

AstraZeneca

Key takes from call; Dato and May investor next up

Reiterate Rating: BUY | PO: 14,500 GBp | Price: 9,826 GBp

Key takes from the call

1) Commits to mid-term margin expansion, but highlights focus on top line growth vs margin debate to drive absolute \$ growth, consistent with prior commentary. However, commentary is vague enough to drive investor uncertainty and is main driver of our share price reaction, in our view; 2) 24E product sales growth will be strong and within range of total revenue growth. Revenue growth not to be disproportionately driven by collab revenue growth (where flag deals included, but not specified). Operational leverage in 24E to be delivered, given some headwinds below the line on finance expense and tax rate. Inclusion of upcoming deals within guidance has driven some investor concern, though overdone in our view; 3) Remains confident Dato TL-01, with regulatory discussions ongoing. OS important and will come during review cycle; 4) IRA impact marginal, with small headwind manageable.

Dato 2L approval path the key clearing event

Next TL01 milestones are the key clearing event and path includes: a) Acceptance of filing 1Q24; b) Final OS 1H24, in our opinion; c) Final approval 2H24; d) Commercial launch to confirm >\$2bn potential. There is increasing investor debate regarding a potential Adcom, we see as low probability, but a likely overhang if confirmed.

May investor day; Big FY25 pipeline & high sd sales CAGR

We believe the May investor day will serve to highlight two big picture themes: 1) A very busy FY25 catalyst path, with a number of very large opportunities (summarised overleaf); 2) Provide greater visibility on mid-term outlook, with our expectation for a 25-30E sales CAGR of high single digit vs cons at 4%.

Best GARP with Best pipe. Big FY25 catalyst path

Buy for attractive valuation (13.5x 25E PE vs NOV and ROG at c13x) for premium growth prospect (13% FY25-28 EPS CAGR), with best-in-class mid-stage pipeline, a big FY25 catalyst path, and May investor day to confirm mid-term growth prospects above cons. Shorter-term, we see the Dato 2L path (above), as most important. Our FY24 EPS is broadly unchanged post guide in-line with our expectations.

Estimates (Dec) (USD)	2022A	2023A	2024E	2025E	2026E
EPS (Adjusted)	6.66	7.26	8.00	9.13	10.5
EPS Change (YoY)	25.8%	9.0%	10.2%	14.2%	14.7%
Dividend / Share	2.90	2.90	3.05	3.20	3.36
ADR EPS (Adjusted - US\$)	3.33	3.63	4.00	4.57	5.24
ADR Dividend / Share (US\$)	1.45	1.45	1.52	1.60	1.68
Valuation (Dec)					
P/E	17.8x	17.3x	15.5x	13.6x	11.8x
Dividend Yield	2.34%	2.34%	2.45%	2.58%	2.70%
EV / EBITDA*	14.8x	14.6x	11.2x	10.2x	9.12x
Free Cash Flow Yield*	4.57%	4.82%	5.71%	6.58%	8.16%

* For full definitions of *IQmethod*SM measures, see page 9.

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

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 10 to 13. Analyst Certification on page 8. Price Objective Basis/Risk on page 8.

12657265

Timestamp: 08 February 2024 10:12AM EST

08 February 2024

Equity

Key Changes

(US\$)	Previous	Current
2024E EPS	8.03	8.000
2025E EPS	9.47	9.134
2026E EPS	10.94	10.481
2024E DPS	3.20	3.05

Sachin Jain, CFA >>

Research Analyst
MLI (UK)
+44 20 7995 9676
s.jain@bofa.com

Graham Parry >>

Research Analyst
MLI (UK)
+44 20 7996 0735
graham.parry@bofa.com

Charlie Haywood >>

Research Analyst
MLI (UK)
charlie.haywood@bofa.com

Joe Bowden >>

Research Analyst
MLI (UK)
jbowden@bofa.com

Stock Data

Price (Common / ADR)	9,826 GBp / 61.78 USD
Price Objective	14,500 GBp / 88.00 USD
Date Established	5-Dec-2022 / 5-Dec-2022
Investment Opinion	A-1-7 / B-1-7
52-Week Range	9,851 GBp-12,390 GBp
Market Value (mn)	152,322 GBp
Shares Outstanding (mn)	1,550.2 / 3,100.4
Average Daily Value (mn)	144.66 USD
Free Float	100.0%
BofA Ticker / Exchange	AZNCF / LSE
BofA Ticker / Exchange	AZN / NYS
Bloomberg / Reuters	AZN LN / AZN.L
ROE (2024E)	29.6%
Net Dbt to Eqty (Dec-2023A)	54.7%
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"](#).

iQprofileSM AstraZeneca

Key Income Statement Data (Dec)	2022A	2023A	2024E	2025E	2026E
(US\$ Millions)					
Sales	44,351	45,811	51,169	55,474	60,456
EBITDA Adjusted	14,350	14,498	18,912	20,763	23,269
Depreciation & Amortization	(5,326)	(4,256)	(4,574)	(4,411)	(4,537)
EBIT Adjusted	9,024	10,242	14,339	16,351	18,731
Net Interest & Other Income	(1,251)	(1,282)	(1,095)	(816)	(589)
Tax Expense / Benefit	792	(938)	(2,795)	(3,330)	(3,852)
Net Income (Adjusted)	10,308	11,241	12,389	14,145	16,231
Average Fully Diluted Shares Outstanding	1,560	1,562	1,562	1,562	1,562

