

NVR, Inc.

2024 EPS and ROE estimates going much higher after 4Q order beat

Reiterate Rating: BUY | PO: 8,000.00 USD | Price: 7,120.67 USD

4Q EPS roughly in-line despite delivery miss

NVR, Inc. (NVR) reported 4Q23 EPS of \$121.56, ahead of our \$115.39 forecast and consensus of \$121.50. Homebuilding revenues declined 11% YoY to \$2.39bn (6% below our forecast). Homes closed (units) declined 7% YoY and average price was down 4%. Despite the lower 4Q revenue, we increase our 2024 EPS estimate by 14% to reflect stronger a top-line outlook going forward (better orders) as well as SG&A leverage. We raise our PO to \$8,000 (from \$7,500) still based on 5.5x price-to-forward book.

Order growth significantly outperforms normal seasonality

NVR 4Q orders increased 25% YoY and 9% QoQ, 12% above our forecast. Average order price (ASP) decreased 1% QoQ in 4Q mainly driven by mix. Orders and absorption pace significantly outperformed normal seasonality. Absorption pace continues to hold well above pre-COVID levels, despite headwinds from higher interest rates early in the quarter. NVR increased its community count by 2% QoQ and we expect growth to continue into 2024 given NVR's controlled lot position (~7 years of land supply based on current sales pace).

Expect relatively resilient GM and SG&A leverage in '24

4Q gross margin of 24.1% down 20bps QoQ. We forecast 2024 gross margin of 24.0% vs. 24.3% in 2023. We expect flattish incentives going forward with lower rates and an improved demand backdrop. Higher land and material costs could be a slight headwind to margins in 2024. We anticipate 50bps of SG&A leverage due to lower stock-based compensation in 2024 (2023 had overlapping plans).

ROE likely to remain elevated in 2024; Reiterate Buy

We reiterate our Buy on NVR given its high return-on-equity (forecast ~35%+ 12-month forward) and cash flow generation (~7% FCF yield) should support capital return to investors. We do not anticipate NVR to continue to grow its cash position (\$2bn+ of net cash on balance sheet). Given the elevated cash position, we expect share repurchases to increase from 4Q levels (forecasting \$1.4B buybacks in 2024 vs, \$1.0bn in 2023).

Estimates (Dec) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	491.65	463.18	481.07	494.24	527.18
EPS Change (YoY)	53.3%	-5.8%	3.9%	2.7%	6.7%
Consensus EPS (Bloomberg)			427.60	451.28	415.61
DPS	0	0	0	0	0
Valuation (Dec)					
P/E	14.5x	15.4x	14.8x	14.4x	13.5x
EV / EBITDA*	8.7x	10.2x	9.4x	9.7x	9.8x
Free Cash Flow Yield*	7.4%	5.8%	6.4%	6.0%	6.0%
* For full definitions of <i>IQ</i> method SM measures, see page 6.					

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. 12653009 30 January 2024

Equity

Key Changes Previous Current Price Obj. 7,500.00 8,000.00

Rafe ladrosich Research Analyst **BofAS** +1 646 855 5815 rafe.jadrosich@bofa.com

Shaun Calnan, CFA Research Analyst **BofAS** +1 646 855 1362 shaun.calnan@bofa.com

Victoria Piskarev Research Analyst BofAS +1 646 855 0657 victoria.piskarev@bofa.com

Stock Data

Price 7,120.67 USD Price Objective 8,000.00 USD Date Established 30-Jan-2024 B-1-9 Investment Opinion 52-Week Range 4,988.99 USD - 7,423.73 USD Mrkt Val (mn) / Shares Out 24,992 USD / 3.5 (mn) 95.3% Average Daily Value (mn) 151.32 USD BofA Ticker / Exchange NVR / NYS Bloomberg / Reuters NVR US / NVR.N ROE (2024E) 35.2% Net Dbt to Eqty (Dec-2023A) 0% ESGMeter™ Medium

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

iQprofile[™] NVR, Inc.

