

The Duckhorn Portfolio, Inc.

Wine-ding down; move to Underperform as industry slowing continues

Rating Change: UNDERPERFORM | PO: 8.00 USD | Price: 9.10 USD

Premium Wine slows further, move to Underperform

Following our <u>December 2023 downgrade to Neutral</u> we downgrade Duckhorn (NAPA) shares to Underperform to reflect further softening of the premium wine segment. We lower our sales estimates in 2024-2026 by 0.5%, 2.3%, & 3.9% respectively and our target multiple to 7.5x CY25 EV/EBITDA (prior ~12x). This results in a new Price Objective of \$8 (\$11 prior). Premium Wine (\$15+/bottle) fundamentals slowed further in December, with a slight rebound in January (we believe weather + timing benefited). In a separate note, we highlight that <u>Constellation Brands (STZ) also called for a slowdown in the premium end of the wine market in early January</u>. Further, our analysis (Exhibit 8) shows that NAPA will face increasingly difficult compares in its 2H24 (particularly in Decoy & Duckhorn). Until such time that a sales re-acceleration occurs, we believe shares are likely to be relative underperformers.

Putting public wine co valuations in context

Historically, public Wine entities have traded at low multiples given variability in crop and poor returns on capital. Former public wine companies (VinCorp, Golden State Vitners and Robert Mondavi) traded 5-7x EV/EBITDA in the early 2000's. We believe NAPA should trade at a premium versus those comps given its asset light nature (only ~10% of acreage owned) but recognizing slowing topline. Recent transaction multiples for higher growth brands (including NAPA's acquisition of Sonoma Cutrer) & TWE's acquisition of Daou Vineyards were closer to 13x.

Sonoma-Cutrer deal & BF/B stake cloudy NAPA exit path

As we noted in December, the <u>pending Sonoma-Cutrer acquisition</u> and related equity stake to go to BF/B makes the exit path for NAPA less clear. Prior to the announcement we believe NAPA was viewed by the investment community and potential strategics as a possible acquisition target. This appears less likely in an ownership structure where BF/B will own 21.5% of shares and does not have interest in long-term ownership of wine.

Upside Risks: Innovation launch, Consumer holding up

1) NAPA's launch of a low-alc Decoy Featherweight Sauvignon Blanc, shipping in FY24 which could boost sales in the short run. 2) If the US consumer holds up/strengthens this could benefit DTC business for higher end wines that are margin accretive.

Estimates (Jul) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	0.62	0.67	0.65	0.68	0.71
GAAP EPS	0.52	0.61	0.64	0.68	0.71
EPS Change (YoY)	6.9%	8.1%	-3.0%	4.6%	4.4%
Consensus EPS (Bloomberg)			0.67	0.73	0.81
DPS	0	0	0	0	0
Valuation (Jul)					
P/E	14.7x	13.6x	14.0x	13.4x	12.8x
GAAP P/E	17.5x	14.9x	14.2x	13.4x	12.8x
EV / EBITDA*	10.0x	8.8x	8.6x	8.3x	8.1x
Free Cash Flow Yield*	2.3%	-0.3%	4.8%	6.1%	6.0%
* For full definitions of <i>IQ</i> method SM measures, see page 12.					

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 13 to 15. Analyst Certification on page 11. Price
Objective Basis/Risk on page 11.

Timestamp: 13 February 2024 06:00AM EST

13 February 2024

Equity

Key Changes		
(US\$)	Previous	Current
Inv. Opinion	B-2-9	B-3-9
Inv. Rating	NEUTRAL UND	ERPERFORM
Price Obj.	11.00	8.00
2024E Rev (m)	415.6	413.6
2025E Rev (m)	432.2	422.2
2026E Rev (m)	449.5	432.0
2024E EPS	0.66	0.65
2025E EPS	0.70	0.68
2026E EPS	0.74	0.71

Peter T. Galbo, CFA Research Analyst

BofAS +1 646 743 0175 peter.galbo@bofa.com

Bryan D. Spillane Research Analyst

+1 646 855 1979 bryan.spillane@bofa.com

Christian Junquera

Research Analyst BofAS +1 646 855 5195

christian.junquera@bofa.com

Stock Data

Price	9.10 USD
Price Objective	8.00 USD
Date Established	12-Feb-2024
Investment Opinion	B-3-9
52-Week Range	8.34 USD - 16.63 USD
Mrkt Val (mn) / Shares Out	1,049 USD / 115.3
(mn)	
Free Float	42.7%
Average Daily Value (mn)	8.53 USD
BofA Ticker / Exchange	NAPA / NYS
Bloomberg / Reuters	Napa US / Napa.n
ROE (2024E)	7.7%
Net Dbt to Eqty (Jul-2023A)	24.0%
ESGMeter™	Medium

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

iQprofile[™] The Duckhorn Portfolio, Inc.

