

US Banks: Reading the Tea Leaves

Next shoe to drop?

Industry Overview

2023 EPS revision the biggest driver of stock performance

Stock performance (since start of 1Q EPS 04/13): Large-cap banks +1%; Regional banks -1.7%; S&P 500 -0.3%; Nasdaq -0.8%. Outperformers: WAL (+26%), JPM (+9%), MTB (+6%); Underperformers: STT (-7%), TFC (-7%), ZION (-6%). 2023 EPS revision the biggest driver of stock performance. See Exhibit 3 for heatmap.

Deposit re-pricing accelerates

Mid-sized banks (\$10bn-250bn assets) feeling the most pain with incremental betas up 70%+ during 1Q23 (see Exhibit 1). Banks that have witnessed the highest beta: ASB (97%), WAL (90%), TCBI (87%); lowest: RF (39%), USB (48%), JPM (55%). Exhibit 13 for bank-by-bank. 75% of banks lowered FY23 net interest income (NII)/revenue guide: JPM only bank in BofA coverage universe to raise NII guidance. 13% unchanged.

Have we seen the last NII guide down?

On average, banks expect deposit pricing pressures to abate by mid-year once Fed done hiking. Repricing in commercial/wealth deposits appears to have accelerated post SVB, consumer appears to be less impacted.

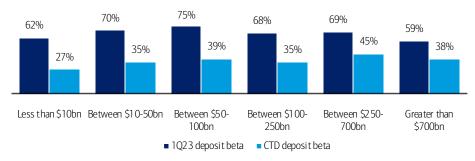
Regulatory changes in focus

On Friday the WSJ reported that regulators looking to change rules dictating capital treatment of MTM losses on available for sale securities for regional banks. This led to a sell-off in stocks that are viewed as most exposed. We believe that the regulators are unlikely to self-inflict damage, expect any changes to be phased in. However, this will temper growth and capital return potential.

Our View...recession not priced-in

Regional bank stocks trading at 8x 2023 P/E (vs. 10-12x historical) likely discounting deposit pricing pressure. However, credit cycle not priced in. Cooling inflation, regulatory clarity could serve as positive catalysts. Stay selective: Among large-caps, we highlight: Buy-rated Goldman Sachs (GS), Wells Fargo (WFC), BNY Mellon (BK); among regionals: M&T (MTB), Fifth Third (FITB), East West (EWBC), Synovus (SNV).

Exhibit 1: Mid-sized banks seeing most pressure from higher funding costs Deposit beta trends by bank asset size



Source: BofA Global Research, company filings, SNL Financial

BofA GLOBAL RESEARCH

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 9 to 12. Analyst Certification on page 8. Price
Objective Basis/Risk on page 6.

Timestamp: 23 April 2023 02:36PM EDT

23 April 2023

Equity United States Banks

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

Isiah Austin Research Analyst BofAS +1 646 855 0472 isiah.austin@bofa.com

Gabriel Angelini Research Analyst BofAS gabriel.angelini@bofa.com

Acronyms:

NII: net interest income

MTM: mark to market

Tickers mentioned:

ASB: Associated Banc-Corp

JPM: JPMorgan Chase & Co

KEY: KeyCorp

RF: Regions Financial Corp

STT: State Street Corp

TCBI: Texas Capital Bancshares Inc

TFC: Truist Financial Corp

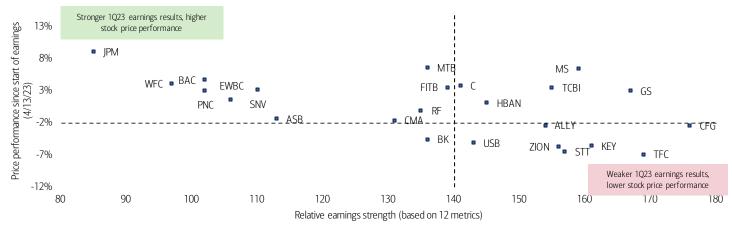
USB: US Bancorp

WAL: Western Alliance Bancorp

ZION: Zions Bancorp

Exhibit 2: Market generally rewarded those banks with stronger earnings this season

Earnings results measured across 12 metrics vs. price performance since 4/13/23; WAL (177, +26%)



Source: company filings, SNL Financial, Visible Alpha

Relative strength/weakness determined by aggregate of rankings across the $\,12\,$ metrics measured

BofA GLOBAL RESEARCH

Our heatmap represents relative strength/weakness of 1Q23 earnings results across several metrics, including impact to consensus EPS estimates based on company outlook revisions. For example, JPM reported the largest 1Q23 core EPS beat (darkest green) while KEY reported the largest 1Q23 core EPS miss (darkest red).

