$0.74	\$1.05	\$1.25	\$785	\$833	\$852	\$278	\$293	17.9%	18.7%	B-1-7
Sealed Air	SEE	B	3.4%	8.2%	\$4.10	\$2.88	\$3.00	\$3.35	\$1,210	\$1,098	\$1,130	\$178	\$434	21.2%	23.2%	B-1-7
Silgan Holdings	SLGN	B	5.9%	7.3%	\$4.02	\$3.33	\$3.70	\$4.05	\$944	\$866	\$893	\$290	\$360	16.3%	17.9%	B-1-7
Sonoco Products	SON	B	10.9%	9.9%	\$6.48	\$5.32	\$5.75	\$6.25	\$1,041	\$1,047	\$1,131	\$604	\$547	21.4%	22.7%	B-1-7
Average			6.8%	7.8%	\$60.77	\$54.67	\$55.75	\$62.67	\$16,837	\$16,916	\$17,386	\$6,402	\$6,992	21.2%	21.8%	

Source: Note: (1) GEF EPS and P/E based on Class A shares; GEF market cap and EV/EBITDA based on Class A and B shares. Source: Company filings, BofA Global Research estimates. Priced on 12/29/2023

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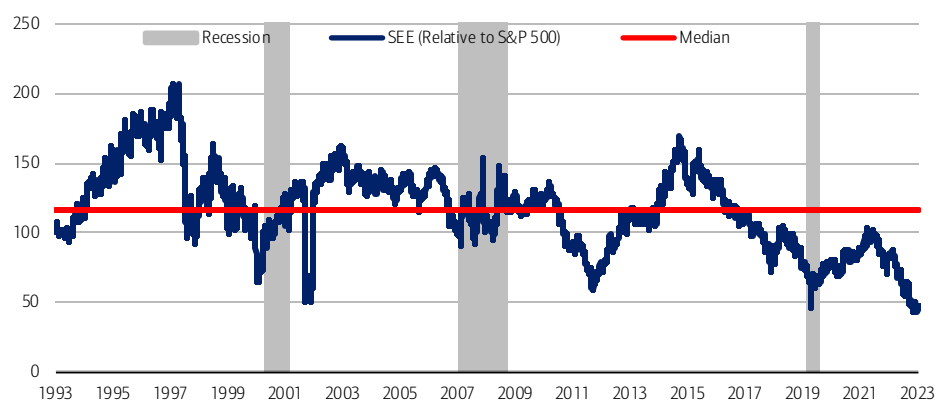
Heat is on; Status quo unlikely to remain

After the unexpected stepping down of its former CEO Ted Doherty and given other company actions and comments, it seems clear to us that SEE is rapidly trying to turn itself around. The co-interim CEO structure (with Dustin Semach and Emile Chammas at the helm) is unusual and we expect a single CEO to be named within a 2-3 quarters given the internal and external search. CTO2Grow follows past internal, successful programs and management seems prepared to critically evaluate the portfolio, particularly protective, and its cost structure.

Will SEE succeed? Given management efforts, we are comfortable there will be improvements, and we'll review this in upcoming research, but time will tell. We see it **unlikely that the status quo is maintained** for a company with its positive long-term financial legacy (including being one of the original proponents of the leveraged recapitalization), standing in the financial markets (including its past roster of CEOs and investment-fund board members), and past successful assistance it has received from well-known investors (i.e., a \$300mn private placement during the Financial Crisis from Berkshire Hathaway and Davis Funds).

Exhibit 7: SEE Relative to S&P 500 1993-2003

SEE is trading at near all-time lows on a relative basis



Source: FactSet, BofA Global Research. Note: Shading indicates recession

From our analysis, the embedded value of Protective Packaging is only 6-7x EV/EBITDA, and we believe a 7-9x multiple is possible longer-term. Combining the cost reduction opportunity and the valuation gap, there is ample opportunity for SEE to reconfigure its capital and cost structure to retool for the new competitive landscape.

Exhibit 8: SEE sum-of-the-parts (SOTP)

The embedded multiple for Protective is 6-7x EV/EBITDA

Segment	Target Multiples		2024E EBITDA	Midpoint Value
	Low	High		
Food				
Liquibox	9.0x	10.0x	\$75	\$713
Cryovac	10.0x	12.0x	\$683	\$7,513
Protective	6.0x	7.0x	\$375	\$2,434
Corporate	7.0x	7.0x	(\$16)	(\$112)
Total Value				\$10,548
Less: Net Debt				(\$4,686)
Less: Deferred Taxes				(\$71)
Less: Other				(\$555)
Less: Total Other LT Liabilities				(\$625)
Equity Value				\$5,237
Shares				144.8
Equity Value Per Share				\$36.16

Source: BofA Global Research estimates

Graphic Packaging is attractive on several fronts

Yes, lots of negatives to wade through

We rate Graphic Packaging (GPK) Buy. GPK remains discounted to its historical valuations because the market is concerned on supply/demand in the boxboard (a/k/a cartonboard, folding carton) market. (Key grades are solid bleached sulphate [SBS; a/k/a bleached board], coated recycled board [CRB] and coated unbleached kraft [CUK]). Demand has also been depressed given consumer demand elasticity and destocking, and the combination of all of this has meant prices are declining:

- Year-to-date, GPK organic revenues are down (3.3%) and we estimate shipments for the industry will be down -5% to -10% in 2023 before rebounding 2% to 3% in 2024;
- Based on industry association data, operating rates are 80.3% ytd in SBS, 87.2% in unbleached kraft boxboard, 79.9% in CRB and 82.3% in recycled folding;
- From the peak, industry benchmark prices declined \$80/ton in SBS, \$20/ton in CRB and \$20/ton in CUK.

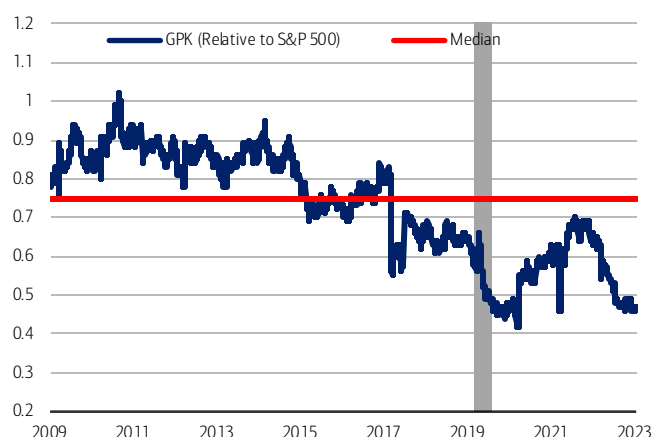
Trends could be better than street expects; valuation and positioning a positive

Okay, okay, we get it. Having said this, these factors were reasons we downgraded GPK in July, but we believe that they are better understood in the market now (we went back to Buy in October). Street estimates have also incorporated boxboard price declines. Moreover, our analysis suggests operating rates could get back towards the 90s based on our analysis for 2024 (see page 19), better than what we expect in containerboard.

Lastly, GPK and boxboard are frequently the “matched short” ideas to many clients’ “containerboard longs.” Given the degree to which containerboard has already run, we wouldn’t be surprised if the market, at some point, again frets about this subsector, how much of the announced \$70/ton in containerboard can be implemented, etc. If and when that happens, expect GPK to benefit should investors unwind the “long c’board/short boxboard” trade. As an aside, if the proposed Smurfit Kappa (SKG; Rated Buy by our colleague Joffrey Bellicha-Meller) acquisition of WRK goes through, supporting the logic of “boxboard/containerboard” business models, that could make GPK, as a pureplay in boxboard, more attractive in the longer-term.

Exhibit 9: GPK EV/EBITDA Relative to S&P 500 (2009-2023)

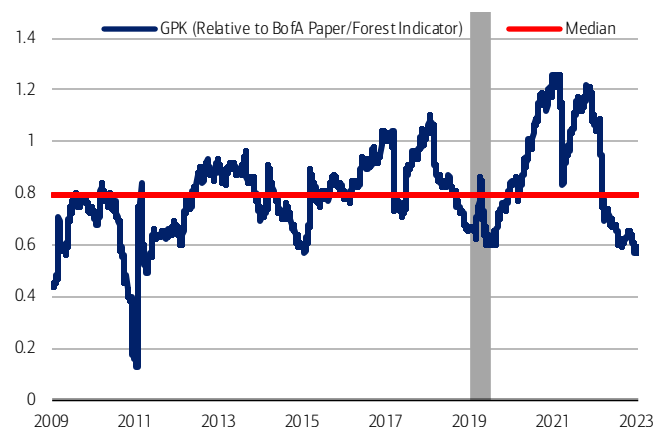
GPK is trading at a ~47% relative multiple to the market



Source: FactSet, BofA Global Research. Note: Shading indicates recession

Exhibit 10: GPK EV/EBITDA Relative to BofA Paper/Forest Indicator (2009-2023)

GPK is trading at a ~57% relative multiple to the our group of paper/forest



Source: FactSet, BofA Global Research. Note: Shading indicates recession

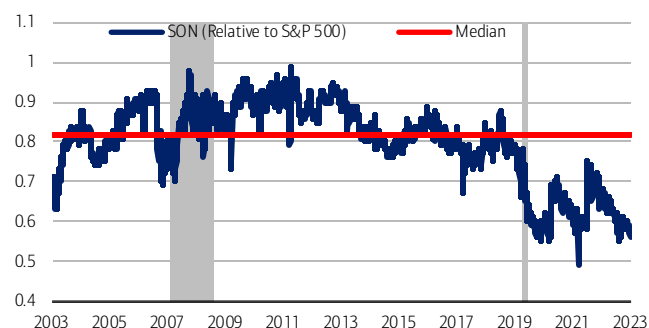
Other “unloved” Buys: SON, OI

Sonoco or “So-nooze-co”? Expect interest to return

Sonoco Products is partly a valuation call, selling at a 55% relative P/E multiple. As the chart below illustrates, the company's multiple rarely gets this low, even if volumes remain weak in key markets. SON, as a part-boxboard company, may also benefit for technical reasons should investors pare containerboard longs (especially if one reason is a trend-reversing downtick in old corrugated containerboard [OCC] costs). As we illustrate below, SON is also inexpensive v. other specialty packagers (Amcor, Avery, Aptar and Sealed Air) on the recent moves, and boxboard pricing may tick up.

Exhibit 11: SON EV/EBITDA Relative to S&P 500 (2003-2023)

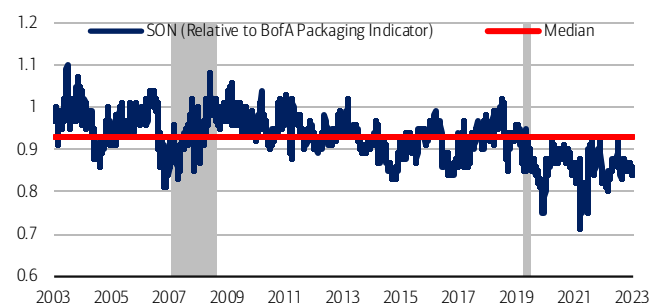
SON is trading at a ~57% relative multiple to the market



Source: FactSet, BofA Global Research. Note: Shading indicates recession

Exhibit 12: SON EV/EBITDA Relative to BofA Packaging Indicator (2003-2023)

SON is trading at a ~84% relative multiple to the our group of packaging



Source: FactSet, BofA Global Research. Note: Shading indicates recession

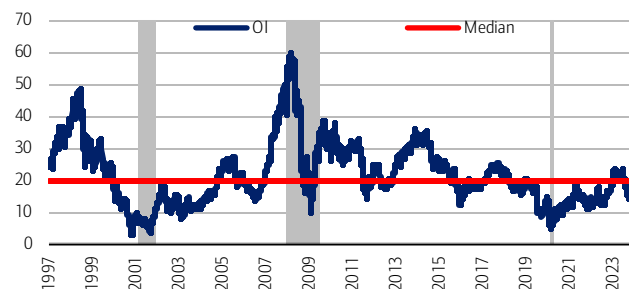
Crushed glass “ain’t” no fun, but don’t see OI much below current level

Investors have little faith in O-I Glass, and that’s the opportunity – we stay with our Buy. True, volume and pricing risks are to the downside which is why estimates are declining. It is difficult to handicap 2024 European glass pricing with precision but the direction is clearly lower – we are estimating a 24% y/y drop in EPS for 2024E.

It is true that OI’s earnings and guidance momentum decelerated throughout 2023 and the complexion of recent earnings has not been as strong as in 2022’s quarters. In turn, that has reminded investors of the “bad old days” at OI, but the company deserves better than its current treatment. Remember that OI has generated \$89mn in margin improvement efforts this year (with a target of ≥ \$100mn for the year) after \$70mn in 2022, and is coming off ~7% compound annual growth in earnings since 2019 (assuming 2023’s estimates are correct). Selling at a depressed, 7x P/E and 5x EV/EBITDA multiple, OI should also improve on a weaker dollar (BofA’s call) and should European macro trends improve – Europe is ~50% of total earnings. In the thirty years we have covered OI, have we seen it reach the low teens or high single digits in share price? Of course, we have, and a weakening in investor macro-sentiment would not be great for the stock. However, OI has been a much better operator than in years past and will likely see a higher valuation multiple. We would expect a rebound to \$22.

Exhibit 13: OI Stock Price (1997-2023)

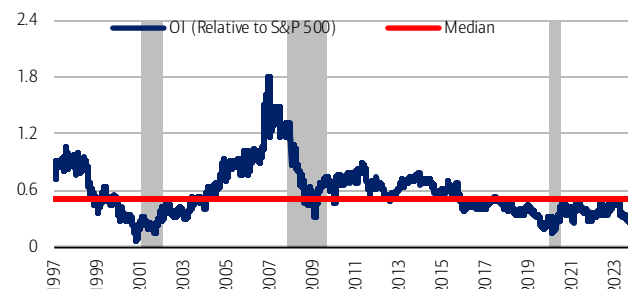
OI’s shares have done well since Covid lows



Source: FactSet, BofA Global Research. Note: Shading indicates recession

Exhibit 14: OI P/E Relative to S&P 500 (1997-2023)

OI is trading at a 25% relative P/E multiple and below its historical median



Source: FactSet, BofA Global Research. Note: Shading indicates recession

Downgrades, other points for AVY and BALL (both U/P)

While Ball Corp and Avery have been amongst our favorite stocks and companies longer-term (for example, the two were the earliest adopters of EVA in our coverage dating back to the 1990s), we move both to U/P for the time being. This is largely a valuation call as both stocks have gotten close to our POs in recent weeks and also in consideration of our ratings distribution. From a valuation standpoint, AVY trades at 22x 2024 EPS estimates while BALL is at 18x, also relatively high vs. peers.

