

Amazon.com

4Q Quick Preview: Street projecting acceleration for AWS, we see upside in 1Q

Maintain Rating: BUY | PO: 185.00 USD | Price: 157.75 USD

4Q Preview: AWS growth most important metric this Q

Amazon will report 4Q on 2/1; we are in line on revenue/above on EBIT at \$165.8bn/\$10.9bn vs. the Street at \$166.1bn/\$10.4bn. AWS (Amazon Web Service) growth is a top metric, and we expect in line to slightly-below Street revenue at \$24.2bn (13% Y/Y). Lapping cost optimization and A.I. (artificial intelligence)-driven demand are key drivers for AWS; we think it important for mgmt. to call out potential for 1Q acceleration (easy comps and less optimization pressure) on the call. Microsoft Azure growth (reports 1/30) is likely to impact AWS expectations ahead of results as well.

Expect 4Q retail to be a bright spot, advertising upside

BAC aggregated credit and debit card data indicates eCommerce sales growth in 4Q was stable vs. 3Q (vs. Street projecting 1pt decel) and Cyber Five data suggests AMZN gained share; we estimate 4Q revenues at \$167bn, above the Street at \$166bn. Expect normal q/q contraction in 4Q retail margins (we project 3.8% margins, -1.1pt q/q, +4.0pts y/y) driven by increased promotions, but we see margin upside from better capacity utilization and advertising, with GAAP operating profit likely at \$11-12bn vs. the Street at \$10.4bn. Long term, we see opportunity for N.A. retail margins to reach 7% (see Amazon Advertising deep dive for more thoughts on ad ramp and margin potential).

1Q Outlook: expect rev/profit of \$136-\$142bn/\$7.5-11.5B

For 1Q, we are at rev/op. profit of \$142.1bn/\$11.1bn, in line with the Street on revs. but above Street on profits (Street at \$9.1bn). With fewer q/q retail promotions, more retail efficiencies, select layoffs, AWS acceleration and Prime ad ramp, we are above the Street for 1Q margins. For guidance, we believe the 1Q'24 revenue range may be \$136-142bn (Street at \$142bn), and operating income guidance may be \$7.5-11.5bn (Street at \$9.1bn). We note Amazon has beat the high end of profit guide in all quarters throughout 2023, and a beat in 4Q could make the 1Q guide seem conservative.

Valuation still attractive for 2024; Maintain Buy

We think commentary indicating potential for 2024 AWS acceleration and continued y/y margin improvements will help frame a positive 2024 outlook, although sentiment is already quite positive (a risk). With drivers for AWS acceleration and margin upside in place, we think the stock is well positioned into 2024 at just 2.4x 2025E P/S, near the middle of its historical range of 0.8-4.0x since 2010. See our 2024 PM Level Outlook for more on our 2024 outlook and positive view on the stock.

Estimates (Dec) (US\$)	2021A	2022A	2023E	2024E	2025E
EPS	4.12	1.19	4.72	6.52	7.78
GAAP EPS	3.24	(0.27)	2.74	3.78	4.58
EPS Change (YoY)	51.5%	-71.1%	296.6%	38.1%	19.3%
Consensus EPS (Bloomberg)			3.77	4.63	5.71
DPS	0	0	0	0	0
Valuation (Dec)					
P/E	38.3x	132.6x	33.4x	24.2x	20.3x
GAAP P/E	48.7x	NM	57.6x	41.7x	34.4x
EV / EBITDA*	23.4x	22.6x	15.8x	13.0x	11.5x
Free Cash Flow Yield*	-0.6%	-0.7%	1.8%	1.0%	1.8%
* For full definitions of <i>iQ</i> method ^{≤M} 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: 26 January 2024 04:30AM EST

26 January 2024

Equity

Justin Post Research Analyst BofAS +1 415 676 3547 justin.post@bofa.com

Michael McGovern Research Analyst BofAS +1 415 676 3520 mmcgovern@bofa.com

Steven McDermott Research Analyst BofAS +1 646 855 4472 steven.mcdermott@bofa.com

Stock Data

 Price
 157.75 USD

 Price Objective
 185.00 USD

 Date Established
 11-Jan-2024

 Investment Opinion
 8-1-9

 52-Week Range
 88.12 USD - 158.51 USD

 Mrkt Val (mn) / Shares Out
 1,604,475 USD / 10,171.0

 (mn)
 1,604,475 USD / 10,171.0

Free Float 87.7%
Average Daily Value (mn) 7261.14 USD
BofA Ticker / Exchange AMZN / NAS
Bloomberg / Reuters AMZN US / AMZN.OQ

 ROE (2023E)
 28.6%

 Net Dbt to Eqty (Dec-2022A)
 62.5%

 ESGMeter™
 High

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".