Qmethod SM − Bus Performance*					
US\$ Millions)	2022A	2023A	2024E	2025E	2026
Return on Capital Employed	39.3%	33.2%	29.3%	27.4%	27.09
Return on Equity	53.0%	40.6%	35.2%	32.8%	32.20
Operating Margin	21.7%	20.2%	20.1%	18.6%	17.9
Free Cash Flow	1,852	1,446	1,594	1,491	1,50
Qmethod SM – Quality of Earnings*					
US\$ Millions)	2022A	2023A	2024E	2025E	2026
Cash Realization Ratio	1.1x	0.9x	1.0x	1.0x	1.0
Asset Replacement Ratio	1.1x	1.4x	1.2x	1.2x	1.2
Tax Rate	23.4%	17.5%	25.0%	25.0%	25.0
Net Debt-to-Equity Ratio	-45.9%	-49.4%	-51.7%	-50.5%	-48.6
Interest Cover	NM	NM	NM	NM	N
ncome Statement Data (Dec)					
US\$ Millions)	2022A	2023A	2024E	2025E	2026
Sales	10,580	9.687	10,544	10,950	11,29
% Change	18.0%	-8.4%	8.8%	3.9%	3.1
Gross Profit	2,918	2,636	2,807	2,759	2,76
% Change	32.2%	-9.7%	6.5%	-1.7%	0.2
EBITDA	2,310	1,975	2,143	2,067	2,04
% Change	38.8%	-14.5%	8.5%	-3.5%	-0.9
Net Interest & Other Income	(40)	(28)	(30)	(30)	(3
Net Income (Adjusted)	1,726	1,592	1,564	1,507	1,49
% Change	39.5%	-7.8%	-1.7%	-3.7%	-0.9
rree Cash Flow Data (Dec) US\$ Millions)	2022A	2023A	2024E	2025E	
US\$ Millions) Net Income from Cont Operations (GAAP)	1,726	1,592	1,564	1,507	1,49
US\$ Millions) Net Income from Cont Operations (GAAP) Depreciation & Amortization	1,726 17	1,592 19	1,564 26	1,507 27	1,49
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital	1,726 17 (12)	1,592 19 (192)	1,564 26 (54)	1,507 27 (98)	1,49 2 (7
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge	1,726 17 (12) NA	1,592 19 (192) NA	1,564 26 (54) NA	1,507 27 (98) NA	1,49 2 (7 N
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net	1,726 17 (12) NA 139	1,592 19 (192) NA 53	1,564 26 (54) NA 88	1,507 27 (98) NA 88	1,49 2 (7 N
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure	1,726 17 (12) NA 139 (18)	1,592 19 (192) NA 53 (26)	1,564 26 (54) NA 88 (31)	1,507 27 (98) NA 88 (32)	1,49 (7 N 8 (3
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow	1,726 17 (12) NA 139 (18) 1,852	1,592 19 (192) NA 53 (26) 1,446	1,564 26 (54) NA 88 (31) 1,594	1,507 27 (98) NA 88 (32) 1,491	1,49 (7 N 8 (3
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change	1,726 17 (12) NA 139 (18) 1,852 51.2%	1,592 19 (192) NA 53 (26) 1,446 -21.9%	1,564 26 (54) NA 88 (31) 1,594	1,507 27 (98) NA 88 (32) 1,491 - 6.4%	1,49 (7: N 8 (3: 1,50
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500)	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082)	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400)	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500)	1,49 (7 N (8 (3 1,50
DS\$ Millions) Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change	1,726 17 (12) NA 139 (18) 1,852 51.2%	1,592 19 (192) NA 53 (26) 1,446 -21.9%	1,564 26 (54) NA 88 (31) 1,594	1,507 27 (98) NA 88 (32) 1,491 - 6.4%	1,49 (7: N 8 (3: 1,50
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500)	1,592 19 (192) NA 53 (26) 1,446 - 21.9% (1,082) 0	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400)	1,507 27 (98) NA 88 (32) 1,491 - 6.4% (1,500)	202(1,49 2 (7. N 8 (3. 1,50 0.8
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500)	1,592 19 (192) NA 53 (26) 1,446 - 21.9% (1,082) 0	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400)	1,507 27 (98) NA 88 (32) 1,491 - 6.4% (1,500)	1,49 (7 N 8 (3 1,50 0.8 (1,60
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt alance Sheet Data (Dec)	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601)	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0	1,49 (77 N 8 (3 1,50 0.8 (1,60
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt alance Sheet Data (Dec) US\$ Millions)	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601)	1,592 19 (192) NA 53 (26) 1,446 - 21.9% (1,082) 0 (1)	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0	1,49 (7 N 8 (3 1,50 0.8 (1,60
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt alance Sheet Data (Dec) JS\$ Millions) Cash & Equivalents	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601)	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1)	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0	1,49 (77 N 8 (33 1,50 0.8 (1,60
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt alance Sheet Data (Dec) US\$ Millions) Cash & Equivalents Trade Receivables Other Current Assets	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601)	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1) 2023A 3,126 29	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0 0	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0 0	1,49 (77 N 8 (3) 1,50 0.8' (1,60)