Additional points for AVY

Our PO for Avery is \$208 (unchanged) and the stock is currently at \$201/share. Additionally, we are currently below consensus for AVY – our forecasts are \$8.95 in 2024 versus the street at \$9.42. As we have been hearing about continued sluggish consumer demand trends at retail, we would surmise that this will mean pressure-sensitive and apparel label trends remain muted, which prevents AVY normal operating leverage (and its targeted \$2.50 per share in quarterly earnings power) from kicking in until 2H24 at the earliest. Our trade discussions also suggest that, while intelligent label (IL) trends should be strong in non-apparel, there might have been some continued destocking in apparel (and therefore, IL for this category).

Additional points for BALL

Our PO for Ball is \$59, down from \$61 previously, and the stock is currently at \$55/share. In our view the backdrop for beverage cans is getting better, with older capacity being closed and previously proposed new capacity being cancelled or delayed. We have yet to see material improvement but promotional activity should rebound in 2024 and, with it, volumes and operating rates. That's all good, so what's the problem? Again, we have no issue with Ball's long-term fundamentals, but we continue to expect a weakish (and somewhat below-street) start to 2024 for Ball. We expect \$0.66 in EPS for 1Q and consensus is at \$0.69 (\$0.60 – \$0.76). Comparisons offered by last year's disruptions with a major beer customer don't lap until we're into 2Q and the virtual power purchase agreement benefit of \$28mn in 1Q23 is another consideration. While it's hit the headlines, we don't really have a way of quantifying a potential Anheuser-Busch (AB; rated Buy by our colleague, Andrea Pistacchi) Teamsters' strike impact – it all depends on how long a theoretical strike would last and the amount of inventory that may be in the system.

Upgrade BRC and PTVE to Buy on valuation

We upgrade the small-cap developer and manufacturer of specialty products Brady Corp (BRC) to Buy from Underperform. We also upgrade small-cap packager Pactiv Evergreen (PTVE) to Buy from Neutral.

Additional points for Brady – growth, and good value

For Brady Corp., we see solid growth trends, potentially structural tailwinds for the business, as well as an attractive valuation at present. As we discuss in Exhibit 36, we also raise our PO to \$65 which represents ~10% potential upside from here. BRC is currently trading at 13x P/E and 9x EV/EBITDA based on our calendarized 2024 estimates, which is comparable to inexpensive versus past cycles, peers, and the market. True, BRC has some lower margin and growth businesses in its portfolio (i.e., the legacy Workplace Safety [WPS] segment and its medical products have struggled to regain their footing), but its multiple is at/below past recessionary levels and the current growth prospects from here should allow BRC to garner a higher multiple over-time. BRC's growth should be helped in part by its recent move to optimize the portfolio by rationalizing lower-margin and lower-growth products and positioning itself towards faster-growth end markets. New product introductions (particularly in its printer offering) should also drive growth and we view the company's comprehensive industrial track and trace solution as having a nice runway long-term, once it's built out (as customers seek to automate and drive productivity). While manufacturing PMIs still remain sub-50, BofA's Industrials/Multi-Industry team sees semiconductor and EV investments, reshoring, and US government stimulus as driving faster manufacturing capex growth. All else equal, we see increased manufacturing activity/capex as well as reshoring as tailwinds for BRC given its leverage to manufacturing environments.

Earnings and cash flow trends should also be improving

We are currently forecasting for ~5% organic growth in F24 with balanced growth across both segments. While this is down from 9.5% in F22 (given pricing positives), the company should be able to grow earnings given improved mix, continued cost management, and operational improvements. Given the company's F1Q results and commentary, we maintain our F24 EPS estimate of \$4.00 (against guidance of \$3.85-4.10) but raise our F25 and F26 estimates to \$4.30 (was \$4.15) and \$4.50 (was \$4.30) given our view of better-long term growth and operational improvements. This along with improving working capital performance should also allow for operating cash flow to improve nicely. That said, capex in F24 will step up to \$75mn (from \$19.2mn in F23) mainly given a \$55mn purchase of a previously leased facility which will ultimately keep free cash flow (FCF) flat y/y based on our forecasts.

Additional points for PTVE – Value, and margin should continue improving

PTVE is a manufacturer of fresh food and beverage packaging like clamshells for foodservice and perimeter of-store applications, display packaging for supermarkets (think bakery items) and gable-top paperboard packages for liquids. As we discuss in Exhibit 35, we also raise our PO to \$16 from \$14. Among other points, Pactiv should benefit from its Pactiv Evergreen Production System (PEPS), a continuous improvement program has added margin for PTVE in recent quarters. Our past experience suggests such playbooks work well when they're implemented systematically with large organizational buy-in. We have been impressed with PTVE management's turnaround efforts and have increased confidence that this will be the next successful chapter. Additionally, the company's efforts to deleverage should be positive for the stock, which couples with a gradually less risk-averse market favoring small-caps. Lastly, PTVE's 13x P/E multiple and 9x EV/EBITDA on our 2024 estimates is attractive in our view.

Industry trends

Macro – moderate '24 growth, weaker USD

BofA's US Economics team continues to expect a soft landing for the US economy. Further, the team believes that the Fed is done hiking and should start cutting rates in March 2024, when core PCE inflation drops to 3% y/y. On a global basis, BofA expects a mild deceleration in growth in 2024, and a gradual recovery in 2025. Further, growth in China is expected to slow to 4.8%/4.6% in 2024/25 even with further policy easing (again, we'll be mindful of a return to macro concerns). As for FX, BofA sees a US recoupling and Fed rate cuts, pushing the USD down from an overvalued level. However, the team notes that a number of alternative scenarios suggest a choppy/slower downward USD path, or even renewed USD strength in the short term. Ultimately, the team sees a EUR/USD rate of 1.15 by 4Q24, as well as 1.20 by 4Q25. See the table below for further details.

Cost-driven pricing-some implications

One thing that has caught our attention in recent weeks has been the use of “inflation offsetting” price increases in some of our paperboard packaging markets (i.e., even if operating rates are not super tight). It will be interesting to see whether this develops into a larger trend and, if so, what it means for interest rates longer-term.

Exhibit 15: BofA GDP, rates, and FX forecasts

BofA expects modest US GDP growth

GDP Growth (QoQ% SAAR)	1Q23	2Q23	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	4Q24E
United States	2.24	2.06	5.15	1.50	0.50	0.50	0.50	1.00
Euro Area	0.19	0.63	-0.37	0.11	0.31	0.87	1.03	1.32
Brazil	7.51	7.51	1.10	0.10	5.80	0.80	2.20	1.10
China	9.52	2.02	5.30	4.50	4.80	5.10	5.20	4.80

US Interest Rates	1Q23	2Q23	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	4Q24E
2y T-Note	4.03%	4.87%	5.04%	4.75%	4.75%	4.50%	4.25%	4.00%
5y T-Note	3.61%	4.13%	4.60%	4.30%	4.50%	4.40%	4.25%	4.15%
10y T-Note	3.47%	3.81%	4.57%	4.00%	4.40%	4.30%	4.25%	4.25%
30y T-Bond	3.69%	3.86%	4.71%	4.20%	4.70%	4.65%	4.65%	4.75%

FX	1Q23	2Q23	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	4Q24E
EUR/USD	1.08	1.09	1.06	1.05	1.07	1.10	1.15	1.15

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Sector Views – expect some growth off easy comps

Beverage packaging: cans still leading on new prod intros but glass gaining

New products remain positive for the beverage can makers. As we display below, our analysis shows that 51% of new product mentions in the trade periodicals are in beverage cans. That said, glass appears to have gained some ground in the overall mentions, but we'd note that these products are predominantly in spirits (where the other substrates typically don't compete).

Exhibit 16: Recent Product Introductions / Announcements

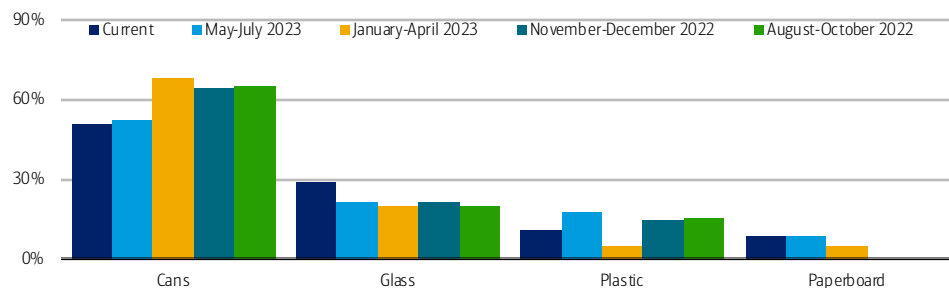
Majority of new products coming in cans based on our tally of trade press mentions from Aug-Dec

Product	Cans	Glass	Plastic	Paperboard
Marlsh Sparkling Pink Grapefruit	x			
Cawston Press - Pineapple & Grapefruit	x			
2 Town Ciderhouse - Cosmic Crisp and Pacific Pineapple	x			
Pepsimax Mango	x		x	
Funny Water Pomegranate	x			
Three Olives Vodka Original/Flavoured		x		
Oceano zero non-alcoholic wine		x		
eauYES	x			
Mandatory Spirit - vodka in bag-in-box				x
Zenith Cold Brew Coffe, Tea, Soda (Cannabis infused)	x			
Day One CBD sparkling water - strawberry and mango	x			
Canetta Orange Wine	x			
Waterloo - sparkling water Spiced apple and cranberry	x			
Limoncello de Capri cream liqueur		x		
Lean Brew pilsner	x			
Suerte Tequila - Canned cocktails: margarita, paloma, ranch water	x			
Biotful Gut Health Kids Kefir			x	
Kavo Rum		x		
Baileys Chocolate Liqueur		x		
Vidas Drinks	x			
Spirits of Virtue non-alcoholic tequila		x		
Frazy Boba Tea	x			
Plenish - Barista milk: oat, almond and soy				x
Nestle Sensations flavored milks			x	
Tenzing Lime & Mint	x			
Hartsease Farm - sparkling Apple & Rhubarb and Apple & Pear		x		
Copper Crew - wine: Fiano, Rosato, Negroamaro	x			
Rosenberg Lemon Iced Tea and Vodka	x			
Peace Hard Tea	x			
Zenith Nitro cold Brew cannabis Pumpkin Spice	x			
Fonio Rising Double Pilsner	x			
Beerkeeper Coffe	x			
LEXby Nemiroff		x		
Casa komos Brands - Superbird		x		
Wildleaf ginger tail		x		
London Essence Co - crafted sodas: Orange & Fig and Raspberry & Rose		x		
Heartbeat Hot Rose		x		
Ocean Spray Zero sugar			x	
Warners Distillery Dandelion- spiced rum		x		
Pressed Adaptogenic juices			x	
Willie's Superbrew Juicy Hazy Hoppy	x			
Horton RTD coconut rum-based	x			
Total	23	13	5	4
% of total: Current	51%	29%	11%	9%
% of total: May-July 2023	52%	22%	17%	9%
% of total: January-April 2023	68%	20%	5%	5%
% of total: November-December 2022	64%	21%	14%	0%
% of total: August-October 2022	65%	20%	15%	0%

Source: Beverage Digest, Beer Business Daily, The Wall Street Journal, Bloomberg; Totals don't add to 100% due to rounding

Exhibit 17: Recent Product Introductions / Announcements over time

Majority of new products still in cans but glass gained in current period



Source: Beverage Digest, Beer Business Daily, The Wall Street Journal, Bloomberg; Totals don't add to 100% due to rounding

Volume trends have been bad**GLP-1? No, not yet**

Volumes were terrible during 2023. While there were some exceptions, volumes were down across almost every one of our sectors. Consumers economized given higher prices, while inventories were reduced throughout the chain. We expect modest volume increases during 2024 as long as supply chains remain loose with pricing remaining flattish. That said, once prices start to increase, that could kick-start an inventory-rebuild cycle. Glucagon-like peptide-1 (GLP-1) anti-obesity drugs were a constant topic in 4Q23, but their impact to demand is limited, at least for now. Rather, we think “economics” has most impacted demand.