Exhibit 3: Heatmap of 1Q23 earnings results

Correlation denotes relationship between metric and stock price performance since 4/13/23

	Pi	rice perf.	Beat/(m	iss)	1Q23	'23 EPS	ALLL	1Q23	NCOs		1Q23 Deposi		1Q23	Loan
Ticker	Day of	Since start	1Q23 EPS	PPNR	Oper. Lev.	Revision	Build	QoQ	YoY	QoQ Δ	vs. 1Q22 Δ		NIM	Growth
Correlation			49%	43%	-17%	61%	-39%	26%	3%	-34%	-44%	21%	-7%	-58%
PNC	0%	3%	9%	3%	14%	-3%	0%	(4bp)	5bp	0%	2%	68%	(12bp)	0%
WFC	0%	4%	9%	8%	18%	2%	1%	2bp	12bp	-2%	-1%	60%	(0bp)	-1%
JPM	8%	9%	26%	21%	20%	13%	2%	9bp	18bp	2%	-2%	55%	10bp	-1%
C	5%	4%	13%	14%	6%	5%	1%	11bp	30bp	-3%	-4%	71%	(3bp)	-1%
MTB	8%	6%	1%	2%	28%	1%	3%	9bp	18bp	-3%	1%	79%	(11bp)	1%
STT	-9%	-7%	-7%	-4%	-2%	-7%	19%	0bp	2bp	-5%	-3%	72%	(1bp)	4%
BAC	1%	5%	14%	10%	7%	6%	-1%	4bp	15bp	-1%	-1%	48%	(5bp)	0%
GS	-2%	3%	13%	-27%	-6%	3%				-3%	-9%			-1%
BK	1%	-5%	1%	1%	8%	-1%	-3%	(0bp)	(Obp)	1%	-7%	82%	10bp	-6%
WAL	24%	26%	10%	10%	-16%	2%	-2%	3bp	4bp	-11%	-21%	90%	(27bp)	-10%
MS	1%	6%	2%	7%	-6%	-2%				-3%	-6%			0%
ALLY	2%	-2%	7%	-3%	-18%	-5%	1%	4bp	77bp	1%	0%	80%	(14bp)	0%
CFG	0%	-3%	-3%	0%	13%	-5%	2%	12bp	16bp	-5%	-8%	59%	(7bp)	-1%
USB	2%	-5%	2%	4%	6%	-4%	1%	(25bp)	18bp	-4%	-5%	48%	5bp	0%
ZION	-5%	-6%	-11%	-3%	12%	-9%	7%	2bp	(5bp)	-3%	-3%	57%	(28bp)	1%
CMA	-3%	-2%	4%	-1%	25%	-3%	5%	3bp	(6bp)	-9%	-4%	63%	(27bp)	3%
FITB	-1%	3%	5%	-6%	8%	-1%	1%	3bp	14bp	0%	-1%	70%	(12bp)	1%
HBAN	-2%	1%	4%	-1%	10%	-2%	1%	2bp	12bp	-2%	-4%	74%	(20bp)	1%
KEY	-3%	-6%	-31%	-20%	1%	-9%	3%	1bp	2bp	1%	4%	71%	(32bp)	0%
TFC	-4%	-7%	-5%	-1%	4%	0%	2%	2bp	12bp	-2%	-5%	74%	(13bp)	1%
ASB	-1%	-1%	5%	1%	20%	0%	4%	3bp	8bp	2%	3%	97%	(28bp)	1%
EWBC	0%	2%	6%	-2%	20%	3%	4%	(8bp)	(7bp)	-2%	-5%	86%	(11bp)	1%
SNV	-1%	3%	9%	4%	11%	1%	3%	5bp	(2bp)	2%	4%	86%	(20bp)	1%
TCBI	3%	3%	-19%	0%	7%	-1%	3%	13bp	43bp	-3%	7%	87%	(0bp)	4%
RF	-3%	0%	-4%	-2%	12%	-1%	1%	5bp	13bp	-2%	-4%	39%	13bp	1%

Source: company filings, SNL Financial, Visible Alpha

BofA GLOBAL RESEARCH



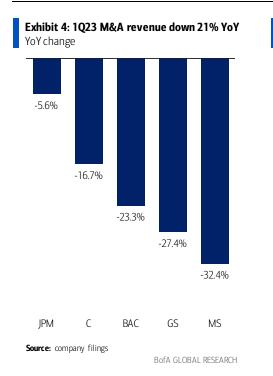
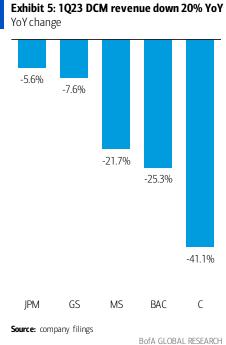
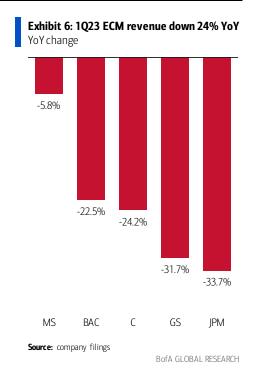