Key Cash Flow Statement Data					
Net Income (Reported)	3,288	5,955	9,855	11,574	14,290
Depreciation & Amortization	5,326	4,256	4,574	4,411	4,537
Change in Working Capital	3,757	300	(459)	(188)	(229)
Deferred Taxation Charge	0	0	0	0	0
Other CFO	(2,503)	121	(430)	(382)	107
Cash Flow from Operations	9,868	10,632	13,540	15,416	18,705
Capital Expenditure	(1,091)	(1,361)	(2,558)	(2,774)	(3,023)
(Acquisition) / Disposal of Investments	226	50.0	(88.4)	(97.6)	(107)
Other CFI	(2,155)	(3,040)	(325)	0	0
Cash Flow from Investing	(3,020)	(4,351)	(2,972)	(2,871)	(3,129)
Share Issue / (Repurchase)	29.0	33.0	0	0	0
Cost of Dividends Paid	(4,364)	(4,481)	(4,492)	(4,716)	(4,951)
Increase (decrease) debt	(1,515)	(785)	(4,500)	(2,000)	(2,200)
Other CFF	(973)	(1,334)	0	0	0
Cash Flow from Financing	(6,823)	(6,567)	(8,992)	(6,716)	(7,151)
Total Cash Flow (CFO + CFI + CFF)	25.0	(286)	1,576	5,829	8,424
FX and other changes to cash	(119)	(128)	0	0	0
Change in Cash	(94.0)	(414)	1,576	5,829	8,424
Change in Net Debt	(1,421)	(371)	(6,076)	(7,829)	(10,624)
Net Debt	21,787	21,416	15,340	7,511	(3,113)

Key Balance Sheet Data					
Property, Plant & Equipment	8,507	9,402	10,864	12,710	14,681
Goodwill	19,820	20,048	20,048	20,048	20,048
Other Intangibles	39,307	38,089	34,937	31,453	27,968
Other Non-Current Assets	6,256	8,526	8,526	8,526	8,526
Trade Receivables	10,521	12,126	13,544	14,684	16,003
Cash & Equivalents	6,492	6,078	7,654	13,483	21,907
Other Current Assets	5,580	6,850	7,566	8,083	8,681
Total Assets	96,483	101,119	103,139	108,987	117,813
Long-Term Debt	22,965	22,365	17,865	15,865	13,665
Other Non-Current Liabilities	10,167	9,046	8,528	8,048	8,048
Short-Term Debt	5,314	5,129	5,129	5,129	5,129
Other Current Liabilities	20,979	25,413	27,088	28,557	30,244
Total Liabilities	59,425	61,953	58,610	57,599	57,086
Total Equity	37,058	39,166	44,529	51,387	60,726
Total Equity & Liabilities	96,483	101,119	103,139	108,986	117,813

Business Performance*					
Return On Capital Employed	10.2%	11.7%	14.7%	16.2%	17.6%
Return On Equity	27.0%	29.5%	29.6%	29.5%	29.0%
Operating Margin	8.47%	17.9%	26.9%	28.3%	31.0%
Free Cash Flow (MM)	8,777	9,271	10,981	12,642	15,682

Quality of Earnings*					
Cash Realization Ratio	0.96x	0.95x	1.09x	1.09x	1.15x
Asset Replacement Ratio	1.28x	1.65x	2.33x	2.99x	2.87x
Tax Rate	NM	13.6%	22.1%	22.3%	21.2%
Net Debt/Equity	58.8%	54.7%	34.5%	14.6%	-5.13%
Interest Cover	9.71x	9.18x	12.6x	18.6x	26.9x

* For full definitions of iQmethodSM measures, see page 9.

Company Sector

Pharmaceuticals

Company Description

AstraZeneca is a UK-listed biopharmaceutical company focused on three main disease areas: Oncology, BioPharmaceuticals and Rare Disease. AstraZeneca has a robust, industry leading pipeline across areas including oncology, cardiovascular, renal & metabolism, respiratory & immunology, vaccines & immune therapies, and rare diseases

Investment Rationale

We believe a robust pipeline progression positions AZN's pipeline as best-in-class, potentially allowing premium long-term growth. We expect multiple product launches and PIII catalysts to drive meaningful sales growth at AZN.

Stock Data

Shares / ADR	0.50
Price to Book Value	4.4x

Quarterly Earnings Estimates

	2023	2024
Q1	1.92A	1.87E
Q2	2.15A	1.99E
Q3	1.73A	2.05E
Q4	1.45A	2.09E

Key Changes

(US\$)	Previous	Current
2024E EPS	4.01	4.00
2025E EPS	4.73	4.57
2026E EPS	5.47	5.24
2024E DPS	1.60	1.52

Busy FY25 catalyst path coming into debate

From mid-year we see a big FY25 path coming into focus: Specifically: 1) Dato 1L NSCLC (AVANZAR) data, we think given rapid trial recruitment; 2) Three Enhertu reads with DB-11 (neoadjuvant HER2+ve), DB-09 (1L HER2+ve mBC) and DB-05 (post-neoadjuvant HER2+ve); 3) Camizestrant SERENA-6 in 1L ESR1m Breast cancer; 4) Eplontersen ATTR-cardiomyopathy; 5) First Truqap data in prostate (CAPitello-281); 6) Baxdostat in uncontrolled hypertension; 7) Tozorakimab (IL-33) acute respiratory failure.