2022A	2023A	2024E	2025E	2026E
6.4%	6.8%	6.5%	6.4%	6.3%
8.5%	8.5%	7.7%	7.4%	7.2%
27.7%	28.7%	28.2%	28.4%	28.8%
24	(3)	50	64	63
	6.4% 8.5% 27.7%	6.4% 6.8% 8.5% 8.5% 27.7% 28.7%	6.4% 6.8% 6.5% 8.5% 8.5% 7.7% 27.7% 28.7% 28.2%	6.4% 6.8% 6.5% 6.4% 8.5% 8.5% 7.7% 7.4% 27.7% 28.7% 28.2% 28.4%

*i***Q**method SM − **Quality of Earnings***

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash Realization Ratio	1.0x	0.9x	1.2x	1.3x	1.3x
Asset Replacement Ratio	1.9x	2.6x	1.3x	1.3x	1.4x
Tax Rate	26.8%	26.4%	26.1%	25.5%	25.5%
Net Debt-to-Equity Ratio	25.8%	24.0%	17.4%	10.4%	4.3%
Interest Cover	15.2x	9.9x	7.6x	7.6x	7.9x

Income Statement Data (Jul)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Sales	373	403	414	422	432
% Change	10.7%	8.2%	2.6%	2.1%	2.3%
Gross Profit	190	216	221	226	232
% Change	12.4%	13.5%	2.3%	2.3%	2.7%
EBITDA	128	144	147	153	158
% Change	13.4%	13.3%	1.8%	3.9%	3.1%
Net Interest & Other Income	(6)	(11)	(15)	(15)	(15)
Net Income (Adjusted)	71	77	75	78	82
% Change	15.0%	8.6%	-2.5%	3.9%	4.5%

Free Cash Flow Data (Jul)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Net Income from Cont Operations (GAAP)	71	77	75	78	82
Depreciation & Amortization	23	28	30	32	32
Change in Working Capital	(24)	(34)	(14)	(6)	(7)
Deferred Taxation Charge	4	0	0	0	0
Other Adjustments, Net	(6)	(1)	(2)	0	0
Capital Expenditure	(45)	(73)	(39)	(40)	(44)
Free Cash Flow	24	-3	50	64	63
% Change	-52.2%	NM	NM	27.6%	-1.2%
Share / Issue Repurchase	0	0	0	0	0
Cost of Dividends Paid	NA	NA	NA	NA	NA
Change in Debt	(26)	6	8	0	0

Balance Sheet Data (Jul)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash & Equivalents	3	6	64	127	190
Trade Receivables	37	49	54	56	57
Other Current Assets	299	332	325	331	337
Property, Plant & Equipment	270	324	342	359	381
Other Non-Current Assets	642	637	628	618	609
Total Assets	1,252	1,348	1,412	1,491	1,573
Short-Term Debt	13	10	10	10	10
Other Current Liabilities	47	62	49	49	50
Long-Term Debt	214	224	231	231	231
Other Non-Current Liabilities	111	107	106	106	106
Total Liabilities	384	402	395	396	396
Total Equity	867	945	1,017	1,095	1,177
Total Equity & Liabilities	1,252	1,348	1,412	1,491	1,573

^{*} For full definitions of *IQ*methodSM measures, see page 12.

Company Sector

Spirits, Wines & Ciders

Company Description

Duckhorn is a pure play luxury wine producer (\$15+ per 750ml bottle) based in Napa, California. The company sold around 1.3mm cases of wine in FY20 ranging from \$20 to \$200/bottle with highly relevant brands including Duckhorn, Decoy and Kosta Browne. Historically, 80-85% of sales have been in the off-premise channel, with 15-20% in on-premise.

Investment Rationale

We rate NAPA shares Underperform. We see downside to 2H24 sale estimates given that retail sales for premium wine (\$15+/bottle) continues to decelerate and NAPA faces difficult comparisons in 2H24 (particularly in Decoy & Duckhorn). We also believe that a take out appears less likely given that BF/B owns 21.5% of shares and does not have interest in long-term ownership of wine.

Stock Data

Average Daily Volume	937,868

Quarterly Earnings Estimates

	2023	2024
Q1	0.18A	0.15A
Q2	0.18A	0.19E
Q3	0.16A	0.17E
Q4	0.15A	0.15E



Lowering estimates

Exhibit 1: BofA estimate changes

We lower our FY24, FY25 and FY26 sales estimate by -0.5%, -2.4% and -4.3%, respectively

	Current BofA estimate						Prior BofA estimate					Variance				
	3Q24	4Q24	FY24	FY25	FY26	3Q24	4Q24	FY24	FY25	FY26	3Q24	4Q24	FY24	FY25	FY26	
Net sales	\$99.4	\$105.1	\$413.6	\$422.2	\$432.0	\$100.4	\$106.1	\$415.6	\$432.2	\$449.5	-1.0%	-0.9%	-0.5%	-2.3%	-3.9%	
Adj. EBITDA	\$37.1	\$35.1	\$147.1	\$152.9	\$157.6	\$37.4	\$35.3	\$147.7	\$155.7	\$162.7	-0.8%	-0.7%	-0.4%	-1.8%	-3.1%	