Exhibit 18: Packaging trends by substrate and end market

The table below summarizes trends in packaging by substrate and end market

	Year					Percent Change y/y				
	2020A	2021A	2022A	2022 YTD	2023 YTD	2019A	2020A	2021A	2022A	2023 YTD
Beverage Packaging										
Alcoholic Beverages (mn units)										
Cans (1)***	42,120	40,961	40,429	37,319	36,684	4.7%	9.7%	-2.8%	-1.3%	-1.7%
Glass*	14,327	14,295	13,666	10,517	9,489	-9.0%	-4.7%	-0.2%	-4.4%	-9.8%
CSD/NAB										
Cans (1)***	61,126	63,656	62,001	58,760	57,291	2.7%	3.9%	4.1%	-2.6%	-2.5%
PET (mns lbs)	9,162	9,563	9,715	N/A	N/A	-1.6%	6.6%	4.4%	1.6%	N/A
Glass*	2,227	1,966	2,009	1,512	1,427	-0.7%	2.0%	-11.7%	2.2%	-5.6%
Food Packaging										
Cans (mn units)*										
Vegetable	9,605	10,053	8,255	6,529	6,168	-5.5%	10.9%	4.7%	-17.9%	-5.5%
Fruit	779	790	771	649	628	0.1%	2.1%	1.3%	-2.4%	-3.3%
Other Human	9,569	8,889	8,224	6,226	5,917	-3.8%	15.7%	-7.1%	-7.5%	-5.0%
Pet	8,498	9,130	9,040	6,752	6,521	-2.4%	9.9%	7.4%	-1.0%	-3.4%
Total Cans (ex Aerosol & General Line)	28,451	28,862	26,290	20,156	19,234	-3.9%	11.9%	1.4%	-8.9%	-4.6%
Glass (mn units)*										
Food Glass Containers	5,018	4,765	4,706	3,611	3,274	-3.1%	11.2%	-5.0%	-1.2%	-9.4%
Rigid Plastic**										
PP - Cups and Containers (indicator)	952	973	1,001	762	716	-1.3%	23.9%	2.2%	2.9%	-6.0%
Flexible Films (indicator)**										
Food	3,895	3,848	3,777	3,261	2,955	-2.4%	1.7%	-1.2%	-1.9%	-9.4%
Non-Food	2,258	2,272	2,140	1,693	1,414	10.2%	0.6%	0.6%	-5.8%	-16.5%
Other**										
PS - Food & Foodservice (indicator)	2,321	2,390	2,294	1,977	1,671	-4.6%	-7.1%	3.0%	-4.0%	-15.5%
Bleached Board (thousand tons)*										
Liquid Packaging	1,191	1,133	1,089	831	687	-3.9%	2.6%	-4.9%	-3.9%	-17.4%
Plate, Dish & Tray	959	997	1,080	792	766	20.1%	-2.5%	4.0%	8.3%	-3.3%
Cup Stock	683	675	753	557	524	1.6%	-26.9%	-1.1%	11.6%	-6.0%
Other Boxboard (thousand tons)										
CUK (beverage cases, food)*	3,924	4,134	4,171	3,183	2,878	-0.8%	0.8%	5.3%	0.9%	-9.6%
Boxboard - Tube Can & Drum Stock (thousand tons)*	1,415	1,429	1,498	1,154	1,051	-2.7%	1.7%	1.0%	4.8%	-8.9%
Misc. Consumer & Household Products (indicator)										
Closures**	1,128	1,169	918	792	735	2.5%	1.6%	3.7%	-21.5%	-7.1%
Household cleaners**	1,129	1,136	1,205	883	810	-0.7%	-1.0%	0.6%	6.1%	-8.3%
Pharma, cosmetics, toiletries**	494	468	474	372	274	8.3%	7.2%	-5.3%	1.4%	-26.3%
Aerosol cans (mn units)*	3,701	3,545	3,137	2,461	2,198	-5.3%	2.4%	-4.2%	-11.5%	-10.7%
Apparel imports (mn units)**	23,129	29,427	31,075	27,426	20,894	-0.2%	-16.4%	27.2%	5.6%	-23.8%
Industrial Packaging										
HDPE - Industrial drums (indicator)**	561	607	571	491	417	-0.1%	0.7%	8.1%	-5.8%	-15.1%
Boxboard - Tube Can & Drum Stock (thousand tons)*	1,415	1,429	1,498	1,154	1,051	-2.7%	1.7%	1.0%	4.8%	-8.9%

Source: BofA Global Research, American Chemistry Council, Can Manufacturer's Institute, AF&PA, ICIS / Chemical

(1) CMI discontinued reporting of beverage can shipments in 4Q20. 2021-2023 figures based on BofA Global Research estimates. *YTD data through 3Q23 **YTD data through October '23 ***YTD data estimated based on 48 week scanner data and company volumes

BofA GLOBAL RESEARCH

Packaging input cost trends: some inflation in 2024

Based on BofA's Commodity Research, some modest inflation is expected in aluminum, particularly in 2H24. Meantime, steel looks to be somewhat of a wildcard but prices are expected to be lower throughout 2024, but consolidation could drive prices higher over time. As for resin, near term trends appear positive (i.e. prices are flat/down for buyers), but we'll be watching how oil trends throughout the year. Lastly, we expect some continued upward tension in old corrugated container (OCC) and pulp prices and will ultimately be a good indicator of underlying inflation.

Exhibit 19: Packaging Input Costs

Some upward tension is expected in resin and metals next year

	2022E	Q1:23	Q2:23	Q3:23	Q4:23E	2023E	Q1:24E	Q2:24E	Q3:24E	Q4:24E	2024E
Metals											
Aluminum	\$1.18	\$1.08	\$0.96	\$1.06	\$1.02	\$1.03	\$1.02	\$1.13	\$1.25	\$1.25	\$1.16
Can sheet, body stock (\$/lb) (*)	\$1.83	\$1.73	\$1.61	\$1.71	\$1.67	\$1.68	\$1.67	\$1.78	\$1.90	\$1.90	\$1.81
Steel (\$/metric tonne) (**)	\$1,564	\$1,204	\$1,392	\$1,135	\$1,003	\$1,184	\$1,246	\$1,124	\$972	\$887	\$1,057
Oil & Petrochemicals/Resin											
HDPE (Blow Mldg.) y/y change	-2.9%	-1.6%	-4.0%	1.4%	5.8%	0.3%	2.8%	2.8%	4.1%	4.8%	3.6%
LDPE y/y change	-2.4%	-1.5%	-3.8%	1.3%	5.5%	0.3%	2.7%	2.7%	4.0%	4.6%	3.5%
Polystyrene y/y change	17.8%	7.0%	-5.5%	-12.1%	1.8%	-2.7%	-3.3%	-2.6%	1.9%	-2.5%	-1.6%
PET (market based) y/y change	35.4%	-11.8%	-24.0%	-12.4%	-6.1%	-14.1%	-10.1%	-9.1%	-9.2%	-5.4%	-8.5%
PP y/y change	-21.4%	-24.8%	-32.5%	-23.9%	10.1%	-20.3%	-9.0%	9.7%	7.8%	-3.8%	0.7%
Benzene y/y change	22.6%	-1.1%	-20.3%	-29.1%	12.4%	-12.3%	-	-	-	-	-
Crude Oil (WTI Spot, \$/Bbl)	\$91	\$82	\$74	\$82	\$92	\$82	\$86	\$88	\$86	\$84	\$86
Natural Gas (Composite Spot, \$/MMBtu)	\$6.53	\$2.65	\$2.25	\$2.75	\$3.25	\$2.73	\$2.90	\$2.50	\$3.00	\$3.60	\$3.00
Paper/Board											
Linerboard (transaction) (\$/ton)	\$1,030	\$982	\$962	\$955	\$942	\$960	\$975	\$995	\$995	\$1,015	\$995
OCC (\$/ton)	\$97	\$32	\$42	\$55	\$76	\$51	\$95	\$105	\$115	\$110	\$106
Bleached Board (\$/ton)	\$1,845	\$1,920	\$1,920	\$1,860	\$1,840	\$1,885	\$1,840	\$1,840	\$1,840	\$1,860	\$1,845
Market Pulp (NBSK, \$/metric tonne)	\$1,704	\$1,675	\$1,510	\$1,293	\$1,308	\$1,447	\$1,370	\$1,390	\$1,390	\$1,340	\$1,373
Other											
Soda Ash (\$/ton)	\$175.09	\$188.70	\$188.70	\$188.70	\$188.70	\$188.70	NA	NA	NA	NA	NA

Source: ICIS, Fastmarkets RISI, Bloomberg, BofA Global Research Estimates; (*) Can sheet illustrated as aluminum ingot plus \$0.65/lb in premiums for illustrative purposes, (**) steel illustrated as cold-rolled coil (CRC)

Paper/Forest Pricing

Below are our updated benchmark forecasts used in our earnings estimates. Our forecasts broadly increase across most grades of pulp, paper, board, and wood as we mark price estimates to market and in consideration of supply/demand trends.

Raise c'board pricing given recent hikes, assume traction in early 2024

We increase our containerboard price forecasts by \$50/ton on liner and \$65/ton on medium for 2024 and assume the announced hikes largely go through, starting in 1Q24. Furthermore, we assume additional upward tension in pricing through 1Q25. While the current round of hikes appears to be cost-driven, some tightening in supply/demand (given recent closures and potentially a small uptick in demand) should also help.

Expect boxboard pricing takes a step higher by mid-2024

In boxboard, we have also raised our pricing forecasts in 2024 by \$15/ton on coated recycled board (CRB), \$18/ton on solid bleached sulphate (SBS), \$55/ton on coated unbleached kraft (CUK), and \$33/ton on uncoated recycled board (URB). Boxboard pricing should be stable through 1Q24 with increases beginning in 2Q24 through 2Q25. Similar to containerboard, recent announcements on URB pricing appear to be cost driven but as we discussed earlier, the supply/demand position looks reasonable until 2026.

Pulp should rise a bit further, but expect a fade with new capacity

As for pulp, we expect prices to bounce further through 2Q24 but then to ultimately fade as new capacity comes online as we discuss below. Additionally, we'd watch China trends which have weakened recently. Given this and as we mark forecasts to market, our estimates for southern bleached softwood kraft (SBSK) increase by \$33/metric tonne (MT) and our estimates for northern bleached softwood kraft (NBSK) increased by \$40/MT in 2024 and 2025. Meantime, our hardwood estimates increase by \$60/MT and fluff moves up by \$205/MT in 2024. Generally, we see pulp prices starting to fade in 4Q24 through early 2025. In fluff where prices have been much stronger than expected, Georgia-Pacific is now attempting to sell its previously to-be-closed Foley mill, which could increase supply in the market relative to prior expectations.

Capacity closures help UCFS supply/demand and pricing

Our forecasts increase across the grades as we "mark-to-market." Recent capacity closures in uncoated freesheet (UCFS) should help (though not entirely) to balance the market, and our UCFS forecasts increase by \$35/ton in 2024 from prior.

Increase lumber, OSB, plywood pricing, but operating rates fairly weak

Lastly, we recently raised our wood pricing forecasts ([see here for our note on WY](#)) which include a \$63/msf increase for oriented strand board (OSB) and \$32/msf for plywood in 2024. Inventories have remained fairly lean in wood products, and pricing has trended better than normal for this time of year which causes us to raise in OSB and plywood. Meantime, our lumber pricing forecasts remain unchanged.