Glossary

TL = TROPION-Lung

OS = Overall Survival

HER2 = Human Epidermal Growth Factor Receptor 2

DB = Destiny Breast

mBC = metastatic Breast Cancer

ESR1m = Estrogen Receptor 1

ATTR = Transthyretin

IRA = Inflation Reduction Act

EPS changes

Exhibit 2: Changes to CORE EPS forecasts (\$)

New vs old EPS forecasts

Year to December	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
New EPS	7.26	8.00	9.13	10.48	11.97	13.28	14.01	14.47	14.56
Old EPS	7.24	8.03	9.47	10.94	12.30	13.27	14.00	14.46	14.55
%Chg	0.3%	-0.4%	-3.5%	-4.2%	-2.7%	0.1%	0.1%	0.1%	0.1%

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 3: Changes to BofA sales forecasts

New vs old sales forecasts

Year to December	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
New Sales	45,811	51,169	55,474	60,456	66,284	70,811	74,157	76,120	76,613
Old Sales	45,716	50,456	55,377	60,367	66,185	70,716	74,045	76,021	76,514
Change %	0.2%	1.4%	0.2%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Variance

Exhibit 1: AstraZeneca 4Q23 and FY23 Variance analysis

Variance

USDm	Previous 4Q22A	Consensus 4Q23E	Reported 4Q23A	% Chg	Diff v cons USDm	% Chg	Previous 2022A	Consensus 2023E	Reported 2023A	% Chg	Diff v Cons USDm	% Chg
Oncology												
Tagrisso	1,342	1,475	1,419	6	-56	-4	5,444	5,855	5,799	7	-56	-1
Imfinzi	753	1,165	1,135	51	-30	-3	2,784	4,262	4,237	52	-25	-1
Lynparza Total	689	737	741	8	4	1	2,638	2,804	2,811	7	7	0
Calquence	588	696	675	15	-21	-3	2,057	2,535	2,514	22	-21	-1
Zoladex	211	219	254	20	35	16	927	917	952	3	35	4
Enhertu	27	86	83	207	-3	-3	79	263	261	230	-2	-1
Cardiovascular												
Farxiga	1,177	1,588	1,606	36	18	1	4,381	5,946	5,963	36	17	0
Brilinta	345	335	329	-5	-6	-2	1,358	1,331	1,324	-3	-7	-1
Onglyza (saxagliptin)	52	46	47	-10	1	2	257	227	227	-12	0	0
Bydureon (exenatide)	73	43	39	-47	-4	-10	280	165	163	-42	-2	-1
Lokelma	81	110	112	38	2	1	289	410	412	43	2	0
Crestor	224	229	247	10	18	8	1,048	1,089	1,107	6	18	2
Seloken/Toprol	157	141	144	-8	3	2	862	636	640	-26	4	1
Respiratory												
Symbicort	620	535	520	-16	-15	-3	2,538	2,378	2,362	-7	-16	-1
Fasenra	381	422	420	10	-2	-1	1,396	1,555	1,553	11	-2	-0
Pulmicort	167	156	219	31	63	40	645	649	713	11	64	10
Rare Disease												
Soliris	844	725	715	-15	-10	-1	3,762	3,154	3,145	-16	-9	-0
Ultomiris	594	830	825	39	-5	-1	1,965	2,971	2,965	51	-6	-0
Others												
Nexium	299	221	209	-30	-12	-5	1,285	945	945	-26	-0	-0
Total Product Sales	10,798	11,341	11,323	5	-18	-0	42,998	43,803	43,789	2	-14	-0
Alliance Revenue	153	441	424	178	-17	-4	607	1,458	1,428	135	-30	-2
Enhertu	186	296	281	51	-15	-5	519	1,049	1,022	97	-27	-3
Tezspire	36	80	80	125	0	0	79	255	259	228	4	2
Collaboration Revenue	256	231	277	8	46	20	746	526	594	-20	68	13
Total sales	11,207	12,013	12,024	7	11	0	44,351	45,787	45,811	3	24	0
COGS (CORE) excl. externalisation costs	-2,462	-2,245	-2,286	-7	-41	2	-8,588	-7,970	-8,011	-7	-41	1
% Sales	22.8	19.8	20.2				19.4	17.4	17.5			
Gross Profit	8,745	9,768	9,738	11	-30	-0	35,763	37,817	37,800	6	-17	-0
Distribution costs	-156	-145	-145	-7	-0	0	-534	-539	-539	1	-0	0
% Sales	1.4	1.2	1.2				1.2	1.2	1.2			
R&D (CORE)	-2,526	-2,808	-2,914	15	-106	4	-9,500	-10,161	-10,267	8	-106	1
% Sales	22.5	23.4	24.2				21.4	22.2	22.4			
S,G&A (CORE)	-3,583	-3,682	-4,034	13	-352	10	-12,826	-13,387	-13,739	7	-352	3
% Sales	32.0	30.7	33.5				28.9	29.2	30.0			
Other oper income (CORE)	130	55	107	-18	52	95	447	1,229	1,279	186	50	4
CORE operating profit	2,610	3,187	2,752	5	-435	-14	13,350	14,959	14,534	9	-425	-3
Margin %	23.3	26.5	22.9				30.1	32.7	31.7			
Financial Income/Expense (CORE)	-245	-249	-259	6	-10	4	-974	-982	-984	1	-2	0
Pretax profit (CORE)	2,364	2,938	2,493	5	-445	-15	12,371	13,977	13,550	10	-427	-3
CORE tax	-226	-618	-242	7	376	-61	-2,058	-2,667	-2,291	11	376	-14
CORE tax rate (%)	9.6	21.0	9.7				16.6	19.1	17.0			
Net Income (CORE)	2,137	2,321	2,252	5	-69	-3	10,308	11,308	11,253	9	-55	-0
Margin %	19.1	19.3	18.7				23.2	24.7	24.6			
Minorities	-1	1	1	-200	0	69	-5	-3	-6	20	-3	137
Core EPS	1.38	1.50	1.45	5	-0.05	-3	6.66	7.29	7.26	9	-0.03	-0