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 2: BofA versus Visible Alpha Consensus

Our FY24, FY25 and FY26 sales forecast is below Visible Alpha Consensus

	Current BofA estimate						Visible Alpha Consensus					Variance				
	3Q24	4Q24	FY24	FY25	FY26	3Q24	4Q24	FY24	FY25	FY26	3Q24	4Q24	FY24	FY25	FY26	
Net sales	\$99.4	\$105.1	\$413.6	\$422.2	\$432.0	\$105.8	\$108.9	\$423.0	\$463.4	\$498.0	-6.0%	-3.5%	-2.2%	-8.9%	-13.3%	
Adj. EBITDA	\$37.1	\$35.1	\$147.1	\$152.9	\$157.6	\$40.1	\$37.1	\$152.4	\$169.8	\$183.2	-7.6%	-5.4%	-3.5%	-9.9%	-14.0%	

Source: Visible Alpha Consensus, BofA Global Research

BofA GLOBAL RESEARCH

Nielsen data analysis

NAPA discloses sales by Brand on an annual basis going to FY20. We analyzed full year sales for Decoy & Duckhorn relative to tracked channels in Nielsen. While NAPA has said historically that Nielsen only captures ~30% of its business, per our 2021 <u>initiation</u>, we note that the correlation in growth rates between Nielsen tracked channels and company reported brand sales have been 99%. In terms of the other brands like Canvasback, Goldeneye (which are less tracked) the correlation to Nielsen data is also 99%.

Exhibit 3: Year over year change in sales for total Decoy & Duckhorn Company reported results and Nielsen data are highly correlated

40.0%

30.0%

30.0%

30.0%

30.0%

13.9% 13.5%

9.1% 9.7%

0.0%

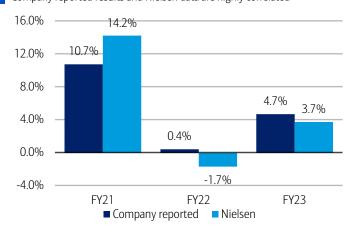
FY21 FY22 FY23

Company reported Nielsen

Source: NielsenIQ

BofA GLOBAL RESEARCH

Exhibit 4: Year over year change in sales for NAPA's other brandsCompany reported results and Nielsen data are highly correlated

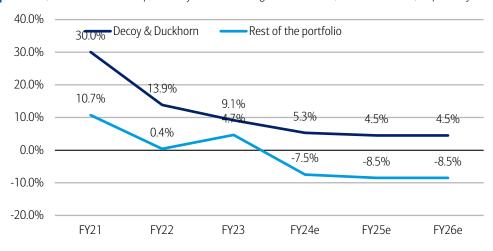


Source: NielsenIQ



Exhibit 5: BofAe sales forecast by brand

For FY24, FY25 and FY26 we expect Decoy & Duckhorn to grow sales +5.3%, +4.5% and +4.5%, respectively

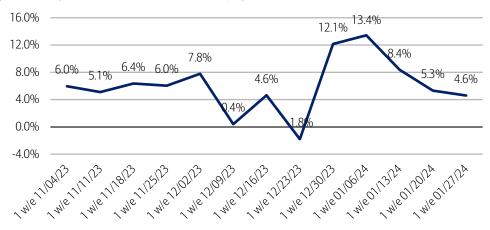


Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 6: Year over year change in weekly retail sales for total Decoy & Duckhorn

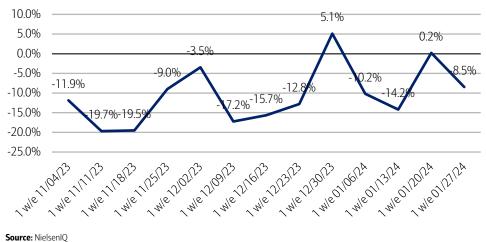
Retail sales growth slowed after New Year's Eve buying benefit



Source: NielsenIQ

Exhibit 7: Year over year change in weekly retail sales for NAPA's other brands

Sales are declining high single digits

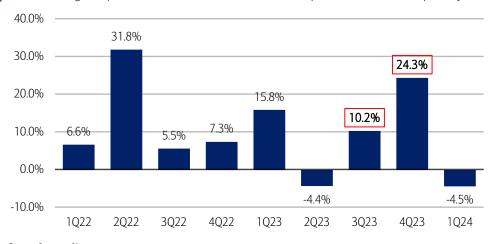


Source: NielseniiQ Bofa Global Research

On a quarterly basis – NAPA does not disclose sales by brand but by channel. We note that in its largest channel Wholesale outside of California (68% of FY23 sales) this a) correlates 32% to branded sales from the Nielsen data (correlation is 82% if you exclude 4Q20, 1Q21 and 2Q21), we believe a large % is Decoy & Duckhorn and b) this segment faces increasingly difficult compares in 2H24.