N.A.: North America

iQprofile[™] Amazon.com

iQmethod SM − Bus Performance*					
(US\$ Millions)	2021A	2022A	2023E	2024E	20251
Return on Capital Employed	14.6%	6.0%	15.3%	17.6%	17.3%
Return on Equity	38.7%	9.1%	28.6%	29.5%	26.3%
Operating Margin	8.0%	6.4%	10.3%	12.8%	13.7%
Free Cash Flow	(9,069)	(11,569)	29,044	15,289	29,427
<i>iQ</i> method [™] – Quality of Earnings*					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025
Cash Realization Ratio	1.1x	3.8x	1.6x	1.0x	1.13
Asset Replacement Ratio	1.6x	1.4x	1.0x	1.1x	1.2
Tax Rate	12.7%	54.2%	17.9%	19.7%	20.1%
Net Debt-to-Equity Ratio	42.6%	62.5%	39.7%	12.8%	-11.0%
Interest Cover	20.8x	14.0x	17.9x	25.3x	30.2
Income Statement Data (Dec)					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025
Sales	469,822	513,983	570,669	637,255	710,719
% Change	21.7%	9.4%	11.0%	11.7%	11.5%
Gross Profit	197,478	225,152	265,610	302,766	342,566
% Change	29.3%	14.0%	18.0%	14.0%	13.1%
EBITDA	71,994	74,487	106,159	129,313	145,562
% Change	25.7%	3.5%	42.5%	21.8%	12.6%
Net Interest & Other Income	13,272	(18,184)	298	176	176
Net Income (Adjusted)	41,795	12,170	48,448	67,007	80,002
% Change	53.0%	-70.9%	298.1%	38.3%	19.4%
Free Cash Flow Data (Dec) (US\$ Millions)	2021A	2022A	2023E	2024E	2025
Net Income from Cont Operations (GAAP)	32,877	(2,717)	28,117	38,871	47,108
Depreciation & Amortization	34,296	41,461	47,374	47,774	48,174
Change in Working Capital	(24,048)	(21,544)	(18,241)	(21,547)	(11,541
Deferred Taxation Charge	(292)	(4,192)	(4,408)	16	1.67
Other Adjustments, Net	3,494	33,744	22,980	2,176	1,670
Capital Expenditure Free Cash Flow	(55,396) -9,069	(58,321) -11,569	(46,778) 29,044	(52,000) 15,289	(56,000
% Change	-9,069 NM	-11,569	29,044 NM	-47.4%	29,427 92.5%
Share / Issue Repurchase	0	10,230	(1,943)	-47.4%	92.3%
Cost of Dividends Paid	0	0	(1,5+5)	0	(
Change in Debt	17,346	13,678	(3,416)	(120)	(120
	17,510	13,070	(3, 113)	(120)	(120
Balance Sheet Data (Dec)					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025
Cash & Equivalents	85,722	70,026	81,991	125,286	196,763
Trade Receivables	32,891	42,360	51,596	59,303	68,398
Other Current Assets	32,640	34,405	39,048	59,656	67,260
Property, Plant & Equipment	153,820	186,715	195,935	200,161	207,987
Other Non-Current Assets	96,723	129,169	147,420	147,420	147,420
Total Assets	401,796	462,675	515,990	591,825	687,828
Short-Term Debt	141 (12	155 202	104027	172.720	101 520
Other Current Liabilities	141,613 137,798	155,393 161,239	164,027 158,646	172,728 158,596	181,539 158,546
Long-Term Debt Other Non-Current Liabilities	137,798 NA	161,239 NA	158,040 NA	158,596 NA	150,540 NA
Total Liabilities	279,411	316,632	322,673	331,324	340,085
Total Equity	122,385	146,043	193,317	260,501	340,063
Total Equity & Liabilities	401,796	462,675	515,990	591,825	687,828
* For full definitions of <i>Omethod</i> measures, see page 1	•	402,073	313,330	331,023	007,020

Company Sector

Internet/e-Commerce

Company Description

Amazon.com is one of the world's largest online retailers with a global brand and country specific sites in the U.S., UK, Germany, France, Japan, Canada, China, Spain, Italy, Mexico and India. Amazon also owns several other online retailers and online properties including Zappos.com, Diapers.com, Woot.com, Twitch.com and others. Amazon also operates Amazon Web Services (AWS), a leading cloud-based computing platform for developers and enterprises, and Whole Foods Markets.

Investment Rationale

Amazon is an eCommerce and cloud computing leader with higher market share and margin potential stemming from its global scale, fulfillment footprint and technology platform investments. We think Amazon's focus on the customers and the buyer experience is right for the Internet. We think Amazon is well positioned to capitalize on the global growth of eCommerce and other secular trends such as cloud computing, online advertising and connected devices.