Exhibit 7: 1Q23 FICC trading revenue up 1% YoY





29.5% 3.8% 0.0% -11.9% -16.9% BAC C JPM MS GS Source: company filings

BofA GLOBAL RESEARCH

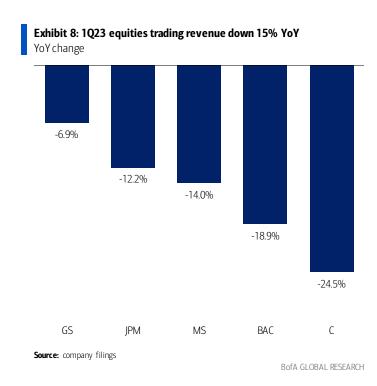
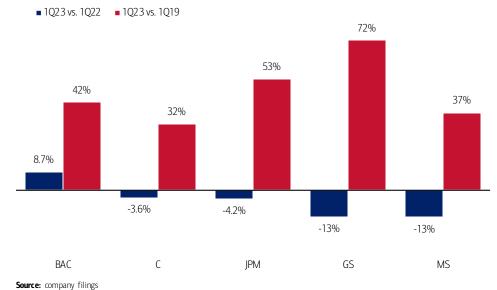


Exhibit 9: Capital markets revenue down 5% YoY, on avg., in 1Q23 but are 47% higher vs. '19

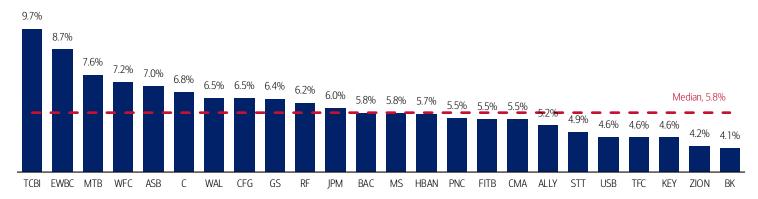
Aggregate revenue generated by investment banking and trading businesses



BofA GLOBAL RESEARCH

Exhibit 10: TCE ratio by bank as of 1Q23

Median TCE ratio 5.8%



Source: company filings, SNL Financial

BofA GLOBAL RESEARCH

Exhibit 11: Deposits down 26bp WoW

WoW per H.8 data

Source: Federal Reserve

Deposits

(\$mn)	05/Apr/2 3	12/Apr/23	% Chg.	Avg weekly % chg thr. March
All Commercial Banks	17,430	17,380	-0.28%	-0.26%
Domestic Commercial Banks	16,180	16,132	-0.30%	-0.24%
Top 25 Banks	10,776	10,736	-0.38%	-0.18%
Ex. Top 25 Banks	5,404	5,396	-0.15%	-0.34%

BofA GLOBAL RESEARCH

Exhibit 12: Loans and leases relatively unch WoW WoW per H.8 data

Loans and leases

		12/Apr/2		Avg weekly % chg
(\$mn)	05/Apr/23	3	% Chg.	thr. March
All Commercial Banks	12,060	12,051	-0.08%	-0.02%
Domestic Commercial				
Banks	11,020	11,015	-0.05%	-0.02%
Top 25 Banks	6,565	6,558	-0.10%	-0.02%
Ex. Top 25 Banks	4,455	4,457	0.04%	-0.03%
Source: Federal Reserve				

BofA GLOBAL RESEARCH



Exhibit 13: Deposit beta trends (1Q23 increment & cycle-to-date) by bank
Deposit beta = change in interest-bearing deposit costs divided by change in average effective Fed funds rate

