

State Street Corporation

Rate outlook remains wildcard

Reiterate Rating: UNDERPERFORM | PO: 81.00 USD | Price: 75.85 USD

4Q23 EPS beats on stronger spread revenue

State Street (STT) reported 4Q23 core EPS of \$2.04 vs. BofAe/cons \$1.90/\$1.69 ests, with the beat to our est. driven by higher NII. Mgmt. attributed the stronger NII relative to its recent update (in Dec) partially to stronger year-end deposit growth (+3.7% QoQ vs. our -3.3%). Mgmt. considers \$200-\$210bn (vs. \$221bn at YE23) as the steady state range for deposits over the medium term (balances seen as stable 1Q24 QoQ). NIB deposits (-9.1% QoQ) seen as stabilizing in 2H24. CET1 capital ratio ending the year at 11.6% vs. 10-11% mgmt. target (8% regulatory minimum) with outlook for a total capital payout ratio of ~100% for FY24.

Guides for positive fee operating leverage

FY24 guidance assumes global equity markets up ~10% YoY on average and rates to track the forward curve (five rate cuts with ending rates of 4.25% for Fed Funds, 2.75% for ECB and 4% for BOE). Fees: +3-4% YoY; NII -10%; expenses +2.5% implying +ve fee op. leverage. Expenses to benefit from optimization actions to boost productivity and client service. Revise FY24e EPS +9% to \$7.82 reflecting higher NII outlook and stronger fee revenue growth. FY25e EPS relatively unchanged at \$7.84 (vs. \$7.78). The lack of idiosyncratic catalysts to drive stock outperformance and our preference for credit sensitive peers drives our Underperform rating.

Strong execution, but rate outlook swing factor

Mgmt. continues to execute well in terms of constantly identifying efficiency opportunities (consolidation of India JVs, firm-wide productivity efforts) while staying laser focused on driving revenue growth (private markets, State Street Alpha, front office software solution). Outside of environmental factors, mgmt. called out flows into fixed income and active ETFs as potential areas that should see continued growth. NII on the back of monetary policy (US/globally) and how customers react (and competitor behavior) to dictate when the bank could see a stabilization in NIB deposits and NII.

Fee revenue pipeline growing

Servicing fee revenue tied to "wins" rose to \$103mn during 4Q23 vs. \$91mn in the prior quarter. As of YE23 pipeline of servicing fee revenue to be installed stood at \$270mn (+\$57mn YoY) with ~50% of this expected to be installed this year. Mgmt. continues to see private credit as a potential source of growth given the strong underlying trends. We forecast fee revenue growth of 3.6% YoY for FY24.

Estimates (Dec) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	7.29	7.66	7.82	7.84	8.76
GAAP EPS	7.00	5.49	7.82	7.84	8.76
EPS Change (YoY)	-1.8%	5.1%	2.1%	0.3%	11.7%
Consensus EPS (Bloomberg)			7.65	8.61	9.88
DPS	2.40	2.64	2.82	2.92	3.02
Valuation (Dec)					
P/E	10.4x	9.9x	9.7x	9.7x	8.7x
GAAP P/E	10.8x	13.8x	9.7x	9.7x	8.7x
Dividend Yield	3.2%	3.5%	3.7%	3.8%	4.0%

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 7 to 9. Analyst Certification on page 5. Price Objective Basis/Risk on page 5.

12648397

Timestamp: 19 January 2024 03:56PM EST

19 January 2024

Equity

Key Changes

(US\$)	Previous	Current
2024E Rev (m)	11,849.7	12,330.0
2025E Rev (m)	12,120.9	12,368.6
2026E Rev (m)	12,591.8	12,715.5
2024E EPS	7.17	7.82
2025E EPS	7.78	7.84
2026E EPS	9.03	8.76

Ebrahim H. Poonawala

Research Analyst

BofAS

+1 646 743 0490

ebrahim.poonawala@bofa.com

Brandon Berman

Research Analyst

BofAS

+1 646 855 3933

brandon.berman@bofa.com

Christian Panebianco

Research Analyst

BofAS

Isiah Austin

Research Analyst

BofAS

Gabriel Angelini

Research Analyst

BofAS

Stock Data

Price	75.85 USD
Price Objective	81.00 USD
Date Established	14-Dec-2023
Investment Opinion	B-3-7
52-Week Range	62.78 USD -94.74 USD
Mrkt Val / Shares Out (mn)	23,406 USD / 308.6
Free Float	93.9%
Average Daily Value	153.37 USD
BofA Ticker / Exchange	STT / ASE
Bloomberg / Reuters	STT US / STT.N
ROE (2024E)	10.7%
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".