Stock Data

Average Daily Volume

46,029,432

Quarterly Earnings Estimates

	2022	2023
Q1	-0.14A	0.73A
Q2	0.21A	1.18A
Q3	0.70A	1.46A
04	0.43A	1.35E



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

Key Metrics

Exhibit 1: Quarterly estimates vs. StreetFor 4Q'23, we forecast revenue/EBIT of \$165.8bn/\$10.9bn vs. Street at \$166.1bn/\$10.4bn

Metric	BofA Est.	Consensus	BofA vs. Street	Comments
Amazon Unit Growth	9%	9%		Our model assumes 9% unit growth y/y (stable vs. $3Q$ on a $3pt$ easier comp). This represents 17% two-year stacked unit growth.
Amazon Total Revenue	\$165,845	\$166,059	\$214mn below	Our model assumes 11% y/y growth (1pt deceleration on a 6pt easier comp). Guidance is for \$160-\$167bn. We see upside potential to our and Street ests.
Gross Profit	\$72,972	\$74,627	\$1.7bn below	Our model assumes 15% y/y growth (a 5pt deceleration on a 2pt easier comp)
Gross Margin	44.0%	44.9%	-0.9% below	Our model assumes 140bps leverage y/y driven by a mix shift to 3P sales, advertising revenue growth, and AWS revenue growth.
North America Revenue	\$102,863	\$102,623	\$240mn above	Our estimate assumes 10% growth y/y (1pt deceleration on a 7pt easier comp) based on 11% North America Retail Revenue growth and 4% North America Whole Foods revenue growth.
International Revenue	\$38,910	\$38,845	\$66mn above	Our estimate assumes 13% y/y growth (3pt deceleration on a 3pt easier comp) or +11% y/y growth ex-FX (0pt acceleration on a 6pt easier ex-FX comp).
FX benefit/(drag)	\$620	\$484	\$136mn above	Our estimate of FX impact represents a 2% benefit to y/y International Revenue growth.
AWS Revenue	\$24,072	\$24,205	\$134mn below	We assume 12.6% y/y growth (relatively stable on a 7pt easier comp).
Advertising Services	\$14,331	\$14,130	\$201mn above	We assume 24% y/y growth (a 2pt deceleration on a 6pt easier comp).
GAAP Operating Income	\$10,920	\$10,368	\$552mn above	We assume 475bps of leverage y/y. Guidance is for \$7-11bn in op. income.
AWS Operating Income	\$7,101	\$6,653	\$1.3bn below	We assume 29.5% segment margin vs. Street at 27.5%.
EBITDA (\$)	\$29,356	\$29,028	\$327mn above	Our estimate assumes 317bps leverage y/y. EBITDA dollar growth is 35% y/y (24pt deceleration on a 19pt tougher comp).
GAAP Diluted EPS	\$0.84	\$0.80	\$0.04 above	GAAP Diluted EPS slightly above Street.
Non-GAAP EPS	\$1.35	\$1.08	\$0.27 above	EPS slightly above of the Street, though non-GAAP tax assumptions can vary widely
Capital Expenditures	\$11,998	\$13,911	\$1.9bn below	Capex primarily relates to fulfillment center, logistics and AWS infrastructure investment
Free Cash Flow	\$21,343	\$24,827		Free cash flow 55% y/y (428pt acceleration on a 196pt tougher comp).
Employees	1,541,000			Assumes flat y/y (3pt acceleration on a 9pt easier comp).

Source: Bloomberg, BofA Global Research estimates



4Q Preview

Amazon will report 4Q on Thursday 2/1, after market close. Top metrics for the quarter (beyond headline revenues and GAAP operating profit) will be AWS' growth outlook following Azure's guide (MSFT reports Tues. 1/30), US retail margins (although we expect normal q/q contraction from increased promotional activity and a mix shift during the holidays), advertising revenue growth, AWS margins, units, and early commentary or data from Amazon's ad ramp on Prime Video or advertising partnerships. We think the best case for the quarter is a retail revenue and margin beat, with in-line AWS revenues and management commentary suggesting AWS is accelerating in 1Q and margins still have significant improvement ahead. Negative case would be an AWS miss vs. Street while Azure beats, and limited enthusiasm on 1Q acceleration, while retail is just in line with guidance for significant q/q margin declines in 1Q.

AWS growth will be top of mind for investors, with the Street at 13% y/y for 4Q, a 1pt acceleration vs. 3Q. We think Street AWS revenue for 4Q is a little aggressive at \$24.2bn in revenue (vs BofAe at \$24.07bn), as we would consider a strong quarter would represent \$950mn in q/q revenue growth (Street at more than \$1.1bn Q/Q). Looking forward, AWS results in 3Q'23 suggested a return to a more normalized pattern of q/q growth, making 1Q'24 Street ests seem conservative, as there is an expectation for a revenue drop of over \$50mn Q/Q. Potential acceleration drivers for AWS include pricing normalization and renewed workload volumes (mgmt. commentary on the 3Q call suggested strong contract signings in October and declining cost optimization headwinds), increasing GPU supply, and A.I. driven demand tailwinds.

For retail, BAC aggregated US credit and debit card data indicates eCommerce sales growth in 4Q was stable vs. 3Q (vs. Street projecting 1pt decel) and Cyber Five data suggests Amazon gained share; we therefore think 4Q revenues could come in at \$167bn, above the Street at \$166bn. Expect normal q/q contraction in 4Q retail margins (we project 3.8% margins, -1.1pt q/q, +4.0pts y/y) driven by increased promotions, but with better capacity utilization and advertising upside, we see potential for operating margin upside, and expect GAAP profit at \$11-12bn vs. the Street at \$10.4bn. Long term, we see the opportunity for Amazon's N.A. retail margin to reach 7%.