Source: BofA Global Research estimates, Company data, Company consensus

BofA GLOBAL RESEARCH

Models

Exhibit 4: AstraZeneca Sales Model

Sales forecasts, % changes, 25-28E CAGRs

Year to December (\$m)	2022A	2023A	Q1 24E	Q2 24E	Q3 24E	Q4 24E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	Change YoY %			CAGR
															2022A	2023A	2024E	25-28E
Tagrisso (Multiple EGFRmut cancers)	5,444	5,799	1,478	1,602	1,584	1,510	6,174	6,495	6,802	7,124	7,338	7,558	7,709	7,863	9	7	6	4
Imfinzi Total	2,784	4,237	1,123	1,359	1,435	1,232	5,269	5,948	6,691	7,317	7,744	8,041	8,180	7,343	15	52	24	9
Lynparza Total	2,638	2,811	709	801	791	812	3,113	3,345	3,567	3,765	3,478	2,760	2,311	1,983	12	7	11	1
Calquence	2,057	2,514	605	740	749	740	2,834	3,096	3,251	3,414	3,516	3,622	3,694	3,768	66	22	13	4
Zoladex (Prostate cancer)	927	952	205	228	235	244	913	876	875	855	836	820	805	791	-2	3	-4	-2
Faslodex (Breast cancer)	334	297	69	78	64	76	287	284	230	218	210	205	202	200	-23	-11	-3	-10
Farxiga	4,381	5,963	1,424	1,706	1,771	2,269	7,170	7,709	6,245	4,764	3,898	3,747	3,604	3,468	46	36	20	-20
Farxiga + LCM	4,381	5,963	0	0	0	0	7,170	7,844	6,594	5,646	4,933	4,887	4,834	4,770	46	36	20	-14
Brilinta (ACS)	1,358	1,324	327	324	324	321	1,298	779	662	596	536	482	434	391	-8	-3	-2	-12
Lokelma	289	412	115	117	119	129	480	535	597	665	719	755	777	800	65	43	17	10
Roxadustat (Evrenzo) (Anemia)	197	271	84	101	102	63	350	450	550	575	600	600	600	600	13	38	29	10
Andexxa (anticoag reversal)	150	182	53	54	48	64	218	262	249	237	225	213	203	193	nm	21	20	-5
Crestor (Hyperlipidemia)	1,048	1,107	287	288	284	255	1,114	1,144	1,179	1,217	1,260	1,307	1,334	1,364	-4	6	1	3
Seloken/Toprol (Hypertension)	862	640	165	168	157	147	637	649	668	687	707	728	750	772	-9	-26	-0	3
Onglyza (saxagliptin)	257	227	53	57	49	43	203	191	182	175	170	165	162	159	-29	-12	-11	-4
Bydureon (exenatide)	280	163	38	37	30	34	139	118	100	85	72	61	52	44	-27	-42	-15	-15
Symbicort (Asthma)	2,538	2,362	605	546	521	486	2,158	2,034	1,963	1,913	1,881	1,863	1,837	1,820	-7	-7	-9	-3
Fasenra (Asthma)	1,396	1,553	361	434	418	458	1,671	1,704	1,762	1,828	1,902	1,794	1,587	1,300	11	11	8	4
Pulmicort (Asthma)	645	713	210	127	153	231	721	742	766	792	820	850	867	885	-33	11	1	3
Duaklir/Bevespi (LAMA/LABA)	58	58	16	16	14	16	61	64	67	70	74	78	82	86	7	0	5	5
Daliresp (COPD)	189	54	12	16	10	12	51	49	46	44	42	40	38	36	-17	-71	-5	-5
Saphnelo (SLE)	116	280	90	97	104	9	300	400	500	600	700	800	875	900	nm	141	7	21
Synagis (RSV infections)	578	546	160	80	91	143	473	100	95	90	86	82	77	74	41	-6	-13	-5
Soliris (PNH, aHUS)	3,762	3,145	762	754	732	669	2,916	2,625	2,310	1,894	1,326	1,127	958	814	101	-16	-7	-20
Ultomiris (PNH, aHUS)	1,965	2,965	835	919	1,009	1,126	3,888	4,355	4,572	4,664	4,757	4,852	4,949	5,048	186	51	31	3
Nexium (Ulcers)	1,285	945	224	245	243	208	920	862	864	870	880	893	908	925	-3	-26	-3	0.7
Orpathys (savalitinib)	33	44	20	23	26	31	100	275	275	275	275	275	275	275	106	33	127	0
Enhertu HER 2+ve late lines; HER 2+ early/Her 2 low	79	261	80	88	95	117	380	684	1,148	1,628	1,892	2,026	2,080	2,133	365	230	46	40
Danicipan (factor D) PNH	0	0	0	0	0	60	60	200	400	600	680	720	760	800	nm	nm	nm	50
Truqap (capivasertib AKT BC) Breast cancer	0	6	15	30	40	54	139	243	555	1,110	1,734	2,220	2,567	2,775	nm	nm	2,213	93
Airsupra (PT027) Asthma	0	0	50	65	80	105	300	600	900	1,200	1,300	1,500	1,600	1,650	nm	nm	nm	29
Rilvegostomig (PD1/TIGIT) Lung cancer	0	0	0	0	0	0	0	0	60	135	240	360	420	450	nm	nm	nm	nm
Capivasertib AKT PC Prostate cancer	0	0	0	0	0	0	0	0	139	370	695	880	996	1,065	nm	nm	nm	nm
Tozorakimab (IL33) COPD	0	0	0	0	0	0	0	120	240	400	560	680	760	800	nm	nm	nm	67
Camizestrant Breast cancer	0	0	0	0	0	0	0	106	528	1,319	2,375	2,902	3,166	3,430	nm	nm	nm	182
Baxdrostat rHTN & uHTN	0	0	0	0	0	0	0	0	100	300	450	650	850	1,000	nm	nm	nm	nm
Tezspire Anti-tslp, asthma	4	86	30	33	36	36	135	225	270	360	450	540	630	720	nm	2,050	57	26
Datopotamab deruxtecán (DS-1062) Multi-tumour	0	0	0	0	0	40	40	217	422	707	1,005	1,232	1,383	1,490	nm	nm	nm	67
Eplontersen ATTR PN and ATTR CM	0	0	15	30	40	45	130	195	780	975	1,040	1,089	1,138	1,170	nm	nm	nm	75
Imfinzi liver Liver cancer	0	0	30	40	50	60	180	360	660	900	1,020	1,110	1,200	1,020	nm	nm	nm	42
Volrustomig (MEDI-5752, PD-1/CTLA4) Solid tumours	0	0	0	0	0	0	0	0	140	360	600	880	1,080	1,200	nm	nm	nm	nm
Farxiga LCM LCM	0	0	0	0	0	0	0	135	350	882	1,035	1,140	1,230	1,302	nm	nm	nm	97
Vaxzevria (COVID-19 Vaccine)	1,798	12	0	0	0	0	0	0	0	0	0	0	0	0	-55	-99	-100	nm
Evusheld (COVID LAAB)	2,185	132	0	0	0	0	0	0	0	0	0	0	0	0	nm	-94	-100	nm
Total Pharma Sales	42,998	43,789	11,166	12,117	12,395	12,954	48,632	52,057	55,824	60,366	63,764	66,379	67,914	68,053	18	2	11	7