See page 4 for definitions of acronyms used in the report

iQprofileSM State Street Corporation

Income Statement Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Net Interest Income	2,544	2,759	2,505	2,298	2,322
% change	33.7%	8.5%	-9.2%	-8.3%	1.0%
Net Fee Income	9,606	9,480	9,825	10,071	10,394
Securities Gains / (Losses)	(2)	(294)	0	0	0
Total Operating Income	12,148	11,945	12,330	12,369	12,716
Operating Expenses	(8,801)	(8,948)	(9,174)	(9,398)	(9,629)
% change	0.6%	1.7%	2.5%	2.4%	2.5%
Provisions Expense	(20)	(46)	(40)	(40)	(40)
% change	NA	130.0%	-13.0%	0%	0%
Operating Pre-Tax Income	3,394	3,230	3,116	2,931	3,046
Operating Net Income to Comm S/Hold.	2,591	1,794	2,326	2,177	2,267
GAAP Net Income	2,591	1,794	2,326	2,177	2,267

Balance Sheet Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Total Assets	301,450	297,258	294,339	299,862	305,595
Average Interest Earning Assets	247,301	231,060	237,379	240,008	245,689
Total Gross Customer Loans	32,150	36,631	41,229	44,527	48,089
% change	-1.2%	13.9%	12.6%	8.0%	8.0%
Total Customer Deposits	235,464	220,970	217,535	223,284	229,358
% change	-7.7%	-6.2%	-1.6%	2.6%	2.7%
Tangible Equity	14,994	13,365	13,438	13,438	13,438
Common Shareholders' Equity	23,215	21,823	20,872	20,610	20,439

Key Metrics (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Net Interest Margin	1.03%	1.19%	1.06%	0.96%	0.94%
Effective Tax Rate	17.1%	18.8%	21.5%	21.5%	21.5%
Loan / Deposit Ratio	13.7%	16.6%	19.0%	19.9%	21.0%
Tangible Common Equity / Assets	5.0%	4.5%	4.6%	4.5%	4.4%
ROA	0.9%	0.9%	0.8%	0.8%	0.8%
ROE	11.3%	11.3%	10.7%	10.1%	10.6%
RoTE	17.2%	17.6%	17.4%	16.2%	16.9%
Dividend Payout Ratio	31.4%	42.4%	32.8%	33.7%	31.3%
Efficiency Ratio (Cost / Income Ratio)	72.4%	73.1%	74.4%	76.0%	75.7%

Quality of Earnings (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Total Non-Interest Inc / Operating Inc	79.1%	76.9%	79.7%	81.4%	81.7%
NPLs plus Foreclosed Real Estate / Loans	0%	0%	0%	0%	0%
Loan Loss Reserves / NPLs	NA	NA	NA	NA	NA
Loan Loss Reserves / Total Loans	0.30%	0.37%	0.38%	0.37%	0.35%

Company Sector

Trust Banks

Company Description

State Street is one of the largest trust banks in the US with operations organized into two main business lines: Investment Servicing and Investment Management. Investment Servicing activities include products and services for institutional clients to allow daily execution of financial transactions and facilitate clients' global securities settlement needs. Within Investment Management, STT provides a wide range of investment management strategies and products across multiple asset classes.

Investment Rationale

We view State Street as potentially lagging the broader banks space (especially credit sensitive retail banks) in a soft-landing scenario. We expect capital return to moderate while the larger GSIB banks should see a greater boost to their capital return outlooks and stock performance due to potential revisions to the Basel III Endgame proposal, in our opinion.