Recent Bull/Bear highlights above-Street expectations in 2024

In our recent <u>Bull/Bear debate</u> (see report) top topics included: (1) AWS revenue drivers and quarterly cadence; (2) N.A. retail margin drivers and investor expectations; (3) potential headwinds to retail margin expansion in 2024; and (4) advertising opportunity. We also received feedback from investors on expectations for '24 peak quarterly AWS growth and N.A. retail margins: (1) investor feedback suggested peak quarterly AWS growth expectations close to 18% y/y in 2H'24, above our projected 17% y/y growth in 4Q'24 that assumes more normalized q/q revenue dollar additions in 2024; and (2) feedback suggests full year 2024 N.A. retail margins at 5.7% (range of 4.1-8.0%), which compares to the Street at 4.8%. See our recent <u>PM Level Outlook note</u> for a detailed review of key 2024 drivers, bull and bear cases, and upside/downside valuation scenarios.

Positives for the quarter could include: (1) commentary suggesting favorable AWS outlook in 2024 on easier comps and incremental A.I. workloads; (2) less q/q contraction in N.A. retail margins than expected; (3) accelerating y/y unit growth highlighting consumer resilience; (4) beat in high-margin advertising revenues (Street at \$14.1bn); and (5) potential for higher GAAP EPS estimates on higher margin outlook (we see potential for N.A. operating margins at 7%).

Risks for the quarter could include: (1) high expectations, with possible buyside expectations for Amazon potentially at revenue of \$168bn and profit at \$11.8bn, (2) lower than expected AWS dollars added on a q/q basis indicating continued optimization headwinds; (3) limited y/y AWS leverage on structurally lower pricing and A.I.



investments; and (4) retail margin improvement slowed by heavy 4Q promotions and Amazon's 250k holiday hiring.

1Q Outlook & BofA vs. Street

For 1Q, based on historical trends and our outlook for 2024, we believe Amazon's 1Q revenue guidance range may be \$136bn to \$142bn and GAAP op. income guidance may be \$7.5bn to \$11.5bn (vs. the Street at \$142.1bn and \$9.1bn, respectively). We expect fewer Q/Q retail promotions, more retail efficiencies, select layoffs (limited RIF so far this year but across multiple units including Prime Video, MGM, Twitch, Audible Amazon Pay, and Buy with Prime), AWS acceleration and Prime Video ad ramp, we are above Street for 1Q margins. See page 9 for historical guidance data and our outlook.

For 4Q'23, we forecast revenue/EBIT of \$165.8bn/\$10.9bn vs. the Street at \$166.1bn/\$10.4bn. For 2024, we forecast revenue/GAAP profit of \$637.3bn/\$50.0bn vs. the Street at \$637.3bn/\$48.6bn. We are well above of the Street on 1Q profit.

Exhibit 2: BofA vs. Street

For 4Q'23, we forecast revenue/EBIT of \$165.8bn/\$10.9bn vs. Street at \$166.1bn/\$10.4bn

	4Q'23	1Q'24	2023	2024	2025
Revenue					
BofA est.	\$165,845	\$142,107	\$570,669	\$637,255	\$710,719
Growth Y/Y%	11%	12%	11%	12%	12%
Street	\$166,061	\$142,048	\$570,723	\$637,267	\$713,611
BofA vs. Street	0.1% Below	0.0% Above	0.0% Below	0.0% Below	0.4% Below
GAAP Operating Profit					
BofA est.	\$10,920	\$11,196	\$34,563	\$50,017	\$62,046
Street	\$10,413	\$9,109	\$34,033	\$48,613	\$63,661
BofA vs. Street	5% Above	23% Above	2% Above	3% Above	3% Below
GAAP EPS					
BofA est.	\$0.84	\$0.86	\$2.74	\$3.78	\$4.58
Street	\$0.80	\$0.72	\$2.70	\$3.74	\$5.01
BofA vs. Street	5% Above	20% Above	2% Above	1% Above	8% Below

Source: Bloomberg, BofA Global Research estimates

BofA GLOBAL RESEARCH

Valuation

Despite multiple expansion driving much of the stock appreciation in 2023 (with the fwd P/S multiple now at 2.4x vs. 1.7x at the start of 2023), we think the stock is attractively positioned into 2024 with retail margins still having room for upside and AWS poised to accelerate. Furthermore, higher expected exposure to interest rate moves (higher P/E stock with consumer spending exposure) make Amazon potentially more of a "risk on" stock than large cap peers Alphabet and Meta, in our view.

The stock is trading at 2.4x 2025 Price/Sales, near the middle of its historical range of 0.8x-4.0x since '10. On an EV/EBITDA basis, the stock is trading at 11.6x vs. a range of 8.5x-30x (and median of 17.6x). However, while attractive on a Sales and EBITDA basis, we think Amazon is getting close to a P/E valuation framework given improving retail margins, in which case the stock is relatively expensive at 31x 2025 Street GAAP EPS.