Exhibit 20: BofA Pulp, Paper, Board & Wood Products Price Forecasts, 2022-2025E

Review of pricing forecasts for 2022 - 2025

	2022	1Q23	2Q23	3Q23	4Q23E	2023E	1Q24E	2Q24E	3Q24E	4Q24E	2024E	1Q25E	2Q25E	3Q25E	4Q25E	2025E
NBSK Market Pulp (1)	\$1,704	\$1,675	\$1,510	\$1,293	\$1,308	\$1,447	\$1,370	\$1,390	\$1,390	\$1,340	\$1,373	\$1,315	\$1,290	\$1,290	\$1,290	\$1,296
NBSK Market Pulp (old) (1)	\$1,704	\$1,675	\$1,510	\$1,293	\$1,300	\$1,445	\$1,330	\$1,350	\$1,350	\$1,300	\$1,333	\$1,275	\$1,250	\$1,250	\$1,250	\$1,256
NBHK Market Pulp (1)	\$1,514	\$1,523	\$1,277	\$1,023	\$1,083	\$1,227	\$1,140	\$1,160	\$1,150	\$1,100	\$1,138	\$1,100	\$1,100	\$1,080	\$1,080	\$1,090
NBHK Market Pulp (old) (1)	\$1,514	\$1,523	\$1,277	\$1,023	\$1,030	\$1,213	\$1,060	\$1,100	\$1,100	\$1,050	\$1,078	\$1,050	\$1,050	\$1,050	\$1,050	\$1,050
SBSK Market Pulp (1)	\$1,678	\$1,643	\$1,460	\$1,217	\$1,225	\$1,386	\$1,287	\$1,307	\$1,307	\$1,257	\$1,289	\$1,232	\$1,207	\$1,207	\$1,207	\$1,213
SBSK Market Pulp (old) (1)	\$1,678	\$1,643	\$1,460	\$1,217	\$1,225	\$1,386	\$1,255	\$1,275	\$1,275	\$1,225	\$1,258	\$1,200	\$1,175	\$1,175	\$1,175	\$1,181
Fluff Pulp (1)	\$2,070	\$2,138	\$1,977	\$1,747	\$1,755	\$1,904	\$1,770	\$1,780	\$1,770	\$1,750	\$1,768	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600
Fluff Pulp (old) (1)	\$2,070	\$2,138	\$1,977	\$1,747	\$1,670	\$1,883	\$1,650	\$1,600	\$1,500	\$1,500	\$1,563	\$1,400	\$1,375	\$1,375	\$1,375	\$1,381
China HW, net (1)	\$792	\$756	\$518	\$532	\$604	\$603	\$614	\$584	\$551	\$571	\$580	\$600	\$600	\$600	\$600	\$600
China HW, net (old) (1)	\$792	\$756	\$518	\$532	\$604	\$603	\$614	\$584	\$551	\$571	\$580	\$600	\$600	\$600	\$600	\$600
Coated Groundwood	\$1,191	\$1,270	\$1,250	\$1,250	\$1,230	\$1,250	\$1,205	\$1,205	\$1,205	\$1,180	\$1,199	\$1,155	\$1,155	\$1,155	\$1,130	\$1,149
Coated Groundwood (old)	\$1,191	\$1,270	\$1,250	\$1,250	\$1,225	\$1,249	\$1,200	\$1,175	\$1,175	\$1,150	\$1,175	\$1,150	\$1,150	\$1,150	\$1,150	\$1,150
Coated Freesheet	\$1,396	\$1,485	\$1,450	\$1,450	\$1,435	\$1,455	\$1,410	\$1,410	\$1,410	\$1,385	\$1,404	\$1,385	\$1,385	\$1,385	\$1,385	\$1,385
Coated Freesheet (old)	\$1,396	\$1,485	\$1,450	\$1,450	\$1,425	\$1,453	\$1,400	\$1,375	\$1,350	\$1,325	\$1,363	\$1,325	\$1,325	\$1,325	\$1,325	\$1,325
Uncoated Freesheet - 20-lb repro	\$1,412	\$1,495	\$1,472	\$1,465	\$1,445	\$1,469	\$1,435	\$1,425	\$1,425	\$1,425	\$1,428	\$1,425	\$1,425	\$1,425	\$1,385	\$1,415
Uncoated Freesheet - 20-lb repro (old)	\$1,412	\$1,495	\$1,472	\$1,465	\$1,440	\$1,468	\$1,420	\$1,400	\$1,400	\$1,350	\$1,393	\$1,300	\$1,300	\$1,300	\$1,300	\$1,300
Uncoated Groundwood	\$1,091	\$1,140	\$1,133	\$1,120	\$1,113	\$1,127	\$1,090	\$1,070	\$1,060	\$1,050	\$1,068	\$1,050	\$1,040	\$1,030	\$1,030	\$1,038
Uncoated Groundwood (old)	\$1,091	\$1,140	\$1,133	\$1,120	\$1,100	\$1,123	\$1,050	\$1,000	\$930	\$930	\$978	\$930	\$930	\$930	\$930	\$930
Newsprint (1)	\$815	\$905	\$872	\$852	\$837	\$866	\$800	\$790	\$780	\$780	\$788	\$760	\$760	\$760	\$760	\$760
Newsprint (old) (1)	\$815	\$905	\$872	\$852	\$830	\$865	\$800	\$750	\$725	\$725	\$750	\$725	\$725	\$725	\$725	\$725
Containerboard - Liner, East	\$920	\$872	\$852	\$845	\$832	\$850	\$865	\$885	\$885	\$905	\$885	\$925	\$925	\$925	\$925	\$925
Containerboard - Liner, East (old)	\$920	\$872	\$852	\$845	\$841	\$852	\$835	\$835	\$835	\$835	\$835	\$835	\$870	\$870	\$870	\$861
Containerboard - Medium, East	\$845	\$762	\$728	\$715	\$702	\$727	\$735	\$775	\$775	\$795	\$770	\$815	\$815	\$815	\$815	\$815
Containerboard - Medium, East (old)	\$845	\$762	\$728	\$715	\$712	\$729	\$705	\$705	\$705	\$705	\$705	\$705	\$740	\$740	\$740	\$731
Coated unbleached kraft board	\$1,465	\$1,490	\$1,483	\$1,470	\$1,470	\$1,478	\$1,470	\$1,480	\$1,510	\$1,510	\$1,493	\$1,520	\$1,550	\$1,550	\$1,550	\$1,543
Coated unbleached kraft board (old)	\$1,465	\$1,490	\$1,483	\$1,470	\$1,450	\$1,473	\$1,425	\$1,425	\$1,450	\$1,450	\$1,438	\$1,450	\$1,400	\$1,400	\$1,400	\$1,413
Coated recycled board	\$1,231	\$1,270	\$1,270	\$1,270	\$1,250	\$1,265	\$1,250	\$1,260	\$1,300	\$1,300	\$1,278	\$1,300	\$1,310	\$1,340	\$1,340	\$1,323
Coated recycled board (old)	\$1,231	\$1,270	\$1,270	\$1,270	\$1,260	\$1,268	\$1,250	\$1,250	\$1,275	\$1,275	\$1,263	\$1,250	\$1,250	\$1,225	\$1,225	\$1,238
Uncoated recycled board	\$1,073	\$1,053	\$1,040	\$1,040	\$1,020	\$1,038	\$1,020	\$1,050	\$1,060	\$1,060	\$1,048	\$1,070	\$1,080	\$1,110	\$1,110	\$1,093
Uncoated recycled board (old)	\$1,073	\$1,053	\$1,040	\$1,040	\$1,030	\$1,041	\$1,020	\$1,020	\$1,020	\$1,000	\$1,015	\$1,000	\$1,000	\$1,050	\$1,050	\$1,025
Bleached board	\$1,455	\$1,530	\$1,530	\$1,470	\$1,450	\$1,495	\$1,450	\$1,450	\$1,450	\$1,470	\$1,455	\$1,490	\$1,490	\$1,490	\$1,490	\$1,490
Bleached board (old)	\$1,455	\$1,530	\$1,530	\$1,470	\$1,450	\$1,495	\$1,425	\$1,425	\$1,450	\$1,450	\$1,438	\$1,420	\$1,400	\$1,375	\$1,375	\$1,393
Kraft Paper - Grocery Sack 70lb	\$1,204	\$1,202	\$1,195	\$1,175	\$1,175	\$1,187	\$1,175	\$1,175	\$1,200	\$1,200	\$1,188	\$1,200	\$1,220	\$1,220	\$1,220	\$1,215
Kraft Paper - Grocery Sack 70lb (old)	\$1,204	\$1,202	\$1,195	\$1,175	\$1,175	\$1,187	\$1,175	\$1,175	\$1,175	\$1,175	\$1,175	\$1,200	\$1,220	\$1,220	\$1,220	\$1,215
Old Corrugated Containers, US Avg	\$97	\$32	\$42	\$55	\$76	\$51	\$95	\$105	\$115	\$110	\$106	\$105	\$115	\$120	\$100	\$110
Old Corrugated Containers, US Avg (old)	\$97	\$32	\$42	\$55	\$65	\$49	\$75	\$90	\$100	\$90	\$89	\$90	\$90	\$90	\$90	\$90
Framing Lumber Composite Price (2)	\$786	\$412	\$409	\$438	\$383	\$411	\$400	\$450	\$460	\$430	\$435	\$435	\$465	\$470	\$440	\$453
Framing Lumber Composite Price (old) (2)	\$786	\$412	\$409	\$438	\$383	\$411	\$400	\$450	\$460	\$430	\$435	\$435	\$465	\$470	\$440	\$453
OSB 7/16" North Central (2)	\$629	\$243	\$300	\$492	\$397	\$358	\$390	\$420	\$440	\$380	\$408	\$340	\$360	\$370	\$300	\$343
OSB 7/16" North Central (old) (2)	\$629	\$243	\$300	\$492	\$397	\$358	\$390	\$420	\$440	\$380	\$408	\$340	\$360	\$370	\$300	\$343
Southern Plywood 15/32" 3-ply (2)	\$815	\$531	\$535	\$574	\$615	\$564	\$595	\$625	\$640	\$605	\$616	\$530	\$550	\$560	\$500	\$535
Southern Plywood 15/32" 3-ply (old) (2)	\$815	\$531	\$535	\$574	\$615	\$564	\$595	\$625	\$640	\$605	\$616	\$530	\$550	\$560	\$500	\$535

Source: Fastmarkets RISI / Pulp & Paper Week, Random Lengths, BofA Global Research estimates. All prices per short ton, except as noted; (1) \$/metric tonne; (2) Lumber price per MBF, Panel price per MSF.

BofA GLOBAL RESEARCH

Supply/demand models

Pulp supply/demand

The impact of recent capacity projects in bleached hardwood, including Arauco's MAPA (1.56mn MT), Suzano's Cerrado (2.4mn MT) and UPM's Paso de los Toros (2.1mn MT) will be a limiter on upward pricing. That said, these mills are the latest for these established and low-cost incumbent producers, and we expect capacity to come on in a relatively less disruptive way.

Exhibit 21: BofA – Global market pulp supply/demand model (kMT)

Operating rates could drop below 90% next year given new capacity coming up including Suzano's Cerrado as well as other projects

BofA Market Pulp Supply Demand Model	2017	2018	2019	2020	2021	2022E	2023E	2024E	2025E	2026E
Total Demand (kMT)	59,212	60,801	62,206	62,604	60,947	61,838	62,717	63,608	64,861	66,162
% change y/y	4.3%	2.7%	2.3%	0.6%	-2.6%	1.5%	1.4%	1.4%	2.0%	2.0%
USA	6,832	6,818	6,964	7,222	6,768	6,903	6,282	6,471	6,438	6,406
Canada	600	636	727	915	1,048	1,069	973	1,002	997	992
West Europe	12,921	13,106	12,634	11,378	11,868	12,105	10,290	10,650	10,596	10,543
East Europe and CIS	3,564	3,744	3,801	3,678	3,942	3,883	3,417	3,519	3,555	3,590
Latin America	3,701	3,631	3,324	3,547	3,553	3,695	3,769	3,882	4,037	4,199
China	20,568	21,414	22,959	24,850	23,232	23,000	27,255	26,982	27,926	28,904
Japan	1,901	1,930	2,002	1,834	1,772	1,949	1,715	1,801	1,783	1,765
Asia/Africa	6,814	7,061	7,580	7,243	6,754	7,125	7,268	7,486	7,711	7,942
Nordic Countries	1,925	2,070	1,856	1,558	1,652	1,685	1,432	1,482	1,475	1,468
Oceania	386	391	359	379	358	422	317	333	343	353
Total Capacity (kMT)	65,035	68,070	68,404	68,554	68,069	67,878	70,014	74,618	76,520	76,815
Net Additional Capacity	2,140	3,035	334	150	(485)	998	2,298	3,037	1,903	295
Net Hardwood additional capacity						1,150	2,327	2,338	1,903	295
Net Softwood additional capacity						(153)	(30)	699	0	0
Delta of unplanned downtime			(564)	582	716	(1,189)	(162)	1,567	0	0
Unplanned Closures/downtime		(1,450)	(2,014)	(1,432)	(716)	(1,905)	(2,067)	(500)	(500)	(500)
Producer Inventories (kMT)	4,751	6,484	6,362	5,244	6,060	6,485	7,186	6,986	6,986	6,986
Producer Inventories (days of supply)	29	39	37	31	36	38	42	40	39	39
Inventory consumption		1,733	(122)	(1,118)	816	425	701	(200)	0	0
Operating rates (%)	91.0%	91.9%	90.8%	89.7%	90.7%	91.7%	90.6%	85.0%	84.8%	86.1%

Source: BofA Global Research estimates, Fastmarkets RISI, Hawkins Wright, PPPC, Brian McClay & Associates

BofA GLOBAL RESEARCH

Wood/timber Supply/Demand

BofA Global Research's US Homebuilders and Building Products analyst, Rafe Jadrosich, sees overall US housing starts down -5.3% and -1.3% in 2024 and 2025 and then rebounding to +2.0% in 2026. The outlook is driven by a slowdown in multi-family housing starts, partially offset by a pickup in single-family housing, despite higher interest rates. In that regard, BofA sees 6% growth in single-family starts in '24 given the lack of existing homes for sale, with multifamily expected to decline by 28% next year. As for R&R, BofA Global Research's Retail Hardlines analyst, Elizabeth Suzuki, sees activity starting to pick up in 2024 and 2025 with 1-2% growth in each year following a -5% decline in 2023. This assumption is driven by the continuous pent-up demand for capital improvements in housing. On OSB capacity, we see capacity increasing by ~1.5/bsf annually in the next several years. This assumption includes the restart of Tolko's High Prairie mill in 1H of 2024 as well as the starts of Prince Albert, Allendale, and Corrigan. In lumber, capacity will also continue to move higher given the increase in mill reopening in the first half of '24. This couples with 0.2% demand growth, which will cause operating rates to remain in the 74% range.

Exhibit 22: Structural Panel Supply/Demand Model

Panel operating rates should be in the 70% to 80% range on strong single- and weak multi-family trends, and their impact on demand

	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
Macro Data									
US Housing Starts (000s)	1,248	1,292	1,397	1,601	1,553	1,377	1,304	1,288	1,313
% Growth	3%	4%	8%	15%	-3%	-11%	-5%	-1%	2%
OSB demand components									
Residential OSB Demand (bsf)	11.0	10.9	11.6	12.8	12.1	10.9	11.0	10.9	11.1
% Growth	3%	-1%	6%	10%	-5%	-10%	1%	-1%	2%
% of Demand	47%	46%	48%	50%	51%	49%	49%	48%	48%
Repair / Remodeling	5.2	5.5	5.9	6.0	5.3	5.0	5.1	5.2	5.4
% Growth	7%	6%	8%	0%	-11%	-5%	1%	2%	3%
% of Demand	22%	23%	25%	23%	22%	23%	23%	23%	23%
All Other OSB	7.1	7.1	6.5	6.9	6.5	6.4	6.4	6.5	6.7
% Growth	-1%	0%	-9%	5%	-5%	-2%	1%	2%	3%
OSB Square Feet per Home	8,813	8,436	8,291	7,971	7,815	7,815	7,815	7,815	7,815
% Growth	0%	-4%	-2%	-4%	-2%	0%	0%	0%	0%
Plywood demand components									
Construction Demand (bsf)	7.0	7.1	7.0	7.3	7.0	6.7	6.5	6.5	6.7
% Growth	2%	2%	-2%	5%	-4%	-3%	-3%	0%	2%
Repair / Remodeling	3.4	3.2	3.5	3.2	2.9	2.8	2.8	2.9	3.0
% Growth	6%	-4%	8%	-9%	-8%	-5%	1%	2%	3%
All Other Plywood	2.1	2.2	2.0	2.2	2.2	2.2	2.2	2.2	2.3
% Growth	-11%	2%	-7%	9%	1%	-2%	1%	2%	2%
Structural Panel Data									
OSB Consumption (bsf, 3/8")	23.3	23.5	24.0	25.6	23.9	22.3	22.5	22.7	23.2
% Growth	3%	1%	2%	6%	-6%	-7%	1%	1%	3%
Capacity	27.5	26.6	26.1	27.0	27.7	28.1	29.7	31.0	32.6
Offshore Imports	0.05	0.06	0.12	0.71	0.62	0.18	0.25	0.33	0.39
Operating Rate %	85%	88%	92%	92%	84%	79%	75%	72%	70%
Plywood Consumption (bsf, 3/8")	12.5	12.5	12.5	12.7	12.1	11.7	11.6	11.7	11.9
% Growth	1%	0%	0%	2%	-4%	-3%	-1%	1%	2%
Capacity	13.3	13.2	13.4	13.2	13.3	13.3	13.3	13.4	13.6
Offshore Imports	2.35	1.77	2.03	2.25	2.03	1.84	1.93	2.24	2.50
Operating Rate %	76%	81%	78%	79%	76%	74%	72%	70%	70%
TOTAL STRUCTURAL PANEL CONSUMPTION	35.8	36.0	36.5	38.2	36.0	34.0	34.1	34.4	35.2
TOTAL STRUCTURAL PANEL CAPACITY	40.8	39.8	39.5	40.3	41.0	41.4	43.0	44.4	46.1
Capacity Growth %	5%	-2%	-1%	2%	2%	1%	4%	3%	7%
Capacity Utilization % (Adjusted for Imports)	82%	86%	87%	88%	82%	77%	74%	72%	70%

Source: RISI, BofA Global Research estimates

Note: Given the divergence growth of single-family and multi-family starts over the next several years, we have adjusted our growth forecast to assume a weighted average growth (assuming single-family consumes 3x more than multi-family in OSB) in residential demand.