Stock Data

Average Daily Volume 2,022,080

Quarterly Earnings Estimates

	2023	2024
Q1	1.52A	1.57E
Q2	2.17A	2.01E
Q3	1.93A	2.08E
Q4	2.04A	2.17E

Exhibit 1: We raise STT 2024e/2025e estimates by +9%/+1%, respectively

STT Variance Table (new vs. old estimates, assumptions)

KEY FORECAST VARIABLES:	3Q23	Actual 4Q23	Estimate 2Q23	Variance	New 2024E	Old 2024E	Variance	New 2025E	Old 2025E	Variance
Net Interest Income (FTE)	626.0	679.0	576.1	17.87%	2,508.8	2,325.8	7.87%	2,301.8	2,388.5	-3.63%
Loan Loss Provision	0.0	20.0	20.0	0.00%	40.0	60.0	-33.33%	40.0	60.0	-33.33%
Servicing fees	1,234.0	1,212.0	1,198.7	1.1%	5,027.0	4,930.7	2.0%	5,140.4	4,999.8	2.8%
Management fees	479.0	479.0	465.6	2.9%	2,036.7	1,902.1	7.1%	2,104.3	1,976.8	6.4%
FX Trading	313.0	307.0	330.3	NA	1,290.6	1,288.3	0.2%	1,342.3	1,339.8	0.2%
Securities finance	103.0	97.0	99.9	-2.9%	434.5	437.5	-0.7%	447.6	450.6	-0.7%
Processing fees and other	188.0	237.0	237.6	-0.3%	900.4	793.0	13.5%	900.4	793.0	13.5%
Tot. Revenue	2,691.0	3,043.0	2,950.0	3.15%	12,330.0	11,849.7	4.05%	12,368.6	12,120.9	2.04%
Total Expenses	2,180.0	2,822.0	2,728.7	3.42%	9,174.4	9,063.0	1.23%	9,398.1	9,277.6	1.30%
Pre-Tax Income (FTE)	805.0	821.0	748.7	9.65%	3,115.5	2,726.7	14.26%	2,930.5	2,783.3	5.29%
FTE Tax Rate (%)	21%	18%	18%	0pp	21%	18%	4pp	22%	18%	4pp
Net Income	637.0	674.0	614.0	9.78%	2,445.7	2,235.9	9.38%	2,300.5	2,293.1	0.32%
Available For Common	613.0	636.0	577.0	59mn	2,321.7	2,113.9	208mn	2,176.5	2,171.1	5mn
Op. EARNINGS PER SHARE (F.D.)	\$1.93	\$2.04	\$1.90	8%	\$7.82	\$7.17	9%	\$7.84	\$7.78	1%
GAAP EPS (F.D.)	\$1.25	\$0.55	\$0.42	32%	\$7.82	\$7.17	9%	\$7.84	\$7.78	1%
Book Value Per Share	\$317.33	\$310.42	\$304.42	\$6.00	\$289.68	289.06	\$0.61	\$289.68	289.06	\$0.61
Tangible Book Value Per Share	\$0.00	\$44.22	\$43.25	\$0.97	\$47.79	47.10	\$0.69	\$51.40	50.06	\$1.33
Dividends Per Share	\$0.69	\$0.69	\$0.69	\$0.00	2.82	2.82	\$0.00	2.92	2.92	\$0.00
Average Fully-Diluted Shares	317.3	310.4	304.4	6mn	297.4	295.6	2mn	277.6	279.0	-1mn
CAPITAL RATIOS:										
EOP Common Equity/Assets (%)	57.2%	59.0%	56.0%	298bp	58.7%	56.4%	223bp	59.5%	57.3%	217bp
Tang. Common Equity/Assets (%)	0.5%	0.4%	0.5%	-3bp	0.4%	0.4%	-1bp	0.4%	0.4%	-1bp
Tangible Common Equity/RWA (%)	1.2%	1.2%	1.2%	4bp	1.0%	1.0%	6bp	1.0%	0.9%	6bp
Tier 1 Common/RWA (%)	11.0%	11.6%	10.9%	76bp	11.6%	10.9%	70bp	11.2%	10.8%	38bp
PROFITABILITY RATIOS:										
Return On Assets (%)	0.9%	0.9%	0.8%	7bp	0.8%	0.8%	3bp	0.8%	0.8%	-4bp
Return On Common Equity (%)	11.2%	11.6%	10.8%	88bp	10.7%	10.0%	72bp	10.1%	10.2%	-9bp
Return On Tangible Common Equity (%)	11.9%	5.1%	4.0%	114bp	17.4%	16.2%	118bp	16.2%	16.4%	-25bp
Operating Expenses/Revenues (%)	73.0%	72.4%	73.9%	-158bp	74.4%	76.5%	-212bp	76.0%	76.5%	-56bp
BALANCE SHEET ITEMS:										
EOP Total Deposits	213,001	220,970	205,894	7.32%	217,535	207,738	4.72%	223,284	213,187	4.74%
EOP Total Assets	284,415	297,258	276,737	7.42%	294,339	278,854	5.55%	299,862	284,189	5.51%
EOP Equity	23,621	23,799	23,088	3.08%	23,682	23,268	1.78%	23,420	23,356	0.28%
EOP Preferred Equity	1,976	1,976	1,976	0.00%	1,976	1,976	0.00%	1,976	1,976	0.00%
EOP Common Equity	162,640	175,366	155,022	13.12%	172,677	157,370	9.73%	178,430	162,937	9.51%
EOP Tangible Common Equity	1,402	1,336	1,333	0.20%	1,118	1,100	1.61%	1,118	1,100	1.61%