Exhibit 3: Amazon forward EV/EBITDA

Amazon is currently trading at 11.6x vs. a range of 8.5x-30x (and median of 17.6x) since 2010



AWS: Expect commentary on optimizations, AI, GPUs

We look for 4Q call commentary suggesting acceleration in 1Q AWS growth given favorable set up and large growth gap to Azure that management should address. We expect mgmt. to continue to provide commentary on the "gigantic" opportunity ahead in A.I., potentially quantifying incremental A.I. driven growth. We expect some contribution to growth for AWS in 2024 due to A.I., and although the magnitude is uncertain, CEO Andy Jassy has said incremental A.I. growth in 3Q'23 was comparable to peers (presumably Azure on a dollar basis). Microsoft and Google have been perceived as A.I. leaders, so we expect mgmt. commentary to underscore advantages in hardware, and any progress with Trainium and Inferentia chips (which have been adopted by key customers including Anthropic). This could be underappreciated by the Street, especially given the industry-wide shortage of NVIDIA GPUs.

Street estimates: AWS Growth & Margin projections seem conservative

In Q3, AWS revenue grew 12%, and the Street projects acceleration to 13% in Q4. We think Street AWS revenue for 4Q is a little aggressive at \$24.2bn in revenue (vs BofAe at \$24.07bn), and would consider a strong quarter would represent \$950mn in q/q revenue growth. We were encouraged with +\$920mn Q/Q revenue dollar growth in 3Q'23 exceeding the \$840mn Q/Q growth in the prior year (3Q'23) and beating Street ests., we think that AWS is returning to a normalized growth pattern for Q/Q revenues. 1Q'24 Street ests seem conservative, with expectation for revenue to decline Q/Q by \$50mn to \$24.15bn (per Visible Alpha). Investor feedback from our recent Bull/Bear suggested peak quarterly AWS growth expectations close to 18% y/y in 2H'24, well above the Street at 16%.

AWS Margins are steadily improving and likely to remain strong y/y, in our view, driven by headcount reduction that started in Q2'23 along with reduced hiring rates, which we expect to last well into 2024. Margin improvement may also be aided by lower energy prices (especially natural gas). After reaching a 30% AWS Operating margin in 3Q'23, the Street projects AWS margins to decline and remain below 30% through 2025 (per Bloomberg, see table below), which we view as conservative.

Exhibit 4: Street AWS Model

Street projects 13% Y/Y growth for AWS in 1Q'24, with margin remaining below 30%

AWS Model (\$mn)	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23E	2023E	1Q24E	2Q24E	3Q24E	4Q24E	2024E	2025E	2026E
Street AWS Revenue	35,026	45,370	62,202	80,096	21,354	22,140	23,059	24,205	90,054	24,154	25,308	26,517	27,966	103,945	123,199	147,970
Q/Q \$ Growth					(24)	786	919	1,146		(51)	1,154	1,209	1,448			
Y/Y Growth	37%	30%	37%	29%	16%	12%	12%	13%	12%	13%	14%	15%	16%	15%	19%	20%
AWS Profit (\$mn)	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23E	2023E	1Q24E	2Q24E	3Q24E	4Q24E	2024E	2025E	2026E
AWS Operating Income	9,201	13,531	18,532	22,841	5,123	5,365	6,976	6,653	23,772	6,654	7,033	7,679	7,736	29,102	35,857	42,776
Margin	26%	30%	30%	29%	24%	24%	30%	27%	26%	28%	28%	29%	28%	28%	29%	29%

Exhibit 4: Street AWS Model

Street projects 13% Y/Y growth for AWS in 1Q'24, with margin remaining below 30%

Y/Y Change	-2.2%	3.6%	0.0%	-1.3%	-11.4%	-4.7%	3.9%	3.1%	-2.1%	3.6%	3.6%	-1.3%	0.2%	1.6%	1.1%	
AWS Backlog	2019A	2020A	2021A	2022A	1Q23A	2Q23A	3Q23A	4Q23E	2023E	1Q24E	2Q24E	3Q24E	4Q24E	2024E	2025E	2026E
Backlog	29,800	50,000	80,400	110,400	122,000	132,100	133,000	138,000	138,000	150,100	159,800	160,900	165,600	165,600	197,100	226,700
y/y growth	54%	68%	61%	37%	37%	32%	28%	25%	25%	23%	21%	21%	20%	20%	19%	15%

Source: BofA Global Research estimates, company reports, Bloomberg

BofA GLOBAL RESEARCH

Retail: Spending data generally constructive

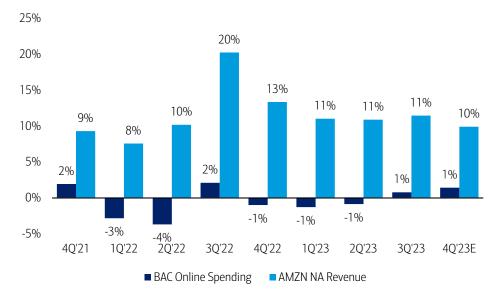
Online spending was up 1% y/y in 4Q'23 per BAC Card Data

For 4Q'23, BAC aggregated credit and debit card data indicates eCommerce spending increased 1% y/y, stable vs. 3Q but ahead of 1H'23, which had declined 1% y/y. Online penetration in 4Q increased to 28.8%, 60bps y/y (an improvement from 40bps y/y in 3Q), as reopening headwinds continue to fade. We continue to believe Online spending in 2024 will benefit from lower inflation and a shift back to goods, with Online penetration expanding at a normalized rate of approx. 100bps annually. See our 2024 eCommerce Year Ahead for more.