BofA GLOBAL RESEARCH

Exhibit 23: Lumber Supply/Demand Model

Expect lumber operating rates to remain in the 70% to 80% range

	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
US Housing Starts (000s)	1,248	1,292	1,397	1,601	1,553	1,377	1,304	1,288	1,313
% Growth	3.2%	3.5%	8.1%	14.6%	-3.0%	-11.3%	-5.3%	-1.3%	2.0%
North American Softwood Lumber									
Demand	63.5	61.5	63.0	63.0	61.6	57.5	57.6	58.7	60.1
Shipments	61.4	59.2	60.0	60.2	58.2	55.0	55.7	56.4	57.5
Capacity	72.6	72.6	71.5	72.4	73.3	73.7	74.9	76.3	77.7
Capacity Utilization %	85%	82%	84%	83%	79%	75%	74%	74%	74%
US Softwood Lumber									
Lumber Demand (Based on HS-Residential)	20.9	21.4	23.2	24.9	24.5	21.7	20.6	20.3	20.7
Lumber Demand (Repair / Remodeling)	17.9	17.1	17.9	16.0	16.2	15.4	15.6	15.9	16.4
Lumber Demand (All Other)	10.1	10.0	10.5	10.6	10.5	10.3	10.4	10.6	10.8
Domestic Demand (BBF)	48.9	48.5	51.6	51.5	51.2	47.4	46.5	46.8	47.9
Exports	1.7	1.3	1.1	1.5	1.4	1.4	1.7	1.8	1.8
Total Demand (BBF)	50.6	49.9	52.7	53.0	52.6	48.8	48.2	48.6	49.7
Shipments	34.8	35.3	37.0	37.1	37.3	34.9	33.6	33.0	33.5
Imports	15.2	14.6	15.2	16.0	15.3	13.9	14.6	15.6	16.2
Capacity (BBF)	41.3	42.1	43.1	43.9	44.9	46.2	47.7	48.8	50.0
Capacity Utilization %	84%	84%	86%	84%	83%	76%	70%	68%	67%
Canadian Softwood Lumber									
Domestic Demand	9.1	8.3	7.9	7.9	7.5	7.3	7.7	8.2	8.6
Exports to US	13.6	13.0	13.1	13.7	12.8	11.8	12.9	13.5	13.9
Offshore Exports	3.9	3.3	2.4	2.0	1.5	1.4	1.7	1.8	1.8
Total Demand (BBF)	26.6	24.7	23.4	23.7	21.8	20.5	22.3	23.6	24.3
Shipments	26.6	24.0	23.0	23.1	20.9	20.1	22.1	23.4	24.0
Imports	0.4	0.3	0.3	0.5	0.4	0.3	0.3	0.3	0.3
Capacity	31.3	30.5	28.5	28.5	28.4	27.5	27.3	27.5	27.7
Capacity Utilization %	85%	79%	81%	81%	74%	73%	81%	85%	87%

Source: RISI, BofA Global Research estimates

Note: Given the divergence growth of single-family and multi-family starts over the next several years, we have adjusted our growth forecast to assume a weighted average growth (assuming single-family consumes 3x more than multi-family in OSB) in residential demand.

Timber: Western inventories better; Southern still too high

As we head into 2024, we note standing timber inventory continues to grow in the South as compared to the West. Overall, commentary from our contacts suggests inventories won't peak until ~2030 in the South. As for M&A, interest in timberland transaction activity remains high with the last five years resulting in ~160 'notable transactions' according to RISI.

Exhibit 24: Private Operable Softwood Sawtimber Inventory – US South and West

Standing timber inventory continues to grow in the South, which will limit upward pricing momentum. Growth in Southern timber inventory is slowing, a positive.

	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
South										
Inventory ¹	259.26	260.36	261.45	262.80	263.94	265.30	266.03	268.43	270.48	271.46
Growth ²	17.95	18.23	18.48	18.86	19.41	19.58	19.87	20.25	20.55	20.68
Harvest ³	15.59	15.88	15.88	16.48	16.81	17.63	16.27	17.01	18.38	18.66
Conversion to inoperable ⁴	1.26	1.26	1.25	1.23	1.24	1.22	1.19	1.19	1.19	1.18
West										
Inventory	219.69	218.51	217.14	215.78	214.10	212.50	211.96	211.02	208.92	206.97
Growth	9.50	9.47	9.44	9.41	9.37	9.32	9.30	9.30	9.27	9.20
Harvest	7.75	7.94	7.64	7.71	7.84	7.36	7.02	7.66	8.13	7.90
Conversion to inoperable	2.69	2.81	3.18	3.12	3.19	3.28	2.82	2.90	3.26	3.13
Coast										
Inventory	112.57	112.11	111.55	111.06	110.26	109.39	109.19	108.75	107.63	106.66
Growth	6.12	6.10	6.08	6.06	6.04	6.00	5.98	5.99	5.96	5.92
Harvest	5.31	5.47	5.22	5.25	5.41	5.08	4.88	5.24	5.46	5.22
Conversion to inoperable	1.12	1.18	1.40	1.36	1.44	1.60	1.33	1.39	1.63	1.59
Inland										
Inventory	107.12	106.40	105.59	104.72	103.84	103.11	102.77	102.27	101.29	100.31
Growth	3.38	3.37	3.36	3.35	3.33	3.32	3.31	3.31	3.30	3.28
Harvest	2.44	2.47	2.42	2.46	2.43	2.28	2.13	2.43	2.67	2.68
Conversion to inoperable	1.57	1.63	1.78	1.77	1.75	1.68	1.50	1.51	1.63	1.54

Source: Fastmarkets RISI

Containerboard & Boxboard Supply/Demand

Demand is beginning to get better based on our trade commentary and our channel checks, but trends suggest only a modest uptick in aggregate. Given the current supply situation we need to see a reduction in inventories (we project 200k ton declines through 2025, which will impact production) along with a more substantive demand growth for operating rates to meaningfully improve. We project a 2% improvement in apparent consumption in 2024, and that operating rates will improve by 200bps (though remaining below 90%). One good news point: as we illustrate on Exhibit 26, there are no more confirmed new projects coming on in 2024 or 2025.

Exhibit 25: Containerboard – North America Supply Demand

Capacity starting to flatten out

Containerboard - North America	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
Production	38,407	39,890	40,993	39,105	40,271	42,767	39,927	37,912	38,840	39,597	40,243
Adjusted Capacity	40,430	41,424	42,423	42,927	43,077	44,938	44,729	45,314	45,322	46,051	46,410
Utilization Rate %	95%	96%	97%	91%	93%	95%	89%	84%	86%	86%	87%
Apparent Consumption	34,252	35,346	36,271	35,437	36,324	38,975	36,880	35,126	35,850	36,383	36,933
Net (Imports) Exports, est. % of Production	3,259 8%	3,465 9%	3,364 8%	2,812 7%	3,067 8%	2,263 5%	2,107 5%	1,943 5%	2,127 5%	2,240 6%	2,265 6%

Containerboard - US	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
Production	36,317	37,570	38,513	36,624	37,732	40,339	37,644	35,524	36,262	36,994	37,608
Capacity	38,210	38,934	39,693	40,279	40,382	42,277	42,044	42,502	42,412	43,114	43,444
Utilization Rate %	95%	96%	97%	91%	93%	95%	90%	84%	85%	86%	87%
Exports	5,084	5,302	5,304	4,581	4,976	4,420	4,073	3,700	3,800	4,000	4,100
Imports	1,190	1,377	1,441	1,351	1,386	1,376	1,247	1,180	1,175	1,250	1,300
Net Exports as % of Production	10.7%	10.4%	10.0%	8.8%	9.5%	7.5%	7.5%	7.1%	7.2%	7.4%	7.4%
Year-End System-wide Inventories	2,302	2,380	2,659	2,525	2,301	2,770	2,720	2,600	2,450	2,400	2,400
Apparent Consumption % Growth	32,422 0.8%	33,566 3.5%	34,371 2.4%	33,527 -2.5%	34,365 2.5%	36,826 7.2%	34,868 -5.3%	33,124 -5.0%	33,787 2.0%	34,294 1.5%	34,808 1.5%

Containerboard - Canada	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
Production	2,090	2,320	2,480	2,481	2,539	2,429	2,282	2,387	2,578	2,603	2,634
Capacity	2,220	2,490	2,730	2,648	2,695	2,661	2,685	2,812	2,910	2,938	2,966
Utilization Rate %	94%	93%	91%	94%	94%	91%	85%	85%	89%	89%	89%
Exports	1,310	1,490	1,450	1,435	1,405	1,301	1,262	1,274	1,384	1,421	1,461
Imports	1,050	950	870	863	824	1,021	992	888	869	908	951
Net Exports as % of Production	12.4%	23.3%	23.4%	23.0%	22.9%	11.5%	11.8%	16.2%	20.0%	19.7%	19.3%
Apparent Consumption % Growth	1,830 -6.2%	1,780 -2.7%	1,900 6.7%	1,909 0.5%	1,959 2.6%	2,149 9.7%	2,013 -6.3%	2,001 -0.6%	2,063 3.1%	2,090 1.3%	2,125 1.7%
Canadian Exports ex-US	415	489	371	445	301	240	273	311	371	398	417

Source: RISI, AFPA, BofA Global Research

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Exhibit 26: Summary of Containerboard Capacity

Summary of key Containerboard capacity projects – lots of closures since 1Q23

Company	Mill Name	Capacity (000 tons)	Date
WestRock	North Charleston, SC	(288)	1Q 2020
Verso	Duluth, MN	90	1Q 2020
Graphic Packaging	West Monroe, LA	(120)	2Q 2020
Sonoco	Trent Valley, CN	(89)	2Q 2020
Nine Dragons	Biron, WI	256	3Q 2020
International Paper	Selma, AL	450	3Q 2020
Bio Pappel	Port Angeles, WA	180	4Q 2020
Westrock	Evadale	180	4Q 2020
Westrock	Florence, SC	27	4Q 2020
Nine Dragons	Rumford, ME	300	4Q 2020
Packaging Corp	Jackson, AL	700	4Q 2020 - 4Q 2023
Midwest Paper	Combined Locks, WI	130	4Q 2020 - 1Q 2022
New-Indy Containerboard LLC	Catawba, SC	200	1Q 2021
Green Bay Packaging	Green Bay, WI	240	1Q 2021
Packaging Corp	Jackson, AL	130	3Q 2021
WestRock	Panama City, FL	(353)	2Q 2022
Sonoco	Hartsville, SC	(192)	4Q 2022
Atlantic Packaging	Whitby, ON	400	4Q 2022
Domtar	Kingsport, TN	600	4Q 2022
Nine Dragons	Biron, WI	450	4Q 2022
Cascades	Bear Island, VA	465	1Q 2023
New-Indy Containerboard LLC	Catawba, SC	200	1Q 2023
WestRock	St. Paul, MN	(200)	1Q 2023
WestRock	North Charleston, SC	(235)	3Q 2023
WestRock	Tacoma, WA	(380)	3Q 2023
Cascades	Niagara Falls, NY	(90)	3Q 2023
Pratt Industries	Henderson, KY	540	4Q 2023
International Paper	Orange, TX	(800)	4Q 2023
Greif	Santa Clara, CA	(85)	4Q 2023
Pixelle Specialty Solutions	Chillicothe, OH	400	2023-2025
Paper Excellence	Howe Sound, BC	300	2023-2025
Pratt Industries	US West Coast	400	2023-2025
Domtar	Marlboro, SC	-	2024-2025
SAICA	TBD	-	2023-2026
CrossRoads Paper	Salt Lake City, UT	342	2026
Empire Recycled Fiber	Dayton, OH	350	2Q 2025
Domtar	Hawesville, KY	-	2026-2028

Source: Projects shaded in blue depict future capacity that's been discussed in trade but which has not been started. Most of these projects, other than CrossRoads, do not have a recently discussed timing and could be uncertain. Capacity and timing are BofA Global Research estimates or previously published estimates by RISI and other sources.

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Boxboard seems ok for now

Weak consumption overall in 2023, including a reduction of -5% (source: American Forest & Paper Association [AF&PA]), should be followed by a moderate rebound in 2024. Nonetheless, operating rates should be down 100bps next year. Given our analysis, bleached board operating rates and demand should be sufficiently positive such that prices stop eroding and actually increase in 2024. Trends may be better than expected through 2026 given the delay of Billerud's Escanaba project (which was slated to have an annualized folding boxboard capacity of 1.2mn tons per year) with the first phase (~500-600k tons) of the project initially set for 2025 completion. Meantime, we forecast 3% growth in recycled board production for 2024 after an estimated 10% decline in 2023. Utilization rates should be up 200-300bp for both 2024 and 2025.