Source: BofA Global Research estimates, company filings

BofA GLOBAL RESEARCH



Acronyms

BOE – Bank of England

CET1 - common equity tier 1

ECB – European Central Bank

JV – joint venture

NIB – non-interest bearing

NII – net interest income

Price objective basis & risk

State Street Corporation (STT)

Our \$81 PO is based on a 50%/50% weighting between our 2024e EPS and 2024e TBV. We assign 13.2x/1.3x multiples, respectively, below the bank's 5 year pre pandemic median of 13.5x/2.6x given heightened uncertainty surrounding EPS/ROTCE outlooks, owing to the macro backdrop. Downside risks to our PO: severe selloff in equity/bond markets that could put downward pressure on fee growth and M&A that could temper capital return. Upside risks: stronger equity/bond markets.

Analyst Certification

I, Ebrahim H. Poonawala, 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.

North America - Banks Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Ares Capital Corporation	ARCC	ARCC US	Derek Hewett
	Ares Commercial Real Estate Corporation	ACRE	ACRE US	Derek Hewett
	Bank of Montreal	BMO	BMO US	Ebrahim H. Poonawala
	Bank of Montreal	YBMO	BMO CN	Ebrahim H. Poonawala
	Barings BDC Inc	BBDC	BBDC US	Derek Hewett
	Blackstone Mortgage Trust Inc	BXMT	BXMT US	Derek Hewett
	Blue Owl Capital Corporation	OBDC	OBDC US	Derek Hewett
	Carlyle Secured Lending Inc	CGBD	CGBD US	Derek Hewett
	Citigroup Inc.	C	C US	Ebrahim H. Poonawala
	Compass Diversified Holdings	CODI	CODI US	Derek Hewett
	Crescent Capital BDC	CCAP	CCAP US	Derek Hewett
	Cullen/Frost Bankers Inc	CFR	CFR US	Ebrahim H. Poonawala
	East West Bancorp, Incorporated	EWBC	EWBC US	Ebrahim H. Poonawala
	Fifth Third Bank	FITB	FITB US	Ebrahim H. Poonawala
	First Bancorp Puerto Rico	FBP	FBP US	Brandon Berman
	First Horizon Corporation	FHN	FHN US	Ebrahim H. Poonawala
	FNB Corporation of Pennsylvania	FNB	FNB US	Brandon Berman
	Goldman Sachs	GS	GS US	Ebrahim H. Poonawala
	JPMorgan Chase & Co.	JPM	JPM US	Ebrahim H. Poonawala
	KeyCorp	KEY	KEY US	Ebrahim H. Poonawala
	M&T Bank	MTB	MTB US	Ebrahim H. Poonawala
	Morgan Stanley	MS	MS US	Ebrahim H. Poonawala
	New Mountain Finance Corporation	NMFC	NMFC US	Derek Hewett
	New York Community Bancorp	NYCB	NYCB US	Ebrahim H. Poonawala
	Northern Trust Corporation	NTRS	NTRS US	Ebrahim H. Poonawala
	Royal Bank of Canada	RY	RY US	Ebrahim H. Poonawala
	Royal Bank of Canada	YRY	RY CN	Ebrahim H. Poonawala
	Safehold, Inc	SAFE	SAFE US	Derek Hewett
	Sixth Street Specialty Lending, Inc	TSLX	TSLX US	Derek Hewett
	Starwood Property Trust	STWD	STWD US	Derek Hewett
	Synovus Financial Corp.	SNV	SNV US	Ebrahim H. Poonawala
	The Bank of New York Mellon Corporation	BK	BK US	Ebrahim H. Poonawala
	Truist Financial	TFC	TFC US	Ebrahim H. Poonawala
	U.S. Bancorp	USB	USB US	Ebrahim H. Poonawala
	Webster Financial Corp.	WBS	WBS US	Brandon Berman
	Wells Fargo & Company	WFC	WFC US	Ebrahim H. Poonawala
	Western Alliance Bancorp	WAL	WAL US	Ebrahim H. Poonawala
NEUTRAL				
	AGNC Investment Corp	AGNC	AGNC US	Derek Hewett
	Ally Financial	ALLY	ALLY US	Brandon Berman
	Annaly Capital Management	NLY	NLY US	Derek Hewett
	Apollo Commercial Real Estate Finance	ARI	ARI US	Derek Hewett
	Associated Banc-Corp	ASB	ASB US	Brandon Berman