Company name	Ticker	Assets		Intere	est-bearing d	leposit costs			1Q23	CTD
		\$bn	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	β	β
Nicolet Bankshares, Inc.	NIC	8.2	0.27%	0.20%	0.23%	0.41%	1.04%	2.07%	118%	41%
ServisFirst Bancshares, Inc.	SFBS	14.6	0.33%	0.31%	0.36%	0.76%	1.70%	2.68%	113%	53%
Preferred Bank	PFBC	6.5	0.41%	0.38%	0.48%	1.03%	2.12%	3.07%	109%	60%
Capital Bancorp, Inc.	CBNK	2.2	0.37%	0.35%	0.39%	0.57%	1.83%	2.78%	109%	54%
United Community Banks, Inc.	UCBI	25.9	0.10%	0.10%	0.13%	0.32%	0.80%	1.71%	105%	36%
Metropolitan Bank Holding Corp.	MCB	6.3	0.54%	0.54%	0.53%	0.98%	2.24%	3.14%	103%	59%
Bank OZK	OZK	29.0	0.24%	0.23%	0.29%	0.59%	1.33%	2.20%	100%	44%
Hingham Institution for Savings	HIFS	4.2	0.29%	0.30%	0.41%	0.82%	1.58%	2.45%	100%	49%
MetroCity Bankshares, Inc.	MCBS	3.4	0.27%	0.27%	0.55%	1.48%	2.61%	3.48%	100%	72%
FB Financial Corporation	FBK	13.1	0.30%	0.27%	0.33%	0.74%	1.67%	2.53%	99%	50%
Eagle Bancorp, Inc.	EGBN	11.1	0.38%	0.37%	0.73%	1.70%	2.77%	3.63%	99%	73%
Associated Banc-Corp	ASB	40.7	0.07%	0.07%	0.16%	0.50%	1.13%	1.97%	97%	43%
White River Bancshares Co	WRIV	1.1	0.61%	0.53%	0.51%	0.58%	1.18%	2.02%	97%	32%
Guaranty Bancshares, Inc.	GNTY	3.4	0.30%	0.29%	0.38%	0.59%	1.08%	1.91%	95%	36%
Cathay General Bancorp	CATY	22.0	0.37%	0.33%	0.37%	0.69%	1.59%	2.40%	93%	46%
Western Alliance Bancorporation	WAL	71.0	0.20%	0.21%	0.37%	1.03%	1.97%	2.75%	90%	57%
FineMark Holdings, Inc.	FNBT	3.8	0.00%	0.00%	0.24%	0.57%	0.97%	1.74%	89%	39%
Virginia National Bankshares Corporation Texas Capital Bancshares, Inc.	VABK	1.6	0.30%	0.29% 0.40%	0.24%	0.22%	0.32%	1.09%	89%	18%
East West Bancorp, Inc.	TCBI	28.6	0.39%	0.40%	0.73%	1.79%	2.87% 1.74%	3.63%	87% 86%	73% 52%
Synovus Financial Corp.	EWBC SNV	67.2 61.8	0.18% 0.18%	0.17%	0.30% 0.23%	0.86% 0.59%	1.74%	2.49% 2.07%	86%	43%
Syriovus Financial Corp. Pinnade Financial Partners, Inc.	PNFP	45.1	0.18%	0.17%	0.23%	0.59%	2.02%	2.76%	85%	43% 57%
CrossFirst Bankshares, Inc.	CFB	6.9	0.21%	0.20%	0.56%	1.56%	2.02%	3.29%	83%	64%
John Marshall Bancorp, Inc.	JMSB	2.4	0.45%	0.41%	0.46%	0.80%	1.46%	2.18%	83%	41%
CNB Financial Corporation	CCNE	5.6	0.34%	0.28%	0.26%	0.47%	1.40%	1.80%	82%	33%
The Bank of New York Mellon Corporation	BK	425.1	-0.08%	-0.07%	0.16%	0.95%	2.00%	2.71%	82%	63%
Ally Financial Inc.	ALLY	196.2	0.64%	0.61%	0.76%	1.58%	2.53%	3.23%	80%	58%
Hancock Whitney Corporation	HWC	37.5	0.12%	0.10%	0.13%	0.36%	0.96%	1.65%	79%	34%
M&T Bank Corporation	MTB	203.0	0.05%	0.05%	0.12%	0.29%	0.80%	1.49%	79%	32%
First Financial Bancorp.	FFBC	16.9	0.14%	0.12%	0.14%	0.31%	0.76%	1.44%	78%	29%
Equity Bancshares, Inc.	EQBK	5.2	0.25%	0.22%	0.28%	0.57%	1.05%	1.73%	78%	33%
Mercantile Bank Corporation	MBWM	4.9	0.34%	0.31%	0.34%	0.43%	0.78%	1.45%	77%	25%
Wintrust Financial Corporation	WTFC	52.9	0.24%	0.22%	0.28%	0.64%	1.30%	1.97%	77%	39%
Unity Bancorp, Inc.	UNTY	2.5	0.38%	0.32%	0.33%	0.57%	1.04%	1.70%	76%	30%
Washington Federal, Inc.	WAFD	22.3	0.27%	0.26%	0.29%	0.53%	1.00%	1.66%	76%	31%