Exhibit 27: Bleached Paperboard US Supply Demand

We expect apparent consumption to rebound to 2% next year for bleached paperboard

Bleached Paperboard - US	2015	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
Production	5,350	5,210	5,290	5,400	5,360	5,124	5,124	5,136	4,971	4,773	4,837	4,917
Adjusted Capacity	5,767	5,540	5,658	5,707	5,811	5,509	5,450	5,457	5,266	5,129	5,440	5,754
Capacity Utilization %	93%	94%	93%	95%	92%	93%	94%	94%	94%	93%	89%	85%
Exports	1,770	1,590	1,670	1,570	1,422	1,324	1,372	1,269	1,015	1,015	1,015	1,015
Imports	140	150	170	180	173	138	161	151	136	136	149	149
Apparent Consumption (Tons)	3,720	3,770	3,790	4,010	4,111	3,938	3,913	4,018	3,817	3,893	3,971	4,051
% Growth in Consumption	-2.4%	1.3%	0.5%	5.8%	2.5%	-4.2%	-0.6%	2.7%	-5.0%	2.0%	2.0%	2.0%
Imports % of Consumption	4%	4%	4%	4%	4%	4%	4%	4%	4%	3%	4%	4%

Source: RISI, AFPA, BofA Global Research

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Exhibit 28: Recycled Board US Supply Demand

We expect operating rates to improve somewhat in 2024 and 2025

Recycled Board - US	2015	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
Folding Boxboard Production	2,190	2,190	2,160	2,030	2,043	1,945	1,927	2,096	1,887	1,943	2,002	2,062
Recycled Industrial Converting	3,290	3,340	3,340	3,300	3,344	3,343	3,321	3,233	2,910	2,997	3,087	3,179
Total production	5,480	5,530	5,500	5,330	5,387	5,288	5,247	5,329	4,796	4,940	5,088	5,241
Adjusted Capacity - Folding, Setup	-	-	-	-	-	-	-	-	-	-	-	-
Capacity - Gypsum Wallboard	1,501	1,472	1,421	1,416	1,416	1,412	1,432	1,416	1,416	1,416	1,416	1,416
Capacity - Other	-	-	-	-	-	-	-	-	-	-	-	-
Coated	2,147	2,221	2,118	1,996	2,041	2,000	1,949	2,232	2,165	2,112	2,123	2,403
Uncoated	2,573	2,588	2,510	2,498	2,524	2,468	2,495	2,506	2,460	2,472	2,485	2,497
Total Adjusted Capacity	6,221	6,281	6,049	5,910	5,981	5,880	5,876	6,154	6,041	6,001	6,024	6,317
Capacity Utilization % - total	88%	88%	91%	90%	90%	90%	89%	87%	79%	82%	84%	83%

Source: RISI, AFPA, BofA Global Research

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Uncoated Free Sheet (UCFS) Supply/Demand

Demand cratered in most graphic paper markets in 2023, with shipments being down by 10% or more across the grades. Now, UCFS operating rates in North America should improve ~600bps in 2024 but remain under pressure overall – at present, we see rates stagnating in the 80s. Ultimately, we expect capacity to come out because producers will attempt to prevent declines in utilization rates and pricing. The recent closure of Pactiv's Canton mill and conversion of Packaging Corp.'s Jackson are helpful, but the industry appears to be ~500k tons (or one paper machine) excess capacitized. Nonetheless, we expect a modest rebound in demand in 2024 (up 5% in '24 after a -22% in '23) due to easy comps.

Exhibit 29: Uncoated Free Sheet North America Supply Demand

After a drop of ~17% in 2023, we expect positive growth in shipments in 2024, but continued declines thereafter

Uncoated Free Sheet - NA	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
Apparent Consumption (Tons)	8,802	8,285	8,374	7,726	6,303	6,556	6,780	5,384	5,607	5,485	5,366
Shipments	8,647	8,376	8,279	7,402	6,116	6,157	6,111	5,037	5,287	5,133	5,007
Adjusted Capacity	9,468	9,429	9,011	8,390	7,727	6,772	6,824	6,768	6,648	6,648	6,624
Capacity Utilization	91%	89%	92%	88%	79%	91%	90%	74%	80%	77%	76%
Net (Imports) Exports, est. (1)	(320)	(29)	(238)	(525)	(488)	(704)	(973)	(621)	(605)	(649)	(644)
-- as pct shipments	-4%	0%	-3%	-7%	-8%	-11%	-16%	-12%	-11%	-13%	-13%

Uncoated Free Sheet - US	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
Shipments	7,891	7,613	7,492	6,631	5,324	5,357	5,311	4,265	4,509	4,360	4,260
% Growth	-3.9%	-3.5%	-1.6%	-11.5%	-19.7%	0.6%	-0.9%	-19.7%	5.7%	-3.3%	-2.3%
Capacity	8,672	8,610	8,199	7,576	6,915	5,952	6,004	5,948	5,828	5,828	5,828
Exports	761	852	717	599	439	404	348	316	316	316	316
Imports	1,097	946	1,019	1,138	957	1,102	1,287	927	927	973	973
Apparent Consumption (Tons)	8,227	7,707	7,794	7,171	5,842	6,054	6,251	4,875	5,119	5,017	4,916
Growth %	-4.2%	-6.3%	1.1%	-8.0%	-18.5%	3.6%	3.2%	-22.0%	5.0%	-2.0%	-2.0%
Gross Imports % of Consumption	13%	12%	13%	16%	16%	18%	21%	19%	18%	19%	20%

Uncoated freesheet - Canada (2)	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E
Shipments	756	763	787	771	792	800	800	773	779	773	747
% growth	1.5%	0.9%	3.2%	-2.0%	2.7%	1.0%	0.0%	-3.4%	0.8%	-0.7%	-3.4%
Capacity	796	819	812	814	812	820	820	820	820	820	796
Utilization Rate %	95.0%	93.1%	96.9%	94.8%	97.5%	97.6%	97.6%	94.2%	94.9%	94.3%	93.9%
Exports	457	463	478	468	519	506	531	496	508	518	502
Imports	275	278	271	252	188	208	260	231	218	213	205
Apparent consumption (tons)	575	578	580	555	461	502	530	508	488	469	450
% growth	-5.6%	0.6%	0.3%	-4.3%	-16.9%	8.8%	5.6%	-4.0%	-4.0%	-4.0%	-4.0%
Canadian exports ex.-US	76	119	125	86	84	55	64	60	64	65	63
Canadian imports ex.-US	60	54	61	72	54	62	98	71	59	57	50

Source: RISI, AFPA, BofA Global Research

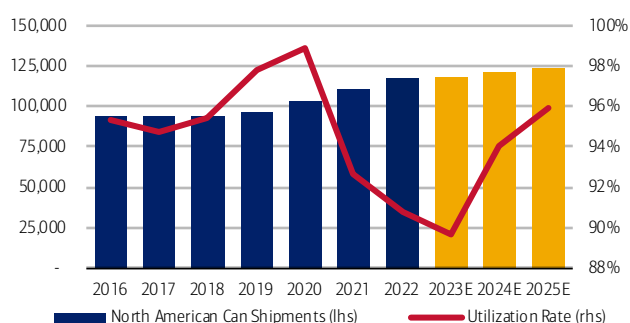
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Beverage cans global supply/demand

Considering recent capacity closure and delay announcements, we have made several adjustments to our capacity forecasts through 2025 including the closure of AMBP's Whitehouse facility, the cancellation of BALL's North Las Vegas project and the closure of the company's Kent, WA plant and delay of its Concord, NC facility. After an estimated -2% shipment growth in 2023, we expect 2% growth in 2024 in North America. This, coupled with capacity closures and project cancellations/delays should allow operating rates to increase to the mid-90s in North America in 2024. In Europe, we still see somewhat soft consumption trends, but the market should become more balanced in 2024 and into 2025. As for South America, we have observed some slight improvements in demand recently and the delay/closure of projects should allow operating rates to get back to 90% by 2025. Lastly, demand in Southeast Asia should recover nicely next year and this coupled with virtually no recent capacity installments will push operating rates into the mid 90s.

Exhibit 30: North America Can Supply/Demand

We assume lower growth in our forecasts through 2025

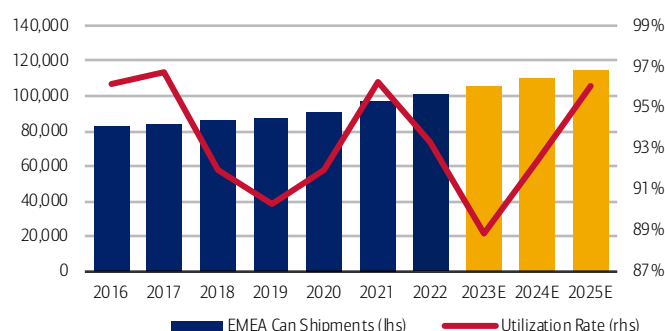


Source: BofA Global Research estimates, company reports

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Exhibit 31: EMEA Can Supply/Demand

New capacity coming, but utilization should pickup in EMEA

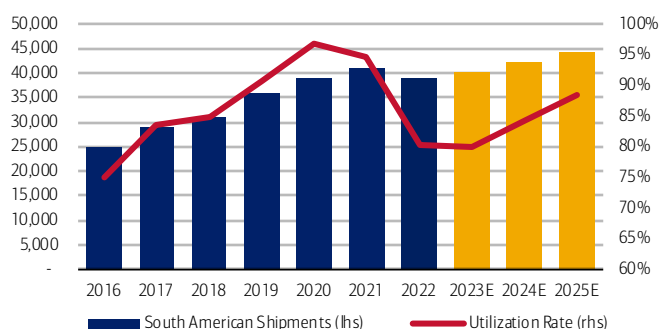


Source: BofA Global Research estimates, company reports

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Exhibit 32: South America Can Supply/Demand

Shipments in South America & Brazil should trend higher

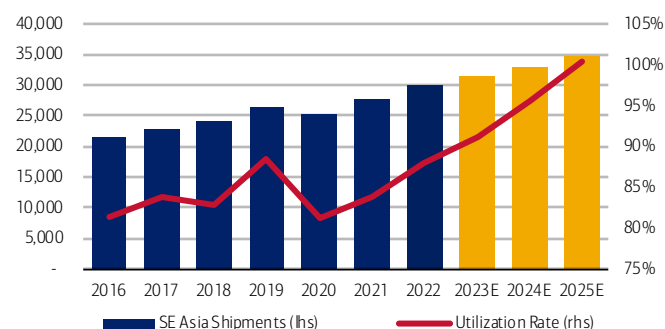


Source: BofA Global Research estimates, company reports

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Exhibit 33: SE Asia Can Supply/Demand

Shipments and utilization rates should move higher through 2025



Source: BofA Global Research estimates, company reports

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BofA Packaging & Paper/Forest valuation and EPS changes

Exhibit 34: BofA Rigid Packaging strategy, valuation and EPS grid: Generally positive views, with valuation driving stock preference

Summary of Rigid Packaging Price Objective, Estimate, and Valuation Changes

Rigid Packaging:											
			Calendar EPS estimates			Valuation/range method		Normal	Cost of		
Ticker		Rating	PO	2023	2024	2025	PE	EV / EBITDA	FCF	Equity	Comments
AMBP	New	N	\$4.40	\$0.15	\$0.20	\$0.26	15x	10-12x	\$200	10%	Our PO is \$4.40, up from \$4.20. Our EPS estimates are \$0.15 (unchanged) in 2023, \$0.20 (was \$0.19) in 2024, and \$0.26 (was \$0.25) in 2025. We now assume some slightly better volume trends for the Americas in 4Q and 1H24 given the potential for Brazil to show improved trends. That said, we slightly reduce our volume forecasts for Europe in 4Q and in 2024 given a softer consumer environment. We also now use a 10-12x (was 12x) EV/EBITDA multiple upon further review of peer and market multiples. Further, we increase our normalized FCF estimate to \$200mn (from \$150mn) given our review of cash flow trends. This change ultimately drives our PO higher.
	Old	N	\$4.20	\$0.15	\$0.19	\$0.25	15x	12x	\$150	11%	
BALL	New	UP	\$59	\$2.94	\$3.15	\$3.65	18-19x	SOTP = \$71	\$1,200	11%	Our PO is \$59, down from \$61 previously. Our EPS estimates are now \$2.94 (was \$2.95) in 2023, \$3.15 (was \$3.25) in 2024, and \$3.65 (was \$3.70) in 2025. We'd note that our estimates still include Aerospace and we'll evaluate further once its divestiture closes. Upon review of recent data and trends, we reduce our North and Central America (NCA) volume estimate for 4Q by 50bps (to -8.5%). This change primarily drives the 1c drop in our 2023 EPS estimate. Looking to 2024, we expect a back-half loaded year in 2024 in terms of volumes and have slightly reduced our volume assumptions across the regions in 1H, especially in NCA and EMEA. We now expect volumes to be down 30bps in NCA and EMEA (from a prior up 20bps expectation) for 2024. That said, we build in some additional volume for South America and are now at +7.5% (was+5.6%) given seemingly improved trends in Brazil. Additionally, we now include a \$71 sum-of-the-parts (SOTP) valuation as part of our PO calculation which includes an EV/EBITDA multiple of 13-14x for North & Central America, 11-12x for EMEA, 13x for South America, 18-19x for Aerospace, and 10-12x for Other.
	Old	N	\$61	\$2.95	\$3.25	\$3.70	18-19x	N/A	\$1,200	11%	
CCK	New	B	\$105	\$6.01	\$6.35	\$7.10	16-17x	SOTP = \$129	\$900	11%	Our PO is \$105, up from \$95. Our EPS estimates are now \$6.01 (was \$6.00) in 2023, \$6.35 (was \$6.40) in 2024, and \$7.10 (no change) in 2025. As with the other canmakers, we now expect some slightly better volume trends in Brazil and we have raised our 4Q volume figure in the Americas as a result (to 3% from 1% prior). This change drives the 1c increase in our 2023 EPS estimate. Looking to 2024, our Americas volume estimate is unchanged at 3.7% but we reduce our European estimate to -0.9% (from +2.2%) given a softer macro and consumer. Meantime, we incorporate some additional pressure on the margin for North American tinplate given the potential impact of lower steel pricing. These two changes drive our EPS estimate for 2024 down by 5c. We also adjust our P/E valuation multiple to 16-17x (was 15x) in consideration on recent moves in peer and market multiples and the cycle. Meantime, we now use a SOTP as part of our PO calculation and we assume a 12-13x EV/EBITDA for Americas Beverage, 10x for Europe, 12x for Asia Pacific, 10x for Transit, and 7x for Other. Given what we believe is a better 2024 volume outlook v. peers in North America and recent potential selling pressure in the market on the shares, we continue to rate CCK a Buy.
	Old	B	\$95	\$6.00	\$6.40	\$7.10	15x	N/A	\$900	11%	
OI	New	B	\$22	\$3.00	\$2.30	\$2.75	8-10x	6-7x	\$350	13%	Our PO is unchanged at \$22. Our EPS estimates are now \$2.30 (was \$2.50) in 2024 and \$2.75 (was \$2.92) in 2025. Meantime, our 2023 estimate is unchanged at \$3.00. Our 2024/25 estimates primarily move lower on our reduced European earnings estimates as we incorporate further cushioning for lower pricing. Additionally, we reduce our volume forecasts for both segments in 2024 and are now at -0.2% (was +0.6%) in the Americas and -0.5% (was +0.4%) in Europe. We are also now modeling for interest expense to be \$2mn and \$16mn higher than our prior forecasts in 2024 and 2025, respectively. Meantime, we increase our normalized FCF estimate to \$350mn (from \$300smn).
	Old	B	\$22	\$3.00	\$2.50	\$2.92	8-10x	6-7x	\$300	13%	
SLGN	New	B	\$53	\$3.33	\$3.70	\$4.05	15x	11x	\$375	9%	Our PO is \$53, up from \$48 previously. Our EPS estimates and model assumptions are unchanged at this time. However, keep in mind that SLGN should see ~\$50mn of improved margin comparisons on the closing of a problematic plant and new business in Custom Containers. We also adjust our valuation multiples to 15x (was 13x) P/E and 11x (was 10x) EV/EBITDA given our review of peer and market multiples and considering this point in the cycle. These changes drive our PO higher.
	Old	B	\$48	\$3.33	\$3.70	\$4.05	13x	10x	\$375	9%	

Source: FactSet, BofA Global Research estimates. Full-year estimates calendarized. B = Buy, N = Neutral, UP = Underperform. Note: our cost of equity percentages are adjusted typically based on changes in beta (source: Bloomberg).