For Amazon, the Street projects 10% y/y North America revenue growth in 4Q'23, 1pt decel vs. 3Q, while BAC aggregated card data suggesting stable growth in 4Q. Industry sales also increased 16% Q/Q in 4Q, 1pt more than last year, and with Amazon's Black Friday release suggesting share gains (see <u>Black Friday eCommerce note here</u>), and very strong 4Q advertising spend checks, we think Amazon's N.A. retail sales can beat 4Q ests.

See the <u>BofA on USA</u> note for an explanation of the methodology, disclaimers and limitations with BAC aggregated credit and debit card data.

Exhibit 5: Y/Y change in Online* spending per BAC aggregated card data vs. Amazon N.A. revenue Online spending increased 1% y/y in 4Q, according to BAC aggregated card data



Source: BAC internal data, Company reports, Bloomberg, BofA Global Research | 4Q'23 Street estimates **Note: Card not present is largely online but could include purchases made over the phone



Bloomberg Second Measure observed sales decelerate 1pt

Bloomberg Second Measure credit and debit card data indicates observed sales grew 4% y/y, suggesting a 1pt decel vs. 3Q (in line with Street N.A. estimates). Data suggesting Amazon continues gaining share suggest Bloomberg Second Measure data is conservative, in our view, and we think Amazon will likely beat consensus N.A. estimates.

Strong advertising channel checks

We hosted calls with Kenshoo and Ben Legg on 4Q ad spending and both suggested y/y ad spending growth in Amazon's marketplace accelerated in 4Q. Our model has 24% ad growth in 4Q vs. 26% in 3Q, and we think 30%+ is possible. Ad growth will also benefit from Prime video advertising, which is expected to start to ramp in Feb '24.

Guidance history and our outlook

Revenue guidance - historically conservative in 1Q

During the last three years, the midpoint of Amazon's 1Q revenue guidance has been an average of 17% below 4Q reported revenue. Based on our 4Q outlook and recent guidance history, we expect a 1Q revenue guide midpoint around \$139bn (-17% q/q). Based on a range of revenue guidance of \$6bn, we believe Amazon's 1Q revenue guidance range may be \$136bn to \$142bn. Amazon's actual 1Q revenue results beat the midpoint of guidance by 3.4% over the last three years and, despite being on the high end of our estimated 1Q guidance, we think the Street's revenue est. of \$142bn is achievable given AWS reacceleration, advertising strength and growing share in eCommerce.

Operating income guidance suggests 1Q profit down marginally vs. 4Q

1Q has been Amazon's seasonally strongest margin quarter in recent years, though 1Q guidance carries significant conservatism. During the last three years, the midpoint of Amazon's 1Q Operating Income guidance has been an average of \$600mn below 4Q operating income, but based on significant y/y US retail margin expansion, AWS margin improvement, and increasing ad ramp, we think there could be less q/q contraction this year (while still showing some conservatism). Assuming a range of \$4bn, we believe 1Q Operating Income guidance may be \$7.5bn to \$11.5bn. The Street is at \$9.1bn in 1Q operating income, which is in line with the midpoint of our range, but we are above the Street at \$11.1bn. We see upside to Street numbers given profit drivers like the Prime advertising ramp, further efficiencies in regionalized network, and higher consumer/3P fees. Amazon's actual 1Q Operating Income results for the last three years beat the midpoint of guidance by an average of \$2bn.

Exhibit 6: Guidance analysis

We believe Amazon's 1Q revenue guidance range may be \$136.0bn to \$142.0bn, with profit of \$7.5B-\$11.5B