North America - Banks Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Bain Capital Specialty Finance, Inc.	BCSF	BCSF US	Derek Hewett
	Bank of Nova Scotia	YBNS	BNS CN	Ebrahim H. Poonawala
	Bank of Nova Scotia	BNS	BNS US	Ebrahim H. Poonawala
	Blackstone Secured Lending Fund	BXSL	BXSL US	Derek Hewett
	BrightSpire Capital Inc.	BRSP	BRSP US	Derek Hewett
	Canadian Imperial Bank of Commerce	CM	CM US	Ebrahim H. Poonawala
	Canadian Imperial Bank of Commerce	YCM	CM CN	Ebrahim H. Poonawala
	Citizens Financial Group	CFG	CFG US	Ebrahim H. Poonawala
	Comerica Incorporated	CMA	CMA US	Brandon Berman
	Commerce Bancshares Inc.	CBSH	CBSH US	Brandon Berman
	Goldman Sachs BDC, Inc.	GSBD	GSBD US	Derek Hewett
	Golub Capital BDC, Inc.	GBDC	GBDC US	Derek Hewett
	Huntington Bancshares Inc.	HBAN	HBAN US	Ebrahim H. Poonawala
	Ladder Capital Corp	LADR	LADR US	Derek Hewett
	PennyMac Mortgage Investment Trust	PMT	PMT US	Derek Hewett
	Popular Inc	BPOP	BPOP US	Brandon Berman
	Regions Financial	RF	RF US	Ebrahim H. Poonawala
	The PNC Financial Services Group, Inc.	PNC	PNC US	Ebrahim H. Poonawala
	Toronto-Dominion Bank	TD	TD US	Ebrahim H. Poonawala
	Toronto-Dominion Bank	YTD	TD CN	Ebrahim H. Poonawala
	TPG RE Finance Trust, Inc.	TRTX	TRTX US	Derek Hewett

UNDERPERFORM

	Bank of Hawaii Corp.	BOH	BOH US	Brandon Berman
	First Hawaiian Inc.	FHB	FHB US	Brandon Berman
	Guild Holdings Company	GHLD	GHLD US	Derek Hewett
	Invesco Mortgage Capital, Inc.	IVR	IVR US	Derek Hewett
	loanDepot Inc	LDI	LDI US	Derek Hewett
	MidCap Financial Investment Co	MFIC	MFIC US	Derek Hewett
	Prosperity Bancshares Inc	PB	PB US	Ebrahim H. Poonawala
	State Street Corporation	STT	STT US	Ebrahim H. Poonawala
	Texas Capital Bancshares Inc.	TCBI	TCBI US	Brandon Berman
	Zions Bancorp	ZION	ZION US	Brandon Berman

IQmethodSM Measures Definitions

Business Performance

Return On Capital Employed

Return On Equity
Operating Margin
Earnings Growth
Free Cash Flow

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

Denominator

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

Quality of Earnings

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

Numerator

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

Denominator

Net Income
Depreciation
Pre-Tax Income
Total Equity
Interest Expense

Valuation Toolkit

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

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

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

State Street (STT) 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: Banks Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	100	49.75%	Buy	84	84.00%
Hold	54	26.87%	Hold	41	75.93%
Sell	47	23.38%	Sell	35	74.47%

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: State Street.

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

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

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

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: State Street.

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

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: State Street.

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: State Street.

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: State Street.

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: State Street.

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.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 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 HKSCF; 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 or 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.