1st Source Corporation	SRCE	8.3	0.22%	0.21%	0.30%	0.56%	1.07%	1.73%	76%	34%
CapStar Financial Holdings, Inc.	CSTR	3.2	0.26%	0.26%	0.32%	0.82%	1.54%	2.19%	75%	43%
Huntington Bancshares Incorporated	HBAN	189.1	0.05%	0.04%	0.10%	0.35%	0.88%	1.52%	74%	33%
Truist Financial Corporation	TFC	574.4	0.05%	0.05%	0.14%	0.48%	1.00%	1.64%	74%	36%
Banc of California, Inc.	BANC	10.0	0.17%	0.12%	0.28%	0.77%	1.34%	1.98%	74%	41%
Princeton Bancorp, Inc.	BPRN	1.6	0.48%	0.43%	0.41%	0.50%	0.81%	1.45%	74%	22%
National Bankshares, Inc.	NKSH	1.7	0.24%	0.23%	0.21%	0.24%	0.34%	0.97%	73%	16%
Sandy Spring Bancorp, Inc.	SASR	14.1	0.16%	0.14%	0.22%	0.56%	1.56%	2.19%	72%	46%
State Street Corporation	STT	290.8	-0.14%	-0.14%	0.05%	0.71%	1.62%	2.25%	72%	54%
Webster Financial Corporation	WBS	74.8	0.07%	0.09%	0.12%	0.37%	0.80%	1.42%	72%	31%
Citigroup Inc.	С	2,455.1	0.28%	0.33%	0.53%	1.21%	2.10%	2.72%	71%	55%
KeyCorp	KEY	197.5	0.06%	0.06%	0.08%	0.25%	0.74%	1.36%	71%	29%
Fifth Third Bancorp	FITB	208.7	0.04%	0.04%	0.10%	0.45%	1.13%	1.74%	70%	38%
First Horizon Corporation	FHN	80.7	0.11%	0.10%	0.16%	0.41%	1.12%	1.73%	70%	36%
Truxton Corporation	TRUX	0.9	0.42%	0.41%	0.54%	1.22%	2.05%	2.65%	69%	50%
Farmers & Merchants Bank of Long Beach	FMBL	12.0	0.09%	0.09%	0.09%	0.14%	0.37%	0.96%	68%	20%
MainStreet Bancshares, Inc.	MNSB	2.1	0.78%	0.76%	0.82%	1.21%	1.68%	2.27%	68%	34%
The PNC Financial Services Group, Inc.	PNC	561.8	0.04%	0.04%	0.12%	0.45%	1.07%	1.66%	68%	36%
Farmers & Merchants Bancorp, Inc.	FMAO	3.1	0.36%	0.31%	0.32%	0.49%	1.06%	1.65%	68%	29%
Communities First Financial Corporation	CFST	1.3	0.24%	0.24%	0.24%	0.27%	0.54%	1.13%	67%	20%
BCB Bancorp, Inc.	BCBP	3.8	0.45%	0.37%	0.37%	0.47%	1.21%	1.77%	64%	30%
Fulton Financial Corporation	FULT	27.1	0.16%	0.16%	0.17%	0.28%	0.65%	1.21%	64%	24%
HMN Financial, Inc. Comerica Incorporated	HMNF CMA	1.1 91.1	0.21% 0.05%	0.18% 0.05%	0.18% 0.05%	0.21% 0.20%	0.51% 0.97%	1.06% 1.52%	64% 63%	19% 33%
Bank First Corporation	BFC	4.2	0.05%	0.05%	0.40%	0.20%	0.97%	1.35%	62%	22%
Republic Bancorp, Inc.	RBCA.A	6.1	0.38%	0.36%	0.40%	0.52%	0.81%	0.99%	61%	19%
PBCO Financial Corporation	PBCO	0.1	0.14%	0.12%	0.14%	0.26%	0.46%	0.99%	60%	14%
Wells Fargo & Company	WFC	1,886.4	0.20%	0.16%	0.14%	0.24%	0.29%	1.22%	60%	27%
F.N.B. Corporation	FNB	1,000.4	0.00%	0.04%	0.07%	0.23%	0.70%	1.50%	60%	30%
Berkshire Hills Bancorp, Inc.	BHLB	12.3	0.17%	0.14%	0.24%	0.37%	0.98%	1.49%	59%	27%
Demonite Fillo Dalladi D. IIIa.	CFG	222.3	0.28%	0.24%	0.18%	0.46%	1.23%	1.74%	59%	36%
	u u				0.18%	0.20%	0.42%			19%
Citizens Financial Group, Inc.	7ION	88 6	()()huh							
Citizens Financial Group, Inc. Zions Bancorporation, National Association	ZION A SRV	88.6	0.06%	0.06%				0.92%	57% 57%	
Citizens Financial Group, Inc. Zions Bancorporation, National Association AmeriServ Financial, Inc.	ASRV	1.3	0.38%	0.34%	0.41%	0.73%	1.27%	1.76%	57%	31%
Citizens Financial Group, Inc. Zions Bancorporation, National Association										