Source: BofA Global Research estimates, Company data

BofA GLOBAL RESEARCH

Exhibit 5: AstraZeneca Profit & Loss Model

P/L forecasts, % changes, 24-27E CAGRs

Year to December (\$m)	2022A	2023A	Q1 24E	Q2 24E	Q3 24E	Q4 24E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	Change YoY % CAGR			
															2022A	2023A	2024E	25-28E
Product sales	42,998	43,789	11,166	12,117	12,395	12,954	48,632	52,057	55,824	60,366	63,764	66,379	67,914	68,053	18	2	11	7.0
Alliance Revenue	607	1,428	378	393	457	536	1,764	2,799	3,983	5,237	6,332	7,027	7,418	7,731	nm	135	24	31.3
Collaboration Revenue	746	594	108	106	112	447	772	618	649	681	715	751	788	828	-15	-20	30	5.0
Total sales	44,351	45,811	11,652	12,616	12,964	13,937	51,169	55,474	60,456	66,284	70,811	74,157	76,120	76,613	19	3	12	8.5
COGS (CORE)	-8,588	-8,011	-2,066	-2,242	-2,293	-2,396	-8,997	-9,631	-10,328	-11,168	-11,796	-12,280	-12,564	-12,590	-9	-7	12	7
% of sales	19.4	17.5	17.7	17.8	17.7	17.2	17.6	17.4	17.1	16.8	16.7	16.6	16.5	16.4				
Gross profit	35,763	37,800	9,587	10,374	10,671	11,540	42,172	45,843	50,129	55,116	59,015	61,877	63,556	64,023	28	6	12	9
Margin %	80.6	82.5	82.3	82.2	82.3	82.8	82.4	82.6	82.9	83.2	83.3	83.4	83.5	83.6				
Distribution costs	-534	-539	-140	-151	-156	-167	-614	-666	-725	-795	-850	-890	-913	-919	20	1	14	8
S,G&A (CORE)	-12,826	-13,739	-3,204	-3,469	-3,565	-4,088	-14,327	-14,978	-15,719	-16,571	-16,995	-17,798	-18,269	-18,387	16	7	4	4
% of sales	28.9	30.0	27.5	27.5	27.5	29.3	28.0	27.0	26.0	25.0	24.0	24.0	24.0	24.0				
R&D (CORE)	-9,500	-10,267	-2,447	-2,725	-2,800	-3,285	-11,257	-12,204	-13,300	-14,582	-15,579	-16,315	-16,746	-16,855	19	8	10	8
% of sales	21.4	22.4	21.0	21.6	21.6	23.6	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0				
Other oper income (CORE)	447	1,279	95	95	95	227	512	502	493	484	476	467	459	451	-70	186	-60	-2
Operating profit- Total sales (CORE)	13,350	14,534	3,890	4,123	4,245	4,226	16,485	18,498	20,878	23,652	26,068	27,342	28,086	28,312	34	9	13	12
Margin %	30.1	31.7	33.4	32.7	32.7	30.3	32.2	33.3	34.5	35.7	36.8	36.9	36.9	37.0				
Financial Income/Expense (CORE)	-974	-984	-274	-274	-274	-274	-1,095	-816	-589	-477	-358	-216	-80	51	13	1	11	-24
Pretax profit (CORE)	12,371	13,538	3,617	3,850	3,971	3,953	15,390	17,682	20,288	23,174	25,710	27,125	28,006	28,363	37	9	14	13
CORE tax rate (%)	16.6	16.9	20.0	20.0	20.0	18.1	19.5	20.0	20.0	20.0	20.0	20.0	20.0	20.5	0	2	15	0
Minorities	-5	-6	0	0	0	0	0	0	0	0	0	0	0	0	67	20	-100	nm
Net Income (CORE)	10,308	11,241	2,893	3,080	3,177	3,239	12,389	14,145	16,231	18,539	20,568	21,700	22,405	22,549	37	9	10	13
Margin %	23.2	24.5	24.8	24.4	24.5	23.2	24.2	25.5	26.8	28.0	29.0	29.3	29.4	29.4				
D&A	5,326	4,256	967	967	967	1,674	4,574	4,411	4,537	4,675	4,824	4,982	5,145	5,311	38	-20	7	3
EBIT	3,752	8,181	3,205	3,438	3,560	3,541	13,745	15,721	18,731	21,505	23,921	25,195	25,940	26,166	278	118	68	15
Margin %	8.5	17.9	27.5	27.3	27.5	25.4	26.9	28.3	31.0	32.4	33.8	34.0	34.1	34.2				
EBITDA	9,078	12,437	4,172	4,405	4,527	5,215	18,318	20,132	23,269	26,180	28,746	30,177	31,085	31,477	87	37	47	13
Margin %	20.5	27.1	35.8	34.9	34.9	37.4	35.8	36.3	38.5	39.5	40.6	40.7	40.8	41.1				
Shares - ave / basic	1,548	1,549	1,549	1,549	1,549	1,549	1,549	1,549	1,549	1,549	1,549	1,549	1,549	1,549	9	0	-0	0
Per share data (USD)																		
CORE EPS (ex-amort & restruct)	6.66	7.26	1.87	1.99	2.05	2.09	8.00	9.13	10.48	11.97	13.28	14.01	14.47	14.56	26	9	10	13.3
GAAP EPS (basic)	2.12	3.84	1.46	1.58	1.64	1.68	6.36	7.47	9.23	10.72	12.03	12.76	13.21	13.31	2,589	81	66	17
DPS (\$)	2.90	2.90					3.05	3.20	3.36	3.52	3.63	3.74	3.85	3.97	1	0	5	4
Per share data (GBP)																		
CORE EPS (ex-amort & restruct)	5.39	5.84					6.28	7.17	8.22	9.39	10.42	10.99	11.35	11.42	40	8	8	13.3
GAAP EPS (basic)	2.12	3.84	1.46	1.58	1.64	1.68	6.36	7.47	9.23	10.72	12.03	12.76	13.21	13.31	2,589	81	66	17
DPS (\$)	2.90	2.90					3.05	3.20	3.36	3.52	3.63	3.74	3.85	3.97	1	0	5	4