Exhibit 8: Year over year change in sales for Wholesale outside of CA

NAPA faces tough comparisons in 2H24. 3Q23 and 4Q23 sales were up +10.2% and +24.3%, respectively



Source: Company filings



Given that the correlation in growth rates between Nielsen tracked channels and company reported brand sales are strong we use scanner data to generate our net sales forecast. Our net sales forecast for total Decoy and Duckhorn to grow +5.3% y/y and other brands to decline -7.5% y/y in FY24 assumes that Decoy and Duckhorn and other brands will grow/decline +4.5% and -8.5% in 2H24 which is in line with recent scanner data.

Exhibit 9: Growth rates from Nielsen and NAPA for Decoy and Duckhorn and other brands

FY24, FY25 and FY26 includes our sales growth forecast for Decoy and Duckhorn and the rest of NAPA's portfolio

	FY21	FY22	FY23	1H24	2H24e	FY24e	FY25e	FY26e
From Nielsen								
Decoy + Duckhorn	30.0%	13.5%	9.7%	6.0%	4.5%	5.3%	4.5%	4.5%
Rest of the portfolio	14.2%	-1.7%	3.7%	-6.8%	-8.5%	-7.5%	-8.5%	-8.5%
Company reported								
Decoy + Duckhorn	30.0%	13.9%	9.1%	n/a	n/a	5.3%	4.5%	4.5%
Rest of the portfolio	10.7%	0.4%	4.7%	n/a	n/a	-7.5%	-8.5%	-8.5%

Source: Nielsen, BofA Global Research

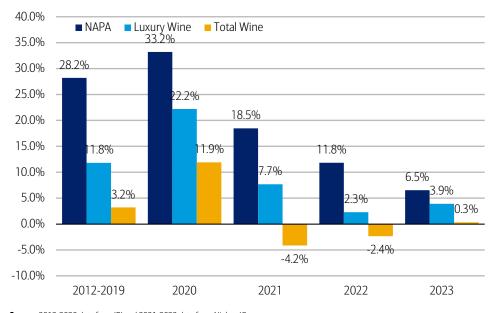
BofA GLOBAL RESEARCH

Luxury wine weakness could continue to persist

NAPA exclusively competes in the luxury wine category (retails \$15 and over per bottle). 2023 luxury wine retail sales grew +3.9% y/y which is significantly below its average pre-COVID (2012-2019) growth rate of +11.8%. We expect category growth to remain below its historical growth rate as demand continues to normalize on an elevated base. BF/B is facing a similar dynamic where demand for U.S. spirits is trending below its historical mid-single digit growth rate after two years of strong growth. BF/B expects demand to revert to its historical growth rate between 6 to 12 months.

Exhibit 10: Year over year change in retail sales

Retail sales for luxury wine is growing well below its pre COVID growth rate of +11.8% y/y and the gap between NAPA and luxury wine has come down over time



Source: 2012-2020 data from IRI and 2021-2023 data from NielsenIQ Luxury wine defined as \$15 and over per bottle



We also highlight that STZ is seeing softer demand for its premium wine and spirit (W&S) brands which includes Meiomi, Kim Crawford and The Prisoner. Using retail sales data from Nielsen we estimate that retail sales between calendar 3Q and 4Q decelerated from mid-single digits to flat. While retail sales for the month of January increased +7.9% we think sales benefitted from weather and New Year's Eve timing.

Exhibit 11: Year over year change in retail sales for STZ's premium wine brands Retail sales between calendar 3Q and 4Q decelerated from mid-single digits to flat



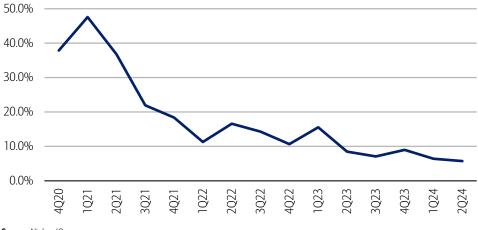
Source: NielsenIQ

BofA GLOBAL RESEARCH

Thoughts heading into FY2Q24 results

Our 2Q24 adj. EBITDA forecast of \$40.3mm remains unchanged. Our decision to lower our FY24 sales forecast has to do with NAPA having to face increasingly difficult 2H24 comparisons and we don't expect sales to re-accelerate over the medium term. Key drivers behind our forecast: 1) Sales to grow +3.0% y/y (volumes +2.0%, price/mix +1.0%) which is in line with NAPA's outlook of low single digit which is being hindered by pull forward of shipments into 1Q and a slowing consumer environment. Nielsen shows that year over year retail sales for total Decoy and Duckhorn was largely unchanged versus the prior quarter. 2) Gross margins of 54.5% which is +100bps higher versus last year. 3) SG&A of \$25.6mm which is in line with the prior quarter.