Exhibit 13: Deposit beta trends (1Q23 increment & cycle-to-date) by bank

Deposit beta = change in interest-bearing deposit costs divided by change in average effective Fed funds rate

Company name	Ticker	Assets		Inter	est-bearing (deposit costs			1Q23	CTD
		\$bn	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	β	β
Home Bancshares, Inc. (Conway, AR)	HOMB	22.5	0.20%	0.19%	0.31%	0.70%	1.45%	1.90%	52%	38%
Great Southern Bancorp, Inc.	GSBC	5.8	0.29%	0.27%	0.29%	0.56%	1.18%	1.62%	51%	30%
Hilltop Holdings Inc.	HTH	17.0	0.22%	0.21%	0.28%	0.70%	1.57%	2.01%	51%	40%
William Penn Bancorporation	WMPN	0.9	0.33%	0.31%	0.30%	0.38%	0.71%	1.14%	49%	18%
Bank of America Corporation	BAC	3,194.7	0.05%	0.05%	0.11%	0.40%	0.96%	1.38%	48%	30%
U.S. Bancorp	USB	682.4	0.10%	0.10%	0.21%	0.62%	1.18%	1.60%	48%	34%
Chemung Financial Corporation	CHMG	2.7	0.21%	0.20%	0.21%	0.47%	0.93%	1.34%	47%	25%
National Bank Holdings Corporation	NBHC	9.9	0.30%	0.27%	0.26%	0.31%	0.55%	0.94%	45%	14%
Oregon Pacific Bancorp	ORPB	0.8	0.10%	0.10%	0.10%	0.13%	0.28%	0.67%	45%	13%
Bar Harbor Bankshares	BHB	3.9	0.24%	0.20%	0.20%	0.30%	0.52%	0.91%	45%	15%
S&T Bancorp, Inc.	STBA	9.2	0.16%	0.14%	0.14%	0.43%	0.93%	1.30%	43%	26%
Independent Bank Corp.	INDB	19.4	0.08%	0.08%	0.08%	0.22%	0.54%	0.89%	40%	18%
Regions Financial Corporation	RF	154.1	0.07%	0.07%	0.10%	0.25%	0.57%	0.91%	39%	19%
Home Bancorp, Inc.	HBCP	3.3	0.22%	0.20%	0.22%	0.27%	0.44%	0.77%	38%	12%
Banner Corporation	BANR	15.5	0.12%	0.11%	0.10%	0.12%	0.19%	0.51%	37%	9%
Commerce Bancshares, Inc.	CBSH	32.0	0.05%	0.05%	0.07%	0.21%	0.40%	0.71%	36%	15%
Glacier Bancorp, Inc.	GBCI	27.8	0.11%	0.10%	0.09%	0.10%	0.14%	0.39%	29%	6%
Santa Cruz County Bank	SCZC	1.7	0.21%	0.19%	0.18%	0.22%	0.30%	0.55%	29%	8%
Heritage Financial Corporation	HFWA	7.2	0.15%	0.14%	0.14%	0.15%	0.25%	0.49%	28%	8%
Citizens & Northern Corporation	CZNC	2.4	0.28%	0.26%	0.32%	0.54%	0.71%	0.94%	26%	15%
Central Valley Community Bancorp	CVCY	2.5	0.09%	0.08%	0.08%	0.08%	0.18%	0.38%	23%	7%
OFG Bancorp	OFG	10.1	0.37%	0.35%	0.34%	0.40%	0.57%	0.76%	22%	9%
Plumas Bancorp	PLBC	1.6	0.12%	0.11%	0.10%	0.09%	0.15%	0.28%	15%	4%
Delhi Bank Corp.	DWNX	0.4	0.40%	0.38%	0.39%	0.45%	0.64%	0.74%	12%	8%
Old Second Bancorp, Inc.	OSBC	5.9	0.09%	0.08%	0.07%	0.09%	0.17%	0.25%	9%	4%
Westamerica Bancorporation	WABC	6.7	0.06%	0.05%	0.05%	0.05%	0.05%	0.06%	1%	0%