Source: BofA Global Research estimates, Company data

BofA GLOBAL RESEARCH

Exhibit 6: AstraZeneca Phase III pipeline DCF/EPS upside/downside analysis

Astrazeneca Phase III pipeline DCF/EPS upside/downside analysis

Fig's in(\$m) unless otherwise stated	Launch year	Peak sales	2031 Prob to market	Risk adj sales	2031		Upside		Downside	
					EPS upside %	EPS downside %	DCF change (GBP)	Change %	DCF Change (GBP)	Change %
Current DCF							145.35		145.35	
Orpathys (savolitinib) Multiple tumours	2021	550	50%	275	0%	0%	0.52	0%	-0.52	0%
Enhertu HER 2+ve late lines; HER 2+ early/Her 2 low	2021	2,690	79%	2,133	1%	-2%	0.90	1%	-3.62	-2%
Danicipan (factor D) PNH	2024	1,000	80%	800	0%	-1%	0.33	0%	-1.33	-1%
Truqap (capiasertib AKT BC) Breast cancer	2023	4,000	69%	2,775	1%	-3%	1.90	1%	-4.30	-3%
Airsupra (PT027) Asthma	2024	1,650	100%	1,650	0%	-2%	0.00	0%	-2.79	-2%
Rilvegostomig (PD1/TIGIT) Lung cancer	2026	1,500	30%	450	1%	-1%	1.58	1%	-0.68	0%
Capiasertib AKT PC Prostate cancer	2026	2,300	46%	1,065	1%	-1%	1.89	1%	-1.63	-1%
Imfinzi Lung cancer	2024	800	50%	400	0%	0%	0.78	1%	-0.78	-1%
Lynparza (1) 1L mCRPC	2024	108	60%	65	0%	0%	0.11	0%	-0.16	0%
AZD5305 (PARP1) Solid tumours	2026	3,500	40%	1,400	2%	-2%	3.24	2%	-2.16	-1%
Tozorakimab (IL33) COPD	2025	2,000	40%	800	1%	-1%	1.90	1%	-1.27	-1%
Camizestrant Breast cancer	2025	6,500	53%	3,430	3%	-4%	4.73	3%	-5.28	-4%
Baxdrostat rHTN & uHTN	2026	2,000	50%	1,000	1%	-1%	1.48	1%	-1.48	-1%
Tezspire Anti-tslp, asthma	2022	800	90%	720	0%	-1%	0.10	0%	-0.91	-1%
Datopotamab deruxtecán (DS-1062) Multi-tumour	2024	2,700	55%	1,490	1%	-2%	1.86	1%	-2.35	-2%
Eplontersen ATTR PN and ATTR CM	2024	1,800	65%	1,170	1%	-1%	1.07	1%	-1.98	-1%
Imfinzi liver Liver cancer	2024	1,700	60%	1,020	1%	-1%	1.20	1%	-1.80	-1%
Volrustomig (MEDI-5752, PD-1/CTLA4) Solid tumours	2026	3,000	40%	1,200	2%	-1%	2.69	2%	-1.80	-1%
Total upside/downside		38,598	57%	21,843	19%	-24%	26.27	18%	-34.83	-24%
Up/downside DCF valn							171.62		110.52	