Exhibit 12: Year over year change in fiscal retail sales for total Decoy & Duckhorn from Nielsen Retail sales continue to decelerate



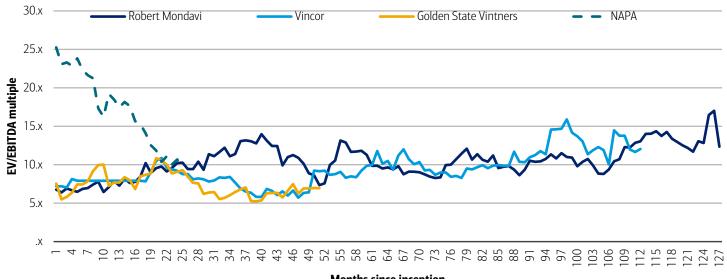
Source: NielsenIQ



Valuation

Exhibit 13: Monthly EV/EBITDA multiples for NAPA and former public wine companies

Our \$8 PO for shares of NAPA is based on 7.5x CY25e EV/EBITDA. Former public wine companies traded as low as 5.0x to 7.0x given variability in crop and poor returns on capital. We believe NAPA should trade at a premium versus those companies given its asset light nature, but recognizing slowing topline



Months since inception

Source: Bloomberg

BofA GLOBAL RESEARCH

Exhibit 14: NAPA comparables

NAPA trades at a discount versus peers

					YoY	change	in calen	dar EBIT	DA				E	//EBITD	A		
<u>Ticker</u>	Market cap	Net debt	<u>EV</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
BFB	\$27,726.6	\$2,737.0	\$30,463.6	6.7%	-6.0%	6.2%	11.5%	8.7%	-1.3%	4.8%	25.2x	26.8x	25.3x	22.7x	20.9x	21.1x	20.2x
STZ	\$45,216.5	\$12,826.6	\$58,043.1	5.3%	5.5%	-1.8%	9.7%	4.6%	7.6%	9.7%	19.0x	18.0x	18.3x	16.7x	16.0x	14.8x	13.5x
DGE	\$81,359.2	\$23,578.2	\$104,937.4	-5.9%	-0.6%	19.2%	12.1%	-1.7%	-1.4%	4.4%	19.6x	19.7x	16.5x	14.8x	15.0x	15.2x	14.6x
CPR	\$13,191.3	\$1,389.2	\$14,580.5	10.9%	-16.7%	28.8%	28.2%	7.0%	15.1%	13.0%	28.1x	33.8x	26.2x	20.5x	19.1x	16.6x	14.7x
RCO	\$5,450.1	\$579.5	\$6,029.6	-8.9%	1.6%	32.6%	28.5%	-18.7%	-3.3%	11.9%	21.3x	21.0x	15.8x	12.3x	15.1x	15.7x	14.0x
RI	\$42,806.6	\$11,070.0	\$53,876.6	0.7%	-0.1%	14.7%	15.3%	4.4%	3.0%	6.2%	18.4x	18.5x	16.1x	14.0x	13.4x	13.0x	12.2x
TWE	\$5,875.5	\$933.1	\$6,808.7	2.2%	-10.1%	-0.6%	5.3%	10.4%	15.8%	13.5%	14.0x	15.6x	15.7x	14.9x	13.5x	11.7x	10.3x
Weighted average				0.4%	-1.1%	12.8%	13.3%	2.5%	2.7%	6.8%	20.4x	20.8x	18.5x	16.3x	15.8x	15.5x	14.5x
NAPA	\$1,054.8	\$223.3	\$1,278.1		17.3%	16.6%	4.9%	12.8%	3.7%	3.4%	14.3x	12.2x	10.5x	10.0x	8.8x	8.5x	8.3x