Source: company filings, SNL Financial

BofA GLOBAL RESEARCH

Exhibit 14: Stocks mentioned

Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
BK	BK US	BNY Mellon	US\$ 44.05	B-1-7
EWBC	EWBC US	East-West	US\$ 54.81	B-1-7
FITB	FITB US	Fifth Third Bank	US\$ 27.48	B-1-7
GS	GS US	Goldman Sachs	US\$ 341.66	B-1-7
MTB	MTB US	M&T Bank	US\$ 124.09	B-1-7
SNV	SNV US	Synovus	US\$ 30.99	B-1-7
WFC	WFC US	Wells Fargo	US\$ 41.24	B-1-7

Source: BofA Global Research

BofA GLOBAL RESEARCH

Price objective basis & risk

East West Bancorp, Incorporated (EWBC)

Our \$65 PO incorporates recession risk. We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 8.0x/6.5x/1.9x multiples respectively, below peer multiples (9.5x/8.5x/1.3x) due to risk of outsized EPS pressure in the current rate environment.

Upside risks to our PO are a faster-than-expected economic recovery, higher interest rates. Downside risks to our PO are a worsening in the macro-economic outlook, decline in interest rates.

Fifth Third Bank (FITB)

Our \$32 PO incorporates recession risk. We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 10.0x/7.0x/2.4x multiples, respectively, consistent with its historical relationship with the return profile and in line with peer average (9.8x/7.8x/1.8x).



Downside risks to our PO are a prolonged low interest rate environment, slower-than-guided loan growth on weaker economic activity, and/or a deterioration in credit quality.

Upside risks to our PO are a better-than-expected improvement in the macro environment, stronger-than-anticipated balance sheet growth, and/or better expense management.

Goldman Sachs (GS)

Our \$398 PO incorporates recession risk. We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 19.0x/17.0x/6.2x multiples, respectively, above peers (14.2x/13.0x/1.8x) due to lower credit risk relative to peers into a potential recession.

Risks to the upside is stronger capital markets activity.

Risks to the downside are a weaker economy/capital markets, macro or geo-political issues, competition, structural pressures, tougher global regulation, and litigation.

M&T Bank (MTB)

Our \$145 PO incorporates recession risk. We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 9.5x/7.5x/1.8x multiples respectively, in line with peer multiples (9.8x/7.8x/1.8x) due to lack of an obvious catalyst.

Downside risks to our PO are moderating CRE, runoff from resi mortgage acquired, and attrition from rate-sensitive trust deposits.

Upside risks are stronger than expected cost/revenue synergies from the PBCT deal and better than expected economic recovery.

Synovus Financial Corp. (SNV)

Our \$36 PO incorporates recession risk. We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assigned 9.0x/7.5x/1.2x multiples, respectively, below peers (9.5x/8.0x/1.3x).

Downside risks to our price objective are potentially slower-than-expected economic growth in their footprint or a potential takeout price that is lower than where the stock is trading today. Upside risks to our price objective are sooner than expected pickup in the overall economy and SNV being acquired above our price objective.

The Bank of New York Mellon Corporation (BK)

Our \$54 PO incorporates recession risk. We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 11.0x/9.5x/2.5x multiples respectively, above large-cap peers (9.8x/7.8x/1.8x) given cyclical and self-help factors.

Risks to the upside is stronger equity/bond markets.

Risks to the downside are a severe selloff in equity/bond markets that that could put downward pressure on fee growth and M&A that could temper capital return.

Wells Fargo & Company (WFC)

Our \$47 PO incorporates recession risk. We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 12.0x/11.5x/1.2x multiples respectively, compared with large-cap peers (9.8x/7.8x/1.8x).



Downside risks to our price objective are a worse than expected economic downturn that lead to significantly higher than expected credit losses, elevated expense trajectory, slower-than-expected resolution of its consent orders. Upside risks are better-than-expected credit quality (i.e., lower loan losses) and material expense management that improve visibility on future earnings.