4Q Guidance Analysis	4Q18A	1Q19A	4Q19A	1Q20A	4Q20A	1Q21A	4Q21A	1Q22A	4Q22A	1Q23A	4Q23E	1Q24E
Revenue	\$72,383	\$59,700	\$87,437	\$75,452	\$125,555	\$108,518	\$137,412	\$116,444	\$149,204	\$127,358	\$166,061	\$142,048*
q/q Actual		-18%		-14%		-14%		-15%		-15%		
Guidance Midpoint	\$69,500	\$58,000	\$83,250	\$71,000	\$116,500	\$103,000	\$135,000	\$114,500	\$144,000	\$123,500	\$163,500	
q/q guidance		-20%		-19%		-18%		-17%		-17%		
Guidance Range		\$4,000		\$4,000		\$6,000		\$5,000		\$5,000		
Actual v. Midpoint		\$1,700		\$4,452		\$5,518		\$1,944		\$3,858		
Actual vs. Midpoint (%)		3%		6%		5%		2%		3%		
GAAP Operating Income	\$3,786	\$4,420	\$3,879	\$3,989	\$6,873	\$8,865	\$3,460	\$3,669	\$2,737	\$4,774	\$10,413	\$9,109*
q/q Actual		17%		3%		29%		6%		74%		
Operating Margin	5.2%	7.4%	4.4%	5.3%	5.5%	8.2%	2.5%	3.2%	1.8%	3.7%	6.3%	
Guidance Midpoint		\$2,750		\$3,600		\$4,750		\$4,500		\$2,000		
q/q guidance (\$)		-\$1,036		-\$279		-\$2,123		\$1,040		-\$737		
q/q guidance (%)		-27%		-7%		-31%		30%		-27%		
Guidance Range		\$1,100		\$1,200		\$3,500		\$3,000		\$4,000		
Actual v. Midpoint		\$1,670		\$389		\$4,115		-\$831		\$2,774		

Source: Company reports Bloomberg, BofA Global Research estimates

*Street estimates per Bloomberg



Exhibit 6: Guidance analysis

We believe Amazon's 1Q revenue guidance range may be \$136.0bn to \$142.0bn, with profit of \$7.5B-\$11.5B

4Q Guidance Analysis 4Q18A 1Q19A 4Q19A 1Q20A 4Q20A 1Q21A 4Q21A 1Q22A 4Q22A 1Q23A 4Q23E 1Q24E



Expect bigger FX tailwind vs. ests. in 4Q

Companies with large int'l operations, which convert foreign currency denominated revenues and profits to US\$, will likely face a modest tailwind from FX translation in 4Q'23. For 4Q, we project AMZN will generate approx. 25% of revenue internationally, and we estimate that Amazon has roughly 10% Euro exposure, 6% GBP exposure, and 5% Yen exposure. On a y/y basis, the Euro increased 5.4% y/y vs. the US\$ in 4Q, the GBP was 5.8% vs. the US, the Yen declined 4.5% and other currencies were 3.2%.

Since Amazon reported 3Q earnings on 10/26, the Euro is up about 300bps, while the GBP is up about 420bps and the Yen is up by about 220bps, which we est. represents an 80bps incremental tailwind to total revenue. Mgmt. guided to a 40bps tailwind to total revenue due to FX in 4Q, and Street projects only 30bps tailwind, so there could be modest upside to International revenue due to a larger-than-expected FX benefit.

Exhibit 7: Expected Y/Y% change in spot rates

For 4Q, Street projects a 30bps FX tailwind to Amazon's total revenue growth

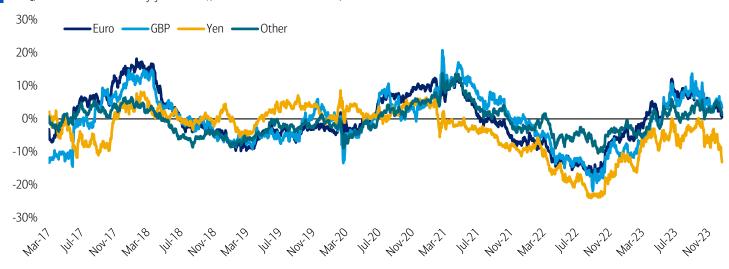
		Average S	Spot Rates			E	xpected	Y/Y Char	nge		E	xpected	Q/Q Chai	nge
	Euro	GBP	Yen	Other		Euro	GBP	Yen	Other		Euro	GBP	Yen	Other
3Q23A	1.088	1.266	0.007	0.289	3Q23A	8%	8%	-4%	2%	3Q23A	0%	1%	-5%	0%
4Q23A	1.077	1.242	0.007	0.287	4Q23A	5%	6%	-4%	3%	4Q23A	-1%	-2%	-2%	-1%
1Q24TD	1.095	1.271	0.007	0.295	1Q24TD	2%	5%	-8%	3%	1Q24TD	2%	2%	2%	3%
2Q24E	1.095	1.271	0.007	0.295	2Q24E	1%	2%	-5%	2%	2Q24E	-	-	-	-
3Q24E	1.095	1.271	0.007	0.295	3Q24E	1%	0%	0%	2%	3Q24E	-	-	-	-
4Q24E	1.095	1.271	0.007	0.295	4Q24E	2%	2%	2%	3%	4Q24E	-	-	-	-

Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 8: Y/Y change in exchange rates

In 4Q, the Euro increased 5.4% y/y vs. the US\$, the GBP was 5.8% vs. the US, the Yen declined 4.5%



Source: Bloomberg, BofA Global Research



Price objective basis & risk

Amazon.com (AMZN)

Our PO of \$185 is based on our SOTP analysis that values the 1P retail business at 1.0x 2025E Revenue (including subscription/Prime membership fees), 3P retail business at 2.5x 2025E Revenue, AWS at 7.5x 2025 Sales, and the advertising business at 4.0x 2025 Sales. For 2025E, our 7.5x AWS multiple is relatively below our SaaS comps at 8.4x, our 1.0x GMV multiple is a discount to our retail comps at 1.1x, and our 4.0x advertising multiple is a discount to our digital advertising comps at 5.3x. We think some conglomerate discount is warranted given current elevated regulatory/antitrust risk, but long-term we believe that in-line multiples are possible given growth rates in-excess of peers. Our PO of \$185 for Amazon implies 2.8x P/Sales, a multiple in the upper half of Amazon's historical range of 1.0-3.5x.