Source: Bloomberg, Visible Alpha and BofA Global Research

BF/B, STZ and NAPA estimates are from BofA

DGE, CPR, RCO, RI and TWE estimates are from Visible Alpha Consensus



Income statement

Exhibit 15: BofA Income Statement BofA forecasting FY24 adj. EBITDA of \$147.1mm

Income Statement	Jul-19	Jul-20	Jul-21	Jul-22	Jul-23	Oct-23	Jan-24	Apr-24	Jul-24	Jul-24	Jul-25	Jul-26
(Millions, except for per share data)	FY19	FY20	FY21	FY22	FY23	1Q24	2Q24e	3Q24e	4Q24e	FY24e	FY25e	FY26e
Sales forecast												
YoY change in volumes	11.5%	19.9%	32.1%	9.4%	5.6%	-3.4%	2.0%	8.0%	4.0%	2.4%	2.1%	2.3%
YoY change in price/mix	11.3%	<u>-7.7%</u>	-7.7%	1.3%	2.6%	-1.8%	<u>1.0%</u>	<u>1.0%</u>	1.0%	0.2%	0.0%	0.0%
Sales growth	23.8%	10.9%	24.9%	10.7%	8.2%	-5.2%	3.0%	9.0%	5.0%	2.6%	2.1%	2.3%
Net Sales	\$243.1	\$269.5	\$336.6	\$372.5	\$403.0	\$102.5	\$106.6	\$99.4	\$105.1	\$413.6	\$422.2	\$432.0
Cost of Goods Sold	108.4	123.2	167.2	182.1	186.9	49.4	48.5	45.2	49.4	192.5	196.0	199.7
Gross Profit	\$132.8	\$147.4	\$169.4	\$190.4	\$216.1	\$53.2	\$58.1	\$54.2	\$55.7	\$221.1	\$226.1	\$232.2
Selling, general & administrative	60.7	66.1	75.1	<u>87.3</u>	100.4	25.7	25.6	24.9	28.4	104.5	106.2	107.6
Operating income (adjusted)	\$72.1	\$81.3	\$94.3	\$103.1	\$115.7	\$27.5	\$32.5	\$29.3	\$27.3	\$116.6	\$119.9	\$124.6
Interest expense	20.9	17.9	13.6	6.8	11.7	4.0	3.8	3.8	3.8	15.3	15.8	15.8
Other expense (income), net	(0.1)	0.2	(0.9)	(1.0)	(1.0)	0.1	(0.3)	(0.3)	(0.3)	(0.7)	(1.0)	(1.0)
Earnings before income taxes (adjusted)	\$51.3	\$63.2	\$81.7	\$97.3	\$105.0	\$23.4	\$29.0	\$25.8	\$23.8	\$102.1	\$105.1	\$109.9
Income tax expense	12.8	15.5	19.7	<u>26.1</u>	27.7	6.2	7.5	6.7	6.2	<u>26.7</u>	26.8	28.0
Adjusted Net income	\$38.5	\$47.7	\$61.9	\$71.3	\$77.3	\$17.2	\$21.5	\$19.1	\$17.6	\$75.4	\$78.3	\$81.9
Net income attributable to NCI	(0.0)	(0.0)	0.0	(0.0)	0.0	(0.0)	ć21 F	-	<u>-</u>	(0.0)	-	<u>-</u>
Adjusted Net income attributable to Duckhorn	\$38.5	\$47.7	\$61.9	\$71.2	\$77.4	\$17.2	\$21.5	\$19.1	\$17.6	\$75.4	\$78.3	\$81.9
Non-recurring items	(16.4)	(15.2)	(6.0)	(11.1)	(7.4)	(1.6)	-		<u>-</u>	(1.6)	-	
GAAP Net income	\$22.1	\$32.5	\$55.9	\$60.1	\$69.9	\$15.5	\$21.5	\$19.1	\$17.6	\$73.7	\$78.3	\$81.9
GAAP EPS	\$0.21	\$0.31	\$0.52	\$0.52	\$0.61	\$0.13	\$0.19	\$0.17	\$0.15	\$0.64	\$0.68	\$0.71