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt alance Sheet Data (Dec) JS\$ Millions) Cash & Equivalents Trade Receivables	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601) 2022A 2,523 21 1,788	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1) 2023A 3,126 29 1,950	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0 0 2024E 3,339 31 2,036	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0 0	1,49 (77 N 8 (33 1,50 0.8 (1,60
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt alance Sheet Data (Dec) JS\$ Millions) Cash & Equivalents Trade Receivables Other Current Assets Property, Plant & Equipment	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601) 2022A 2,523 21 1,788 62	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1) 2023A 3,126 29 1,950 70	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0 0 2024E 3,339 31 2,036 75	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0 0 2025E 3,331 32 2,156 80	1,49 (7 N 8 (3 1,50 0.8 (1,60 202 3,22 8 1,33
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt JS\$ Millions) Cash & Equivalents Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601) 2022A 2,523 21 1,788 62 1,268	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1) 2023A 3,126 29 1,950 70 1,390	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0 0 2024E 3,339 31 2,036 75 1,337	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0 0 2025E 3,331 32 2,156 80 1,337	1,49 (77 N 8 (3 1,50 0.8 (1,60 202 3,23 2,24 8 1,33
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt Cash & Equivalents Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets Total Assets Short-Term Debt	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601) 2022A 2,523 21 1,788 62 1,268 5,661	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1) 2023A 3,126 29 1,950 70 1,390 6,565	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0 0 2024E 3,339 31 2,036 75 1,337 6,818	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0 0 2025E 3,331 32 2,156 80 1,337 6,935	1,49 (7 N 8 (3 1,50 0.8 (1,60 202 3,22 8 1,33 6,93
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt Cash & Equivalents Trade Receivables Other Current Assets Froperty, Plant & Equipment Other Non-Current Assets Total Assets	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601) 2022A 2,523 21 1,788 62 1,268 5,661 0	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1) 2023A 3,126 29 1,950 70 1,390 6,565 0	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0 0 2024E 3,339 31 2,036 75 1,337 6,818 0	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0 0 2025E 3,331 32 2,156 80 1,337 6,935 0	1,49 (7 N 8 (3 1,50 0.8 (1,60 202 3,22 8 1,33 6,93
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt Cash & Equivalents Trade Receivables Other Current Assets Froperty, Plant & Equipment Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601) 2022A 2,523 21 1,788 62 1,268 5,661 0 1,239	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1) 2023A 3,126 29 1,950 70 1,390 6,565 0 1,248	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0 0 2024E 3,339 31 2,036 75 1,337 6,818 0 1,282	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0 0 2025E 3,331 32 2,156 80 1,337 6,935 0 1,304	1,49 (7 N 8 (3 1,50 0.8 (1,60 202 3,22 8 1,33 6,93
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt Cash & Equivalents Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities Long-Term Debt	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601) 2022A 2,523 21 1,788 62 1,268 5,661 0 1,239 915	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1) 2023A 3,126 29 1,950 70 1,390 6,565 0 1,248 989	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0 0 2024E 3,339 31 2,036 75 1,337 6,818 0 1,282 989	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0 0 2025E 3,331 32 2,156 80 1,337 6,935 0 1,304 989	1,49 (7: N 8 (3: 1,50
Net Income from Cont Operations (GAAP) Depreciation & Amortization Change in Working Capital Deferred Taxation Charge Other Adjustments, Net Capital Expenditure Free Cash Flow % Change Share / Issue Repurchase Cost of Dividends Paid Change in Debt Cash & Equivalents Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Liabilities Long-Term Debt Other Non-Current Liabilities	1,726 17 (12) NA 139 (18) 1,852 51.2% (1,500) 0 (601) 2022A 2,523 21 1,788 62 1,268 5,661 0 1,239 915 0	1,592 19 (192) NA 53 (26) 1,446 -21.9% (1,082) 0 (1) 2023A 3,126 29 1,950 70 1,390 6,565 0 1,248 989 0	1,564 26 (54) NA 88 (31) 1,594 10.2% (1,400) 0 0 2024E 3,339 31 2,036 75 1,337 6,818 0 1,282 989 0	1,507 27 (98) NA 88 (32) 1,491 -6.4% (1,500) 0 0 2025E 3,331 32 2,156 80 1,337 6,935 0 1,304 989 0	1,49 (77 N 8 (3 1,50 0.8* (1,60 202) 3,23 2,24 8 1,33 6,93