Exhibit 35: BofA Specialty Packaging strategy, valuation and EPS grid: Positive given valuation in several stocks

Summary of Specialty Packaging Price Objective, Estimate, and Valuation Changes

Specialty Packaging:

Valuation/range method											
Ticker	Rating	PO	Calendar EPS estimates			Valuation/range method		Normal FCF	Cost of Equity	Comments	
			2023	2024	2025	PE	EV / EBITDA				
AMCR	New	UP	\$9.90	\$0.67	\$0.73	\$0.77	16-17x	10-12x	\$1,100	10%	Our PO is now \$9.90, up from \$9.30 previously. Our EPS estimates are now \$0.70 (was \$0.69) in F24, \$0.75 (was \$0.73) in F25, and \$0.79 (was \$0.77) in F25. While we raise our estimates in F24 for additional cost reductions, volumes appear to remain sluggish. As such, our estimates only increase slightly in F24 and F25. We also adjust our valuation multiples to 16-17x P/E (from 16x) and 10-12x (was 10-11x) EV/EBITDA based on our review of past company ranges, peer and market multiples, as well as in consideration of this point in the cycle.
	Old	UP	\$9.30	\$0.67	\$0.70	\$0.76	16x	10-11x	\$1,100	10%	
ATR	New	B	\$150	\$4.67	\$5.05	\$5.50	SOTP value = \$200		\$300	10%	Our PO is now \$150, up from \$146 previously. Our EPS estimates are now \$4.67 (was \$4.70) in 2023, \$5.05 (was \$5.15) in 2024, and \$5.50 (was \$5.60) in 2025. Our earnings estimates move lower as we lower our volume forecasts as Pharma and fragrance normalize. We now expect 4.3% core growth in Pharma (was 4.7%) and 2.8% core growth in Beauty (was 3%) for 2024. We also slightly increase our valuation multiple for Pharma to 26x EV/EBITDA (from 25x) given where comparables (i.e. West Pharma and Stevanato) currently trade.
	Old	B	\$146	\$4.70	\$5.15	\$5.60	SOTP value = \$193		\$300	10%	
AVY	New	UP	\$208	\$7.82	\$8.95	\$10.10	20x	16-17x	\$800	9%	Our PO remains at \$208. Our EPS estimates are now \$8.95 (was \$8.90) in 2024 and \$10.10 (was \$10.05) in 2025. Meantime, our 2023 estimate is unchanged at \$7.82. Our '24/25 estimates move up slightly upon further review of incremental margin and cost-outs. However, for earnings to really increase from here, AVY will ultimately need volumes to rebound. Given the slight adjustments to our EPS estimates and no changes to our valuation multiples, our PO is unchanged.
	Old	B	\$208	\$7.82	\$8.90	\$10.05	20x	16-17x	\$800	9%	
BERY	New	B	\$83	\$7.44	\$7.67	\$8.21	13x	9x	\$900	11%	Our PO moves to \$83 from \$78. Our EPS estimates are unchanged as we make no adjustments to our model at this time. One point we'd note is that our review of consensus estimates indicates that there is some risk that Health, Hygiene, & Specialty street estimates are too high. Based on our further review of peer, market, and past company multiples as well as this point in the cycle, we adjust our P/E valuation multiple to 13x (from 12x) and EV/EBITDA to 9x (from 8-9x). This change drives our PO to \$83.
	Old	B	\$78	\$7.44	\$7.67	\$8.21	12x	8-9x	\$900	11%	
PTVE	New	B	\$16	\$0.74	\$1.05	\$1.25	13x	9x	\$250	11%	Our PO is \$16, up from \$14 previously. Our EPS estimates are now \$0.74 (was \$0.71) in 2023, \$1.05 (was \$1.00) in 2024, and \$1.25 (was \$1.15) in 2025. Overall, we assume increased margins benefits over time from the Pactiv Evergreen Production System (PEPS). We also adjust our P/E valuation multiple to 13x (from 12x) in consideration of peer and market multiples and move our normalized FCF estimate to \$250mn from \$185mn.
	Old	N	\$14	\$0.71	\$1.00	\$1.15	12x	9x	\$185	11%	
SEE	New	B	\$42	\$2.88	\$3.00	\$3.35	14-15x	10x	\$450	11%	Our PO is \$42, up from \$40 previously. Our EPS estimates are now \$3.00 (was \$2.95) in 2024 and \$3.35 (was \$3.30) in 2025. We are expecting flat/down revenues on still-sluggish volumes in protective and negative pricing comparisons in both segments. That said, there is opportunity in our view for some better-than-anticipated volume and earnings trends as SEE gets some early wins from its increased focus, regain some near-term momentum, and generate some early "wins." That said, the cycle and secular trends (discussed earlier in the report) will limit volume and pricing gains. Our model assumes modest EBITDA gains – a 30% or so incremental margin on 1% or so volume trends over time. Given our review of peer and market multiples, we increase our EV/EBITDA multiple slightly to 10x (from 9-10x).
	Old	B	\$40	\$2.88	\$2.95	\$3.30	14-15x	9-10x	\$400	11%	

Source: FactSet, BofA Global Research estimates. AMCR's fiscal year-end is June. Full-year estimates calendarized. B = Buy, N = Neutral, UP = Underperform. Note: our cost of equity percentages are adjusted typically based on changes in beta (source: Bloomberg).

*Sonoco is also part of this group but covered in Diversified/Industrial.

BofA GLOBAL RESEARCH

Exhibit 36: BofA Diversified / Industrial Packaging strategy valuation and EPS grid: Sonoco our preferred diversified, industrial

Summary of Diversified / Industrial Packaging Price Objective, Estimate, and Valuation Changes

Ticker	Rating		PO	Calendar EPS estimates			Valuation/range method		Normal FCF	Cost of Equity	Comments
				2023	2024	2025	PE	EV / EBITDA			
BRC	New	B	\$65	\$3.92	\$4.15	\$4.43	17-18x	10-11x	\$185	10%	We are currently forecasting for ~5% organic growth in F24 with balanced growth across both segments. While this is down from 9.5% in F22 (given pricing positives), the company should be able to grow earnings given improved mix, continued cost management, and operational improvements as noted above. Given the company's F1Q results and commentary, we maintain our F24 EPS estimate of \$4.00 (against guidance of \$3.85-4.10) and are forecasting organic growth of 5% for F24 (with balanced growth across both segments. Additionally, we raise our F25 and F26 estimates to \$4.30 (was \$4.15) and \$4.50 (was \$4.30) given our view of better-long term growth and operational improvements. This along with improving working capital performance should also allow for operating cash flow to improve nicely. That said, capex in F24 will step up to \$75mn (from \$19.2mn in F23) mainly given a \$55mn purchase of a previously leased facility which will ultimately keep free cash flow (FCF) flat y/y based on our forecasts. Upon further review of our valuation, we increase our normalized FCF estimate to \$185mn (from \$150mn). Upon further review of our valuation and where BRC has traded in past cycles, we increase our P/E multiple to 17-18x (in-line long-term average) while our EV/EBITDA multiple moves to 10-11x (also in-line with its long-term average). As a result of these changes, our PO moves to \$65 from \$51.
	Old	UP	\$51	\$3.89	\$4.09	\$4.24	13-14x	9x	\$150	10%	
GEF	New	N	\$77	\$5.77	\$3.71	\$5.00	14x	10x	\$400	10%	Our PO is \$77, up from \$75 previously. Our EPS estimates are now \$3.42 (was \$3.40) in F24, \$4.65 (was \$4.50) in F24, and \$5.20 (was \$5.00) in F25. While GEF recently missed consensus for F'24 with its guidance ("low-end" F24 guidance was \$585mn in adj. EBITDA), we raise estimates on the impact of our higher containerboard and boxboard pricing. That said, lower steel pricing could create some modest margin headwinds in Global Industrial Packaging (GIP), but we leave our earnings estimates for the segment unchanged for now. Meantime, we adjust our P/E valuation multiple to 14x (from 12x) given our review of peer, market, and historical company ranges as well as this point in the cycle. Lastly, we tweak our cost of equity to 10% from 11% per Bloomberg inputs.
	Old	N	\$75	\$6.14	\$6.12	\$5.27	12x	10x	\$400	11%	
SON	New	B	\$70	\$5.32	\$5.75	\$6.25	13-14x	9-10x	\$600	10%	Our PO is \$70, up from \$63 previously. Our EPS estimates are now \$5.32 (was \$5.30) in 2023, \$5.75 (was \$5.60) in 2024, and \$6.25 (was \$6.10) in 2025. We assume that SON will benefit from its announced URB and converted products price hikes throughout 2024 which primarily drives our estimates for Industrial Paper Packaging up by ~\$23mn. Meantime, we assume some slightly less favorable volume trends in Consumer Packaging for 2024 and now project a -0.30% decline in volumes (from a prior expectation of flat demand). Lastly, we build in some benefits for productivity across Industrial and Consumer for 4Q23 which is the primary driver of the 2c increase in our 2023 EPS estimate. We also adjust our valuation multiples given our review of market and peer multiples and also in consideration of this point of the cycle. We now use 13-14x (was 12-13) on P/E and 9-10x (was 8-9x) on EV/EBITDA.
	Old	B	\$63	\$5.30	\$5.60	\$6.10	12-13x	8-9x	\$600	10%	

Source: FactSet, BofA Global Research estimates. BRC's is July, GEF's October. Full-year estimates calendarized. B = Buy, N = Neutral, UP = Underperform. Note: our cost of equity percentages are adjusted typically based on changes in beta (source: Bloomberg).

BofA GLOBAL RESEARCH



**Exhibit 37: BofA Boxboard strategy, valuation and EPS grid: GPK and boxboard one of our preferred areas for 2024**

Summary of Boxboard Price Objective, Estimate, and Valuation Changes

Boxboard:										
Ticker	Rating	PO	Calendar EPS estimates			PE	Valuation/range method		Cost of Equity	Comments
			2023	2024	2025		SOTP Value	Normal FCF		
GPK	New	B	\$30	\$2.78	\$2.75	\$3.10	14x	N/A	\$676	10%
	Old	B	\$29	\$2.78	\$2.70	\$2.90	14x	N/A	\$658	10%

Our PO moves to \$30 from \$29, and we rate GPK at Buy. We update our boxboard pricing forecasts across the grades. In 2024, we increase our pricing forecasts for CUK by \$55/ton at \$1,493/ton, for SBS cup stock and folding carton by \$45/ton at \$1,858/ton, and for coated recycled board (CRB) by \$15/ton at \$1,278/ton. Upon further review of our long-term forecasts, our normalized free cash flow (FCF) increases to \$676mn (was \$658mn) with a calculated cost of equity of 10% and a forecast rate of growth of 2%. We also increase our 2024 EPS estimate by 5 cents at \$2.75 (the P/E multiple remains 14x). We continue to project 2024 EBITDA estimate at \$1.8bn with a 7.5x EV/EBITDA multiple. Given these inputs and revisions, our estimates move to \$2.78 in 2023 (unchanged), \$2.75 (was \$2.70) in 2024, and \$3.10 (was \$2.90) in 2025, while our PO increases as noted above.

Source: FactSet, BofA Global Research estimates. Full-year estimates calendarized. B = Buy, N = Neutral, UP = Underperform. Note: our cost of equity percentages are adjusted typically based on changes in beta (source: Bloomberg).

*WestRock is part of this group but covered in Containerboard. Sonoco and Greif are also part of this group but are covered in Diversified/Industrial

BofA GLOBAL RESEARCH

Exhibit 38: BofA Pulp & Paper strategy, valuation and EPS grid: Expecting continued stock momentum into 2024 on small cap trends, better pricing outlook in paper

Summary of Pulp & Paper Price Objective, Estimate, and Valuation Changes

Pulp, Specialty Fibers & Paper:										
Ticker	Rating	PO	Calendar EPS estimates			PE	Valuation/range method		Cost of Equity	Comments
			2023	2024	2025		SOTP Value	Normal FCF		
SLVM	New	B	\$59	\$6.19	\$4.75	\$5.85	12x	\$60	\$258	8%
	Old	B	\$55	\$6.20	\$4.65	\$5.50	12x	\$60	\$211	8%

Our PO moves to \$59 from \$55, and we rate SLVM at Buy. We update paper and pulp pricing forecasts for SLVM, a large producer of uncoated free sheet (UCFS; a/k/a copy paper). In 2024, we factor in a \$35/ton increase for UCFS from prior levels at \$1,428/ton. Meantime, in pulp, we project a \$40/ton increase from prior levels. Upon further review of valuation and fundamentals for European comparables and SLVM, our SOTP valuation for SLVM remains at \$60/share, while our EPS forecast for 2024E increases to \$4.75 in our EPS valuation (the P/E multiple remains 12x). We raise our normalized FCF to \$258mn (was \$211mn) with a calculated cost of equity of 8% and a forecast rate of decline of 3%. Given these changes, our estimates move to \$6.19 in 2023 (was \$6.20), \$4.75 in 2024 (was \$4.65) in 2024, and \$5.85 in 2025 (was \$5.50), while our PO increases as noted earlier.

Source: FactSet, BofA Global Research estimates. Full-year estimates calendarized. B = Buy, N = Neutral, UP = Underperform. Note: our cost of equity percentages are adjusted typically based on changes in beta (source: Bloomberg).