Source: BofA Global Research estimates. Probability to market is based on the Tufts CSDD data 2010 (Nature) adjusted for the analyst's own assessment of individual product risks: indication, prior clinical/preclinical data and regulatory history

BofA GLOBAL RESEARCH

Price objective basis & risk

AstraZeneca (AZNCF / AZN)

Our PO of GBP145 (US\$88) is based on c19x FY25E PE, ahead of our target sector multiple of c16x due to potential for premium growth (11% 25-28E EPS CAGR vs sector c7%) and significant pipeline optionality.

Our target sector multiple of c16x 25E PE is based on: 1) A 40% premium to the market average multiple which implies c15x 25E PE, a premium which is in line with the long-term historical trend for periods of growth for the sector during times of broader market uncertainty, 2) Regression analysis of historical sector forward PEs and three-year-forward EPS CAGR implies a target PE of c16x 25E PE based on sector growth of c7%, 3) Our DCF valuations imply c17x 25E PE

Upside risks to our PO are better-than-expected EPS momentum driven by better execution on product launches and pipeline success.

Downside risks to our PO are pipeline failure, risk of litigation, adverse currency moves, greater margin pressure driving EPS miss and a failure to inflect key product launches.

Analyst Certification

I, Sachin Jain, 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.

EMEA - Pharma & Biotech Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	AstraZeneca	AZN	AZN US	Sachin Jain, CFA
	AstraZeneca	AZNCF	AZN LN	Sachin Jain, CFA
	Genmab	GNMSF	GMAB DC	Sachin Jain, CFA
	Genmab	GMAB	GMAB US	Sachin Jain, CFA
	Grifols S.A.	GIFLF	GRF SM	Graham Parry
	Grifols S.A. - B	GRFS	GRFS US	Graham Parry
	Grifols S.A. - B	GIFO	GRF/P SM	Graham Parry
	Lonza AG	LZAGF	LONN SW	Charlie Haywood
	Lonza AG	LZAGY	LZAGY US	Charlie Haywood
	Merck KGaA	MKGAF	MRK GY	Sachin Jain, CFA
	Merck KGaA	MKKG	MKKG US	Sachin Jain, CFA
	Novartis	NVSEF	NOVN SW	Graham Parry
	Novartis	NVS	NVS US	Graham Parry
	Novo Nordisk	NONOF	NOVOB DC	Sachin Jain, CFA
	Novo Nordisk	NVO	NVO US	Sachin Jain, CFA
	Sandoz Group AG	SDZXF	SDZ SW	Graham Parry
	Sandoz Group AG	SDZNY	SDZNY US	Graham Parry
	Sanofi	SNYNF	SAN FP	Graham Parry
	Sanofi	SNY	SNY US	Graham Parry
	Sartorius AG	SUVPF	SRT3 GY	Charlie Haywood
NEUTRAL				
	H. Lundbeck A/S	HLUKF	HLUNB DC	Sachin Jain, CFA
	Idorsia	IDRSF	IDIA SW	Sachin Jain, CFA
	Ipser	IPSEF	IPN FP	Sachin Jain, CFA
	Roche Holdings	RHHBF	ROG SW	Sachin Jain, CFA
	Roche Holdings	RHHBY	RHHBY US	Sachin Jain, CFA
UNDERPERFORM				
	Bayer	BAYZF	BAYN GY	Sachin Jain, CFA
	Bayer	BAYRY	BAYRY US	Sachin Jain, CFA
	GSK Plc	GSK	GSK US	Graham Parry

EMEA - Pharma & Biotech Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	GSK Plc	GLAXF	GSK LN	Graham Parry
	Orion	ORINF	ORNBV FH	Graham Parry
	UCB	UCBJF	UCB BB	Graham Parry
	UCB	UCBJY	UCBJY US	Graham Parry

iQmethodSM Measures Definitions

Business Performance

Return On Capital Employed

Return On Equity
Operating Margin
Earnings Growth
Free Cash Flow

Quality of Earnings

Cash Realization Ratio
Asset Replacement Ratio
Tax Rate
Net Debt-To-Equity Ratio
Interest Cover

Valuation Toolkit

Price / Earnings Ratio
Price / Book Value
Dividend Yield
Free Cash Flow Yield
Enterprise Value / Sales

EV / EBITDA

Numerator

NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization

Net Income
Operating Profit
Expected 5 Year CAGR From Latest Actual
Cash Flow From Operations – Total Capex

Numerator

Cash Flow From Operations
Capex
Tax Charge
Net Debt = Total Debt – Cash & Equivalents
EBIT

Numerator

Current Share Price
Current Share Price
Annualised Declared Cash Dividend
Cash Flow From Operations – Total Capex
EV = Current Share Price × Current Shares + Minority Equity + Net Debt + Other LT Liabilities
Enterprise Value

Denominator

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill
Amortization
Shareholders' Equity
Sales
N/A
N/A

Denominator

Net Income
Depreciation
Pre-Tax Income
Total Equity
Interest Expense

Denominator

Diluted Earnings Per Share (Basis As Specified)
Shareholders' Equity / Current Basic Shares
Current Share Price
Market Cap = Current Share Price × Current Basic Shares
Sales
Basic EBIT + Depreciation + Amortization