Adjusted EPS	\$0.21	\$0.46	\$0.58	\$0.52	\$0.67	\$0.15	\$0.19	\$0.17	\$0.15	\$0.65	\$0.68	\$0.71
Aujusteu Er 3	ŞU.37	30.40	JU.JU	JU.U2	ŞU.U7	ŞU.13	30.13	30.17	30.13	ŞU.U3	Ş0.00	30.7 Ι
Weighted avg diluted shares	103.4	103.4	107.6	115.4	115.4	115.3	115.3	115.3	115.3	115.3	115.3	115.3
EBITDA Analysis												
Adjusted Operating Income	\$72.1	\$81.3	\$94.3	\$103.1	\$115.7	\$27.5	\$32.5	\$29.3	\$27.3	\$116.6	\$119.9	\$124.6
(+) other expense (income)	(0.1)	0.2	(0.9)	(1.0)	(1.0)	0.1	(0.3)	(0.3)	(0.3)	(0.7)	(1.0)	(1.0)
Adjusted EBIT	\$72.2	\$81.1	\$95.3	\$104.1	\$116.7	\$27.4	\$32.8	\$29.6	\$27.6	\$117.3	\$120.9	\$125.6
Depreciation / Amortization	25.1	22.8	21.3	23.4	27.8	<u>7.3</u>	7.5	<u>7.5</u>	<u>7.5</u>	29.8	32.0	32.0
Comparable Adjusted EBITDA	\$88.9	\$95.6	\$112.5	\$127.5	\$144.5	\$34.7	\$40.3	\$37.1	\$35.1	\$147.1	\$152.9	\$157.6
Margin analysis												
Adjusted Gross Margin (excludes purchase accounting)	54.6%	54.7%	50.3%	51.1%	53.6%	51.9%	54.5%	54.5%	53.0%	53.5%	53.6%	53.8%
SG&A as a % of sales	25.0%	24.5%	22.3%	23.4%	24.9%	25.1%	24.0%	25.0%	27.0%	25.3%	25.2%	24.9%
Adjusted Operating margin	29.7%	30.2%	28.0%	27.7%	28.7%	26.8%	30.5%	29.5%	26.0%	28.2%	28.4%	28.8%
Adjusted EBITDA margin	36.6%	35.4%	33.4%	34.2%	35.9%	33.9%	37.8%	37.3%	33.4%	35.6%	36.2%	36.5%
Pre-tax margin	21.1%	23.4%	24.3%	26.1%	26.1%	22.8%	27.2%	26.0%	22.7%	24.7%	24.9%	25.4%
Net margin (continuing ops)	15.9%	17.7%	18.4%	19.1%	19.2%	16.7%	20.1%	19.2%	16.8%	18.2%	18.6%	18.9%
Effective tax rate	24.9%	24.6%	24.2%	26.8%	26.4%	26.6%	26.0%	26.0%	26.0%	26.1%	25.5%	25.5%
YoY % change												
Net sales	23.8%	10.9%	24.9%	10.7%	8.2%	-5.2%	3.0%	8.9%	5.0%	2.6%	2.1%	2.3%
COGS	n/a	13.7%	35.7%	8.9%	2.6%	-7.5%	0.7%	12.0%	9.7%	3.0%	1.9%	1.9%
Gross profit	n/a	11.0%	14.9%	12.4%	13.5%	-3.0%	5.0%	6.6%	1.1%	2.3%	2.3%	2.7%
SG&A	n/a	9.0%	13.5%	16.3%	15.0%	4.2%	4.4%	10.8%	-1.5%	4.1%	1.7%	1.3%
Adjusted Operating income	n/a	12.7%	16.1%	9.3%	12.2%	-9.0%	5.4%	3.2%	4.0%	0.8%	2.8%	3.9%
Adjusted EBITDA	14.3%	7.4%	17.7%	13.4%	13.3%	-2.7%	3.7%	3.5%	2.5%	1.8%	3.9%	3.1%
								0.9%	3.2%	-2.8%	3.0%	4.5%
Income before income taxes	n/a	23.2%	29.2%	19.2%	7.9%	-15.7%	1.5%	0.9%	3.2%	-2.0%	3.070	
Income before income taxes Income tax expense	n/a -135.0%	23.2% 21.7%	29.2% 27.1%	19.2% 32.1%	7.9% 6.2%	-15.7% -14.7%	1.5%	2.0%	-2.5%	-3.6%	0.6%	4.5%