Company Sector

Homebuilders

Company Description

NVR, Inc. is a top 5 US homebuilder based on deliveries. It operates in four geographic segments, building homes catering to entry-level and move-up buyers. The company is positioned in 34 markets in 14 states, and primarily builds single-family detached homes. NVR also operates a mortgage and title insurance business. The company's fiscal year ends on December 31.

Investment Rationale

We rate NVR shares at Buy. We view NVR as one of the highest quality homebuilders in our coverage. The company's sizable share in its markets, consistent execution, enviable asset-light land strategy, superior return profile and offsite manufacturing process for key structural components are all important strategic advantages.

Stock Data

Average Daily Volume 21,251

Quarterly Earnings Estimates

	2023	2024
Q1	99.90A	111.44E
Q2	116.54A	122.42E
Q3	125.26A	132.42E
Q4	121.58A	114.95E



Exhibit 1: NVR 4Q23 variance to BofA estimateNVR reported 4Q EPS above our estimate on a lower tax rate

	Y	oY Change	2	Variance vs BofAe		
Income Statement	<u>4022</u>	<u>4Q23</u>	<u>YoY</u>	<u>BofAe</u>	4Q23A	<u>Δ</u>
Home Sales (\$ in mms)	\$2,668	\$2,387	(10.5%)	\$2,548	\$2,387	(6%)
Homebuilding Gross Margin ex-impairments	25.3%	24.1%	-122 bps	24.5%	24.1%	-45 bps
Homebuilding SG&A % of revenue	5.2%	6.3%	110 bps	5.9%	6.3%	45 bps
Homebuilding Operating Margin	20.6%	19.0%	-165 bps	18.7%	19.0%	32 bps
Pre-tax Margin	21.0%	19.5%	-146 bps	18.9%	19.5%	60 bps
Operating EPS	\$133.44	\$121.56	(9%)	\$115.39	\$121.56	5%
GAAP EPS	\$133.44	\$121.56	(9%)	\$115.39	\$121.56	5%
Regional Results	<u>4Q22</u>	4Q23	YoY	BofAe	4Q23A	<u>∆</u>
Deliveries (units)	5,749	5,332	(7.3%)	5,599	5,332	(4.8%)
Average Delivered Price (\$000s)	\$464.0	\$447.6	(3.5%)	\$455.1	\$447.6	(1.6%)
Total Orders	4,153	5,190	25.0%	4,652	5,190	11.6%
Average Selling Price (\$000s)	\$459.0	\$450.9	(1.8%)	\$467.7	\$450.9	(3.6%)
Mid-Atlantic orders	1,836	2,029	10.5%	2,056	2,029	(1.3%)
North East orders	430	526	22.3%	482	526	9.1%
Mid East orders	741	942	27.1%	830	942	13.5%
South East orders	1,146	1,693	47.7%	1,284	1,693	31.9%
Backlog Units	9,162	10,229	11.6%	9,424	10,229	8.5%
Backlog Value (\$ in mms)	\$4,326	\$4,757	10.0%	\$4,431	\$4,757	7.4%
Avg Price in Backlog	\$472.1	\$465.0	(1.5%)	\$470.2	\$465.0	(1.1%)
Backlog Conversion Ratio	53.4%	51.4%	-203 bps	54.0%	51.4%	-257 bps