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	Bof A Ticker	Bloomberg symbol	Analyst
BUY				
	Citigroup Inc.	С	C US	Ebrahim H. Poonawala
	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
	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 York Community Bancorp	NYCB	NYCB US	Ebrahim H. Poonawala
	Synovus Financial Corp.	SNV	SNV US	Ebrahim H. Poonawala
	The Bank of New York Mellon Corporation	BK	BK US	Ebrahim H. Poonawala
	Toronto-Dominion Bank	TD	TD US	Ebrahim H. Poonawala
	Toronto-Dominion Bank	YTD	TD CN	Ebrahim H. Poonawala
	Wells Fargo & Company	WFC	WFC US	Ebrahim H. Poonawala
	Western Alliance Bancorp	WAL	WAL US	Ebrahim H. Poonawala
NEUTRAL	·			
111011011	Associated Banc-Corp	ASB	ASB US	Brandon Berman
	Bank of Montreal	ВМО	BMO US	Ebrahim H. Poonawala
	Bank of Montreal	YBMO	BMO CN	Ebrahim H. Poonawala
	Bank of Nova Scotia	YBNS	BNS CN	Ebrahim H. Poonawala
	Bank of Nova Scotia	BNS	BNS US	Ebrahim H. Poonawala
	Citizens Financial Group	CFG	CFG US	Ebrahim H. Poonawala
	Comerica Incorporated	CMA	CMA US	Ebrahim H. Poonawala
	Huntington Bancshares Inc.	HBAN	HBAN US	Ebrahim H. Poonawala
	Regions Financial	RF	RF US	Ebrahim H. Poonawala
	Royal Bank of Canada	RY	RY US	Ebrahim H. Poonawala
	Royal Bank of Canada	YRY	RY CN	Ebrahim H. Poonawala
	State Street Corporation	STT	STT US	Ebrahim H. Poonawala
	Truist Financial	TFC	TFC US	Ebrahim H. Poonawala
	U.S. Bancorp	USB	USB US	Ebrahim H. Poonawala
UNDERPERFORM				
	Ally Financial	ALLY	ALLY US	Brandon Berman
	Bank of Hawaii Corp.	ВОН	BOH US	Brandon Berman
	Canadian Imperial Bank of Commerce	CM	CM US	Ebrahim H. Poonawala
	Canadian Imperial Bank of Commerce	YCM	CM CN	Ebrahim H. Poonawala
	First Hawaiian Inc.	FHB	FHB US	Brandon Berman
	Prosperity Bancshares Inc	PB	PB US	Ebrahim H. Poonawala
	Texas Capital Bancshares Inc.	TCBI	TCBIUS	Brandon Berman
	The PNC Financial Services Group, Inc.	PNC	PNC US	Ebrahim H. Poonawala
	Zions Bancorp	ZION	ZION US	Ebrahim H. Poonawala

Disclosures

Important Disclosures

Equity Investment Rating Distribution: Banks Group (as of 31 Mar 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	88	50.87%	Buy	72	81.82%
Hold	40	23.12%	Hold	29	72.50%
Sell	45	26.01%	Sell	34	75.56%



Equity Investment Rating Distribution: Financial Services Group (as of 31 Mar 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	152	52.41%	Buy	92	60.53%
Hold	73	25.17%	Hold	44	60.27%
Sell	65	22 41%	Sell	41	63.08%

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

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1869	53.01%	Buy	1030	55.11%
Hold	827	23.45%	Hold	476	57.56%
Sell	830	23.54%	Sell	389	46.87%

[®] Issuers that were investment banking dients 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). There are three investment ratings: 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 - Underperformstocks are the least attractive stocks in a coverage cluster. 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%

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: BNY Mellon, East-West, Fifth Third Bank, Goldman Sachs, M&T Bank, Synovus, Wells Fargo.

BoFAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Bank of New York Mel, M&T Bank.

The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Bank of New York Mel, East-West, Fifth Third, Goldman Sachs, M&T Bank, Synovus, Wells Fargo.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Bank of New York Mel, East-West, Fifth Third, Goldman Sachs, M&T Bank, Synovus, Wells Fargo.

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: Bank of New York Mel, East-West, Fifth Third, Goldman Sachs, M&T Bank, Synovus, Wells Fargo.

BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Bank of New York Mel, East-West, Fifth Third, Goldman Sachs, M&T Bank, Synovus, Wells Fargo.

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: Bank of New York Mel, Fifth Third, Goldman Sachs, M&T Bank, Synovus, Wells Fargo.

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: Fifth Third, Goldman Sachs, M&T Bank, Synovus, Wells Fargo.

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: BNY Mellon, East-West, Fifth Third Bank, Goldman Sachs, M&T Bank, Synovus, Wells Fargo.

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: Bank of New York Mel, East-West, Fifth Third, Goldman Sachs, M&T Bank, Synovus, Wells Fargo.

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

Other Important Disclosures

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

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

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

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

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

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



global brand for BofA Global Research.

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

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no. 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI), BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI, BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch 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 (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Mexico): Merrill Ly 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 HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in Initiation in Initiation in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information in Germany and is regulated by MaFin, the ECB and the CBI. BofA Securities entities, including Bof

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 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 2023 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, co-defendants, or co-plaintiffs with or involving issuers mentioned in this material is based

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.