Source: BofA Global Research



Abbreviations:

DTC: Direct to consumer

BFB: Brown-Forman Corporation STZ: Constellation Brands, Inc.

DGE: Diageo

CPR: Davide Campari Milano

RCO: Remy Cointreau RI: Pernod Ricard

TWE: Treasury Wine Estates



Price objective basis & risk

The Duckhorn Portfolio, Inc. (NAPA)

Our \$8 PO is based on 7.5x our CY25 EPS estimate. This is in line with where former public wine companies (VinCorp, Golden State Vitners and Robert Mondavi) traded in the early 2000's given variability in crop and poor returns on capital. We believe NAPA should trade at a premium versus those comps given its asset light nature (only 10% of acreage owned) but recognizing slowing topline.

Upside risks: 1) NAPA's innovation launch of a low-alc Decoy Sauvignon Blanc, shipping in FY24 which could boost sales in the short run. 2) If the US consumer holds up/strengthens this could benefit Direct to Consumer business for higher end wines that are margin accretive.

Downside risks: 1) further slowing of the premium/luxury wine category, 2) greater sourcing of demand from Spirits relative to wine, 3) agricultural/weather events that could disrupt wine production/supply, 4) price discounting by competitors.

Analyst Certification

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

US - Consumables Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	BellRing Brands Inc	BRBR	BRBR US	Bryan D. Spillane
	Coca-Cola Europacific Partners plc	CCEP	CCEP US	Bryan D. Spillane
	Colgate-Palmolive Company	CL	CL US	Bryan D. Spillane
	Constellation Brands	STZ	STZ US	Bryan D. Spillane
	Coty Inc.	COTY	COTY US	Anna Lizzul
	e.l.f. Beauty	ELF	ELF US	Anna Lizzul
	Freshpet, Inc.	FRPT	FRPT US	Bryan D. Spillane
	Kenvue Inc.	KVUE	KVUE US	Anna Lizzul
	Keurig Dr Pepper	KDP	KDP US	Bryan D. Spillane
	Kraft Heinz Company	KHC	KHC US	Bryan D. Spillane
	Lamb Weston Holdings Inc	LW	LW US	Peter T. Galbo, CFA
	McCormick & Co.	MKC	MKC US	Peter T. Galbo, CFA
	Mondelez International	MDLZ	MDLZ US	Bryan D. Spillane
	Monster Beverage Corporation	MNST	MNST US	Peter T. Galbo, CFA
	PepsiCo	PEP	PEP US	Bryan D. Spillane
	Philip Morris International	PM	PM US	Lisa K. Lewandowski
	Pilgrim's Pride Corp.	PPC	PPC US	Peter T. Galbo, CFA
	The Coca Cola Company	KO	KO US	Bryan D. Spillane
	The Procter & Gamble Company	PG	PG US	Bryan D. Spillane
NEUTRAL				,
NEUIKAL	Alberta Correction	140	MOLIC	Lies I/ Leves develo
	Altria Group	MO	MO US	Lisa K. Lewandowski
	Celsius Holdings Inc	CELH	CELH US	Jonathan Keypour
	Church & Dwight	CHD	CHD US	Anna Lizzul
	Clorox	CLX	CLX US	Anna Lizzul
	Conagra Brands, Inc.	CAG	CAG US	Peter T. Galbo, CFA
	Estee Lauder Companies Inc.	EL	EL US	Bryan D. Spillane
	General Mills	GIS	GIS US	Bryan D. Spillane
	JM Smucker Company	SJM	SJM US	Peter T. Galbo, CFA
	Kellanova	K	KUS	Peter T. Galbo, CFA
	Molson Coors Beverage Company	TAP	TAP US	Bryan D. Spillane
	The Hershey Company	HSY	HSY US	Bryan D. Spillane
	The Vita Coco Company, Inc.	COCO	COCO US	Bryan D. Spillane



US - Consumables Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Tyson Foods, Inc.	TSN	TSN US	Peter T. Galbo, CFA
	Utz Brands	UTZ	UTZ US	Peter T. Galbo, CFA
	WK Kellogg Co	KLG	KLG US	Peter T. Galbo, CFA
UNDERPERFORM				
	Brown-Forman Corporation	BFB	BF/B US	Bryan D. Spillane
	Campbell Soup Company	CPB	CPB US	Peter T. Galbo, CFA
	Canopy Growth	YWEED	WEED CN	Lisa K. Lewandowski
	Canopy Growth	CGC	CGC US	Lisa K. Lewandowski
	Cronos Group	YCRON	CRON CN	Lisa K. Lewandowski
	Cronos Group	CRON	CRON US	Lisa K. Lewandowski
	Dole plc	DOLE	DOLE US	Bryan D. Spillane
	Herbalife Nutrition Ltd	HLF	HLF US	Anna Lizzul
	Hormel Foods Corp.	HRL	HRL US	Peter T. Galbo, CFA
	Kimberly-Clark	KMB	KMB US	Anna Lizzul
	The Duckhorn Portfolio, Inc.	NAPA	NAPA US	Peter T. Galbo, CFA

*IQ*method[™] Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) \times (1 - Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill
		Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5 Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations — Total Capex	N/A
Quality of Earnings	Numerator	Denominator
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt - Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
Valuation Toolkit	Numerator	Denominator
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap = Current Share Price × Current Basic Shares
Enterprise Value / Sales	EV = Current Share Price × Current Shares + Minority Equity + Net Debt +	Sales
	Other LT Liabilities	
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

Manethod 3^{ss} is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

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

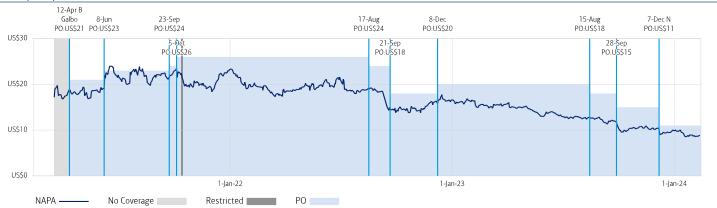
IQprofile^{5M}, IQmethod^{5M} are service marks of Bank of America Corporation. IQdatabase[®] is a registered service mark of Bank of America Corporation.



Disclosures

Important Disclosures

Duckhorn (NAPA) Price Chart



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

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

Equity Investment Rating Distribution: Beverages - Alcoholic Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	22	61.11%	Buy	15	68.18%
Hold	6	16.67%	Hold	4	66.67%
Sell	8	22.22%	Sell	2	25.00%

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

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

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

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

Investment rating Total return expectation (within 12-month period of date of initial rating) Ratings dispersion guidelines for coverage cluster^{R2}

Buy	≥ 10%	≤ /0%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

R2Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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

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

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

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

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

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

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



Other Important Disclosures

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

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

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

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

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments. Refer to BofA Global Research policies relating to conflicts of interest.

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

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

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

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information in Germany and is regulated by Merrill Lynch (DIFC) is done so in accor

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

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such



securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

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

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

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

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

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

BofA ESGMeter Methodology:

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

Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities. Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public inform

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

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

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

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

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

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

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

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