Source: BofA Global Research estimates, Company data

BofA GLOBAL RESEARCH

Exhibit 2: NVR income statement (\$000s, except per share data) We expect EPS to increase in 2024

YE 12/31		202	4E		2023	2024E	2025E
(\$ 000s)	3/31/2024	6/30/2024	9/30/2024	12/31/2024	12/31/2023	12/31/2024	12/31/2025
Income Statement	<u>1QE</u>	<u> 2QE</u>	<u>3QE</u>	<u>4QE</u>			
Revenue							
Home Sales	\$2,340,474	\$2,614,436	\$2,751,271	\$2,473,917	\$9,314,605	\$10,180,097	\$10,602,474
Other Income	32,000	32,000	32,000	32,000	148,010	128,000	100,000
Mortgage Banking Revenue	53,499	62,460	65,995	54,016	224,733	235,970	247,768
Total Revenue	\$2,425,972	\$2,708,897	\$2,849,265	\$2,559,933	\$9,687,348	\$10,544,067	\$10,950,242
Homebuilding Cost of Goods Sold	\$1,767,058	\$1,986,972	\$2,090,966	\$1,892,546	\$7,051,198	\$7,737,541	\$8,190,937
Homebuilding Gross Profit	\$573,416	\$627,465	\$660,305	\$581,370	\$2,263,407	\$2,442,556	\$2,411,537
Selling General & Administrative Expenses							
Homebuilding SG&A	\$133,407	\$151,637	\$151,320	\$148,435	\$588,962	\$584,799	\$609,035
Mortgage Banking G&A	24,074	28,107	29,698	24,307	91,075	106,186	111,496
Operating Income							
Homebuilding	\$472,009	\$507,827	\$540,985	\$464,935	\$1,822,455	\$1,985,757	\$1,902,502
Mortgage Banking	29,424	34,353	36,297	29,709	133,658	129,783	136,272
Total Operating Profit	\$501,433	\$542,181	\$577,282	\$494,644	\$1,956,113	\$2,115,540	\$2,038,775
Total Interest Expense	\$7,493	<u>\$7,493</u>	<u>\$7,493</u>	<u>\$7,493</u>	\$27,740	\$29,972	\$29,972
Income before provision for income taxes	\$493,940	\$534,688	\$569,789	\$487,151	\$1,928,373	\$2,085,568	\$2,008,803
Provision for Income Taxes	123,485	133,672	142,447	121,788	336,762	521,392	502,201
Net Income (Continuing Operations)	\$370,455	\$401,016	\$427,342	\$365,364	\$1,591,611	\$1,564,176	\$1,506,602
Diluted EPS (Adjusted Shares, Cont. Ops.)	\$111.44	\$122.42	\$132.42	\$114.95	\$463.18	\$481.07	\$494.24
Diluted shares outstanding	3,324	3,276	3,227	3,179	3,436	3,251	3,048
<u>Margins</u>							
Homebuilding Gross Margin (Excluding Impairments)	24.5%	24.0%	24.0%	23.5%	24.3%	24.0%	22.7%
Homebuilding Operating Margin	19.9%	19.2%	19.4%	18.6%	19.3%	19.3%	17.8%
Mortgage Banking Operating Margin	55.0%	55.0%	55.0%	55.0%	59.5%	55.0%	55.0%
Total Operating Margin	20.7%	20.0%	20.3%	19.3%	20.2%	20.1%	18.6%
Pre-tax Margin	20.4%	19.7%	20.0%	19.0%	19.9%	19.8%	18.3%
Net Margin (Cont. Ops)	15.3%	14.8%	15.0%	14.3%	16.4%	14.8%	13.8%
Tax Rate	25.0%	25.0%	25.0%	25.0%	17.5%	25.0%	25.0%
<u>% Sales</u>							
Homebuilding SG&A expenses	5.7%	5.8%	5.5%	6.0%	6.2%	5.7%	5.7%