Downside risks to our price objective are increasing competition from offline and local retailers, elevated P/E multiple, AWS investments and/or price cuts and regulatory pressure on the 3P marketplace. The stock has been subject to heavy volatility in the past, based on margin trends, and this volatility could increase due to economic uncertainty.

Analyst Certification

I, Justin Post, 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 - Internet Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Alphabet	GOOGL	GOOGL US	Justin Post
	Alphabet	GOOG	GOOG US	Justin Post
	Amazon.com	AMZN	AMZN US	Justin Post
	AppLovin	APP	APP US	Omar Dessouky, CFA
	DoorDash	DASH	DASH US	Michael McGovern
	DoubleVerify Holdings, Inc.	DV	DV US	Omar Dessouky, CFA
	Electronic Arts	EA	EA US	Omar Dessouky, CFA
	Expedia	EXPE	EXPE US	Justin Post
	Integral Ad Science Holding Corp.	IAS	IAS US	Omar Dessouky, CFA
	LegalZoom	LZ	LZ US	Michael McGovern
	Match Group	MTCH	MTCH US	Curtis Nagle, CFA
	Meta Platforms Inc	META	META US	Justin Post
	Pinterest	PINS	PINS US	Justin Post
	RH	RH	RH US	Curtis Nagle, CFA
	Roblox Corp. Class A	RBLX	RBLX US	Omar Dessouky, CFA
	Squarespace, Inc.	SQSP	SQSP US	Michael McGovern
	Uber	UBER	UBER US	Justin Post
	Udemy Inc	UDMY	UDMY US	Curtis Nagle, CFA
	Vivid Seats	SEAT	SEAT US	Curtis Nagle, CFA
	Wayfair	W	W US	Curtis Nagle, CFA
	Wix.com	WIX	WIX US	Michael McGovern
NEUTRAL				
	ACV Auctions	ACVA	ACVA US	Curtis Nagle, CFA
	Airbnb	ABNB	ABNB US	Justin Post
	Beyond Inc	BYON	BYON US	Curtis Nagle, CFA
	Booking Holdings Inc	BKNG	BKNG US	Justin Post
	Bumble	BMBL	BMBL US	Curtis Nagle, CFA
	Digital Turbine, Inc	APPS	APPS US	Omar Dessouky, CFA
	Duolingo	DUOL	DUOL US	Curtis Nagle, CFA
	eBay	EBAY	EBAY US	Justin Post
	Etsy, Inc.	ETSY	ETSY US	Curtis Nagle, CFA



US - Internet Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Instacart	CART	CART US	Justin Post
	Magnite, Inc.	MGNI	MGNI US	Omar Dessouky, CFA
	Snap	SNAP	SNAP US	Justin Post
	Take-Two Interactive	TTWO	TTWO US	Omar Dessouky, CFA
	Zillow	ZG	ZG US	Curtis Nagle, CFA
	Zillow	Z	Z US	Curtis Nagle, CFA
UNDERPERFORM				
	Chewy Inc	CHWY	CHWY US	Curtis Nagle, CFA
	Lyft, Inc.	LYFT	LYFT US	Michael McGovern
	Opendoor Technologies	OPEN	OPEN US	Curtis Nagle, CFA
	Peloton	PTON	PTON US	Curtis Nagle, CFA
	Playtika	PLTK	PLTK US	Omar Dessouky, CFA
	Redfin Corp	RDFN	RDFN US	Curtis Nagle, CFA
	Shutterstock	SSTK	SSTK US	Curtis Nagle, CFA

Pmethod[™] Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) × (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 suis 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.

Radatabase 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.

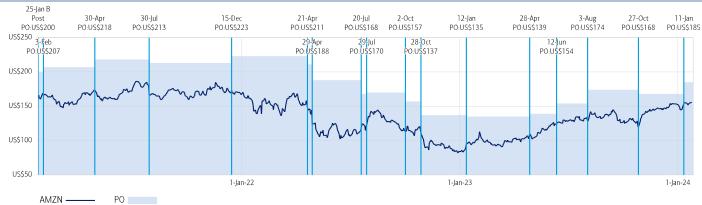
/QprofileSM, **/Q**methodSM are service marks of Bank of America Corporation. **/Q**database ® is a registered service mark of Bank of America Corporation.



Disclosures

Important Disclosures

Amazon.com (AMZN) 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: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

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%

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

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

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

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

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

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

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: Amazon.com.

BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Amazon.com.

BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Amazon.com. 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: Amazon.com.

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

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 Kong): Merr (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 Bancaría 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 accord

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 have enot been reviewed by and may not reflect information business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and vi

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.