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

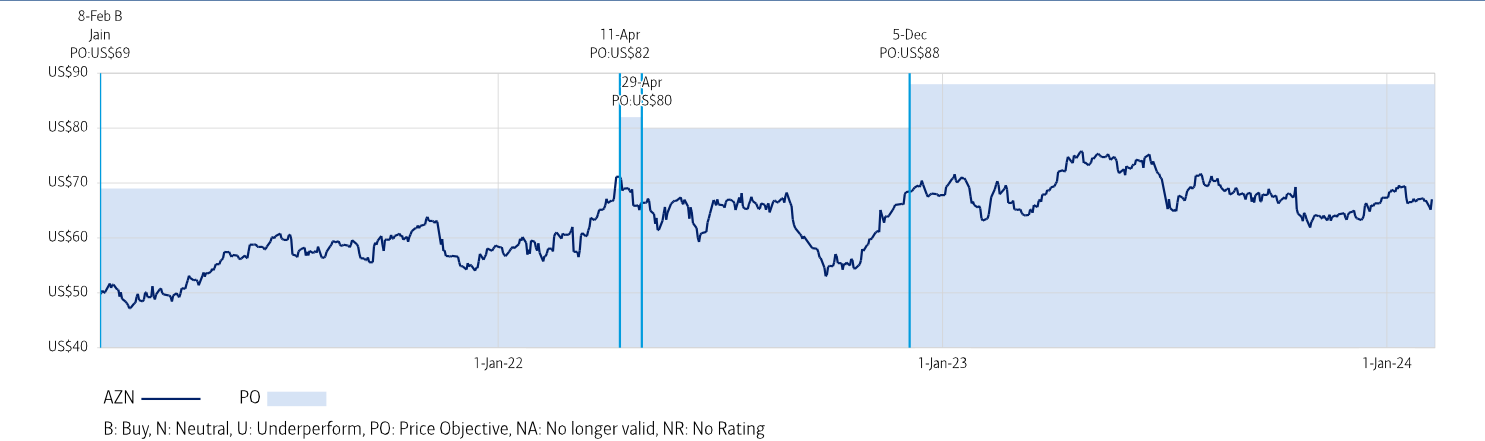
iQdatabase[®] is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

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

Disclosures

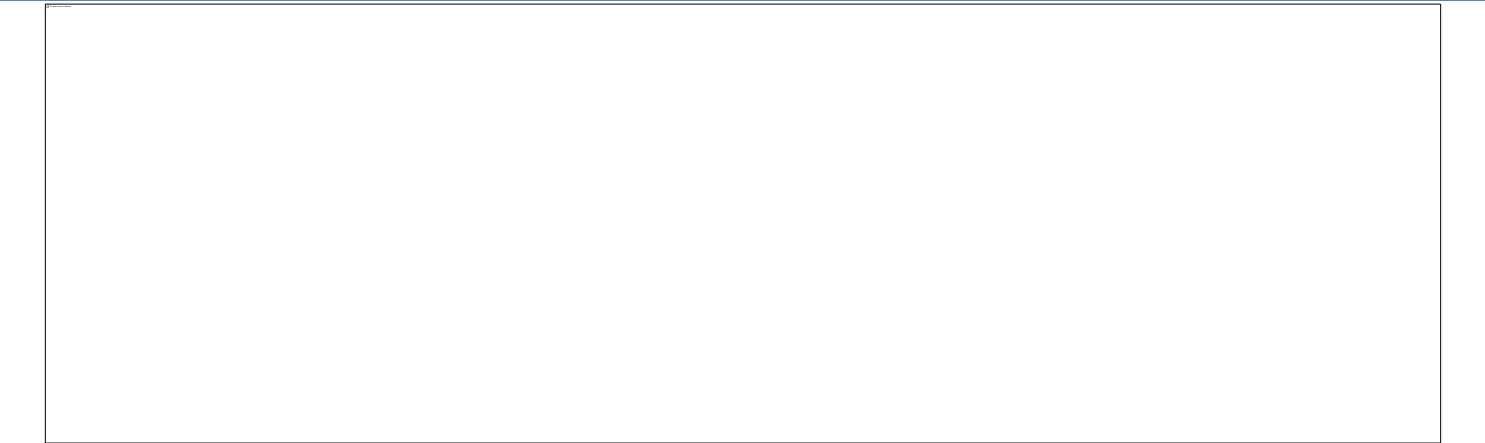
Important Disclosures

AstraZeneca (AZN) Price Chart



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

AstraZeneca (AZNCF) Price Chart



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

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

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	234	60.94%	Buy	115	49.15%
Hold	80	20.83%	Hold	36	45.00%
Sell	70	18.23%	Sell	29	41.43%

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

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

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



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

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

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

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

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

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

BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: AstraZeneca.

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

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

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: AstraZeneca.

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

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: AstraZeneca.

BofAS together with its affiliates beneficially owns one percent or more of the common stock of this issuer. If this report was issued on or after the 9th day of the month, it reflects the ownership position on the last day of the previous month. Reports issued before the 9th day of a month reflect the ownership position at the end of the second month preceding the date of the report: AstraZeneca.

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: AstraZeneca.

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: AstraZeneca.

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

Other Important Disclosures

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

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

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

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

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

Refer to [BofA Global Research policies relating to conflicts of interest](#).

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

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

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

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA



and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

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

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

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

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

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

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

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 information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of 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.