*International Paper is also part of this group through its fluff pulp business and offtake agreements with Sylvamo but is included in Containerboard.

Exhibit 39: BofA Containerboard strategy, valuation and EPS grid: Containerboard valuations seem fair, overall

Summary of Containerboard Price Objective, Estimate, and Valuation Changes

Containerboard & Related:											
Ticker	Rating	PO	Calendar EPS estimates				SOTP Value	Normal FCF	Cost of Equity	Comments	
IP	New	UP	\$37	\$2.11	\$2.25	\$2.80	14x	\$44	\$1,000	10%	Our PO moves to \$37 from \$34, and we rate IP at U/P. We update our pricing forecasts for IP, the largest producer of containerboard and fluff pulp globally. In 2024, we increase our forecasts for unbleached kraft linerboard (East/West, 42lb) by \$50/ton to \$885/ton (midpoint) and corrugating medium (East/West, 26 lb) by \$65/ton to \$770/ton (midpoint). We also increase our European linerboard pricing forecasts in a similar fashion. As for Global Cellulose Fibers (GCF), we increase our forecasts for fluff pulp pricing by \$205/ton, to \$1,768/ton. Upon further review of our long-term forecasts, our SOTP valuation for IP increases towards \$44/share, while our EPS forecast for 2024E increases to \$2.25 in our EPS valuation (the P/E multiple remains 14x). We continue to project normalized FCF at \$1bn with a calculated cost of equity of 10% and forecast rate of growth of 2%. Given these inputs and revisions, our estimates move to \$2.11 in 2023 (was \$2.08), \$2.25 (was \$1.75) in 2024, and \$2.80 (was \$2.10) in 2025, with a new PO at \$37/share.
	Old	UP	\$34	\$2.08	\$1.75	\$2.10	14x	\$42	\$1,000	10%	
PKG	New	N	\$176	\$8.39	\$8.15	\$9.25	20x	\$175	\$750	9%	Our PO moves to \$176 from \$170, and we rate PKG at Neutral. We update our pricing forecasts for PKG, the third largest containerboard producer in North America. In 2024, our pricing projections for unbleached kraft linerboard increases by at \$50/ton to \$885/ton and for corrugating medium increases by \$65/ton to \$770/ton. As for the paper segment, our uncoated free sheet (UCFS) pricing forecasts increases by \$35/ton to \$1,428/ton. Upon further review of our long-term forecasts, our SOTP valuation for PKG increases towards \$175/share, while our EPS forecast for 2024E increases to \$8.15 in our EPS valuation (the P/E multiple remains 20x). We continue to project normalized FCF at \$750mn with a calculated cost of equity of 9% and forecast rate of growth of 4%. Given these inputs and revisions, our estimates move to \$8.39 in 2023 (was \$8.40), \$8.15 (was \$7.75) in 2024, and \$9.25 (was \$8.15) in 2025, and our PO is adjusted as noted above.
	Old	N	\$170	\$8.35	\$7.75	\$8.15	20x	\$163	\$750	9%	
WRK	New	B	\$48	\$2.78	\$2.38	\$3.36	16x	\$48	\$1,100	11%	Our PO moves to \$48 from \$45, and we rate WRK at Buy. We update our pricing forecasts for WRK, the second largest producer of both containerboard/corrugated and boxboard/consumer paperboard grades. In the consumer segment, our pricing forecasts for 2024 increases by \$55/ton for CUK at \$1,493/ton, by \$45/ton for SBS at \$1,858, and by \$15/ton for CRB prices at \$1,278/ton. In the corrugated segment, our pricing forecast also moves higher by \$50/ton for unbleached kraft linerboard at \$885/ton and by \$65/ton for corrugating medium at \$770/ton. As for the global paper segment, our pricing forecasts increase in a similar fashion, along with SBSK prices increasing by \$33/tonne to \$1,289/tonne. Upon further review of our long-term forecasts, our SOTP valuation for WRK increases towards \$48/share, while our calendarized EPS forecast for 2024E increases to \$2.38 in our EPS valuation (the P/E multiple remains 16x). We raise our normalized FCF at \$1.1bn (was \$1bn) with a calculated cost of equity of 11% and a forecast rate of growth of 3% (was 2%). Our estimates move to \$2.78 in F23 (was \$2.79), \$2.38 in F24 (was \$2.02), and \$3.36 in F25 (was \$2.88), while our PO increases as noted earlier.
	Old	B	\$45	\$2.79	\$2.02	\$2.88	16x	\$44	\$1,000	11%	

Source: FactSet, BofA Global Research estimates. Full-year estimates calendarized. B = Buy, N = Neutral, UP = Underperform. Note: our cost of equity percentages are adjusted typically based on changes in beta (source: Bloomberg).

*Sonoco and Greif are also part of this group but are covered in Diversified/Industrial.

BofA GLOBAL RESEARCH





Exhibit 40: BofA Wood & Timber strategy, valuation and EPS grid: WY our one Buy for this housing-related sector

Summary of Wood & Timber Price Objective, Estimate, and Valuation Changes

Wood & Timber:											
Ticker	Rating		PO	Calendar EPS estimates			PE	Valuation/range method		Cost of Equity	Comments
				2023	2024	2025		SOTP Value	Normal FCF		
BCC	New	U/P	\$132	\$12.05	\$11.95	\$12.00	N/A	\$131	\$400	11%	Our PO moves to \$132 from \$112, and we rate BCC at U/P. We update our wood pricing forecasts to project flat-to-up pricing trends for BCC, a large producer of plywood, and engineered wood products (EWP) and supplier of construction materials through Building Materials Distribution (BMD) segment. In 2024, our average plywood prices increase by \$32/msf to \$616/msf, while EWP prices remain flat. Overall, our projected volumes increase for both plywood (+1%) and EWP (+5.8% for LVL and +6.5% for I-joists) from our prior model. Upon further review, we increase our SOTP valuation for BCC to \$131/share. Our free cash flow (FCF) valuation also increases by \$75mn to \$400mn with a calculated cost of equity of 11% (was 12%) and a rate of growth forecast of 3%. Given these changes, our EPS estimates move to \$12.05 in 2023 (was \$12.09), \$11.95 in 2024 (was \$11.35), and \$12.00 in 2025 (was \$10.25), and our PO moves to \$132.
	Old	U/P	\$112	\$12.09	\$11.35	\$10.25	N/A	\$124	\$325	12%	
LPX	New	UP	\$65	\$3.05	\$3.45	\$3.75	N/A	\$70	\$383	13%	Our PO moves to \$65 from \$62, and we rate LPX at U/P. We update our forecasts to project higher oriented strand board (OSB) pricing for LPX, a large producer of OSB and (engineered wood) SmartSide® siding products. In 2024, our average OSB prices increase by \$63/msf to \$408/msf, while our volume projections remain flat from our prior model. Upon further review, our SOTP valuation increase to \$70/share, while our normalized FCF estimate moves to \$383mn (was \$381mn) with a calculated cost of equity at 13% and growth rate forecast of 4%. Overall, our EPS estimates move to \$3.05 in 2023 (was \$3.00), \$3.45 in 2024 (was \$3.40), and \$3.75 in 2025 (was \$3.65), and our PO moves to \$65.
	Old	UP	\$62	\$3.00	\$3.40	\$3.65	N/A	\$66	\$381	13%	
PCH	New	N	\$56	\$0.48	\$0.58	\$0.90	N/A	\$51	N/A	7%	Our PO moves to \$56 from \$55 and we rate PCH at Neutral. We update our wood pricing forecasts to project flat-to-up pricing trends for PCH, a producer of lumber and timber. In 2024, our average plywood prices increase by \$29/msf from our prior model, (though this is a comparatively small driver for PCH) while our lumber prices remain flat at \$435/mbf. Overall, our projected volumes increase for both lumber (+1%) and plywood (+4%) from our prior model. Given these changes, our SOTP valuation for WY increases to \$51/share. Upon further review of our valuation fundamentals, we update our AFFO multiple to 21x to 25x (was 23x to 27x; we refer to industry trading comps) and keep our AFFO range of \$2.50-2.75 per share (unchanged). Our PO also incorporates a 3% target dividend yield and normalized dividend of \$1.80-2.00 per share (unchanged). Overall, our EPS estimates move to \$0.48 in 2023 (was \$0.50), \$0.58 in 2024 (was \$0.60), and \$0.90 in 2025, and our PO is adjusted as noted earlier.
	Old	N	\$57	\$0.50	\$0.60	\$0.90	N/A	\$49	N/A	7%	
WY	New	B	\$37	\$0.96	\$1.10	\$1.15	N/A	\$42	N/A	7%	We recently revised our estimates for WY in consideration of the company's updated December guidance which we discuss below and in concert with our new benchmark price forecasts in wood. WY refined its expected adjusted EBITDA commentary for Wood Products to a sequential reduction of ~\$30mn versus 3Q, excluding the impact of price changes and in concert with our new benchmark price forecasts in wood. The main contributing factors were lower lumber sales volumes, higher holiday downtime, and higher unit manufacturing costs. Additionally, average prices in lumber are ~\$70/mbf lower in 4Q v. 3Q while oriented strand board (OSB) prices are ~\$75/msf lower. The company also recently engaged in Timberland transactions which will increase EBITDA ~\$8mn annually over the next five years. Given this and our new wood pricing estimates, we adjusted estimates and project flat or higher lumber, OSB, and engineered wood pricing (EWP) pricing after a forecast reduction for lumber in 4Q. Given these refinements, our Wood EBITDA estimate for 4Q is now \$152mn versus a prior \$185mn and our EPS forecast declines 3c to 12c. In 2024, our average OSB prices increase by \$63 to \$408/msf, while our average lumber prices remain flat at \$435/mbf. As for EWP, our average price projections also remain flat from our prior WY model.
	Old	B	\$37	\$0.96	\$1.10	\$1.15	N/A	\$42	N/A	7%	

Source: FactSet, BofA Global Research estimates. Full-year estimates calendarized. B = Buy, N = Neutral, UP = Underperform. Note: our cost of equity percentages are adjusted typically based on changes in beta (source: Bloomberg).

BofA GLOBAL RESEARCH

Investment Rationale

Avery Dennison Corp.

Avery is rated U/P, largely on valuation. Avery has been one of our best long-term secular growers and capital allocators but we think a lot of this, as well as the near-term recovery potential, is in the shares. Moreover, there could be some lingering destocking headwinds.

Ball Corp.

BALL is rated U/P largely on valuation. The company has been one of our better long-term capital allocators but BALL's recent, relative rally versus the S&P500 directionally considers a likely improvement in beverage can volumes for 2024 after a tough 2023, the coming divestiture of Aerospace (and the redeployment of proceeds into debt paydown and buybacks) and other factors. Meantime, a couple factors including tough volume comparisons in beer could make for more of a second-half weighted 2024.

Brady Corp. - CI A

We now rate Brady at a Buy as its growth trajectory and valuation look more encouraging. The growth from here should be supported by several factors including its comprehensive industrial tack and trace solution and some potentially structural tailwinds including reshoring and increased domestic manufacturing activity. Further, new products and recent internal efforts to rationalize SKUs and position the portfolio should help as well.

Pactiv Evergreen

We rate Pactiv at Buy and believe its valuation on 2024 estimates is attractive when compared to the current packaging group averages. With the company's foodservice-related businesses showing some improved volume and margin upside from the Pactiv Evergreen Production System (PEPS), we think PTVE should be bought. Deleveraging efforts should add catalysts.

Price objective basis & risk

Amcor PLC (AMCR / AMCCF)

Our \$9.90 price objective (AU\$14.75) 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 (in-line 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 \$150 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 \$4.40 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 \$208 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 \$59 price objective is based on a three-part valuation approach, which takes: (1) a 18-19x 2024E P/E multiple, (2) a 14x 2024E EV/EBITDA multiple and (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) 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, 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 and stock price performance. Similarly should these factors prove more constructive than expected, BALL's performance/PO could exceed our forecasts.

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 \$65 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.

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 \$105 by using our 2024 estimates and averaging the fair values derived from (1) a 16-17x 2024E P/E multiple (adj. for asbestos), (2) a 10-13x 2024E EV/EBITDA multiple, and (3) our intrinsic FCF valuation, which assumes \$900mn normalized FCF, a 11% cost of equity and a 2% growth rate. Multiple ranges are in line with past valuation levels reached when fundamentals are positive, and are targeted with past normalized ranges in mind for rigid packaging (10-17x).

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 \$30 PO is based on the average of (a) an EV/EBITDA valuation calculated by applying a 7.5x 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 14x 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 \$37 price objective is based on an average of (a) an EPS forecast of \$2.25 in 2024E 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 \$65 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) should trends reverse in the policy outlook for the current Administration, that would be a source of volatility for the shares, and (8) should the trends in supply/demand for its products prove worse-than-expected, then LPX stock could perform below our forecasts.

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 \$22 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, OI's price could exceed our PO.

Packaging Corp. of America (PKG)

Our \$176 price objective is based on an average of (a) an EPS forecast of \$8.15 in 2024E and a P/E of 20x, in line with peer multiples, (b) a normalized free cash flow (FCF) estimate of \$750mn, a calculated cost of equity of 9% 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 13x 2024E P/E multiple, (2) an 9x 2024E EV/EBITDA multiple, (3) a normalized FCF estimate of \$250mn, an estimated cost of equity of 11% and forecast rate of growth of 0%. 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 \$56 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 \$42 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 15x 2024E P/E multiple, a 11x 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.

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

Sonoco Products Co. (SON)

Our \$70 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 \$59 price objective is based on an average of: (a) an EPS forecast of \$4.75 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 \$258mn, 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 \$48 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.

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US - Paper and Packaging Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	AptarGroup Inc.	ATR	ATR 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	GPX	GPX US	George L. Staphos
	O-I Glass Inc	OI	OI 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
	Packaging Corp. of America	PKG	PKG 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
	Ball Corp.	BALL	BALL US	George L. Staphos
	Boise Cascade Company	BCC	BCC US	George L. Staphos
	International Paper Co.	IP	IP US	George L. Staphos
	Louisiana-Pacific Corp.	LPX	LPX US	George L. Staphos

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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.

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

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

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