Exhibit 2: NVR income statement (\$000s, except per share data)We expect EPS to increase in 2024

YE 12/31		2024E			2023	2024E	2025E
Mortgage Banking SG&A expenses	45.0%	45.0%	45.0%	45.0%	40.5%	45.0%	45.0%
Total SG&A expenses	6.5%	6.6%	6.4%	6.7%	7.0%	6.6%	6.6%
Depreciation & Amortization	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%	0.3%
YoY % Change							
Home Sales	9.8%	14.5%	9.5%	3.6%	(9.8%)	9.3%	4.1%
Mortgage Banking Sales	5.0%	5.0%	5.0%	5.0%	3.8%	5.0%	5.0%
Total Sales	9.5%	13.9%	9.0%	3.2%	(8.4%)	8.8%	3.9%
Home Sales Gross Profit	9.6%	12.9%	8.2%	1.3%	(15.1%)	7.9%	(1.3%)
Operating Income	13.7%	13.4%	5.7%	0.8%	(14.7%)	8.2%	(3.6%)
Net Income (continuing ops)	7.6%	(0.7%)	(1.3%)	(10.9%)	(7.8%)	(1.7%)	(3.7%)
EPS (continuing ops)	11.5%	5.0%	5.7%	(5.5%)	(5.8%)	3.9%	2.7%
YoY BPS Change							
Homebuilding Gross Margin (Excluding Impairments)	-6 bps	-33 bps	-29 bps	-55 bps	-150 bps	-31 bps	-125 bps
Homebuilding Operating Margin	82 bps	15 bps	-44 bps	-43 bps	-167 bps	0 bps	-149 bps
Mortgage Banking Operating Margin	-58 bps	-658 bps	-674 bps	-314 bps	241 bps	-447 bps	0 bps
Total Operating Margin	76 bps	-9 bps	-63 bps	-47 bps	-148 bps	-13 bps	-145 bps
Pre-tax Margin	78 bps	-8 bps	-63 bps	-49 bps	-139 bps	-13 bps	-143 bps
Net Margin (Cont. Ops)	-27 bps	-219 bps	-156 bps	-227 bps	12 bps	-160 bps	-108 bps
Tax Rate	438 bps	1075 bps	531 bps	972 bps	-595 bps	754 bps	0 bps

Source: BofA Global Research estimates, Company Data

BofA GLOBAL RESEARCH

Price objective basis & risk

NVR, Inc. (NVR)

Our \$8,000 PO is based on 5.5x 2024E book value, a significant premium to peers (1.4x), but roughly in line with NVR's historical average.

Downside risks: (1) worse-than-expected demand in core markets, (2) a decline in finished lot availability, leading to gross margin pressure and declining return on equity, (3) less stock liquidity than certain peers, (4) a continued increase in interest rates leading to affordability challenges, (5) significant increase in land, labor or material costs, (6) continued supply chain challenges, (7) slowing US economic growth

Upside risks: (1) better-than-expected demand in core markets, (2) an increase in finished lot availability, leading to gross margin acceleration and an increasing return on equity, (3) increased stock liquidity, (4) pullback in interest rates, key input costs or home price appreciation.

Analyst Certification

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

US - Homebuilders and Building Products Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Armstrong World Industries, Inc.	AWI	AWI US	Rafe Jadrosich
	Builders FirstSource Inc	BLDR	BLDR US	Rafe Jadrosich
	D.R. Horton, Inc.	DHI	DHI US	Rafe Jadrosich
	Latham Group, Inc.	SWIM	SWIM US	Shaun Calnan, CFA
	Leslie's	LESL	LESL US	Shaun Calnan, CFA
	NVR, Inc.	NVR	NVR US	Rafe Jadrosich
	Owens Corning	OC	OC US	Rafe Jadrosich
	PulteGroup Inc.	PHM	PHM US	Rafe Jadrosich
	The AZEK Company Inc.	AZEK	AZEK US	Rafe Jadrosich
	Toll Brothers, Inc.	TOL	TOL US	Rafe Jadrosich
	TopBuild Corp	BLD	BLD US	Rafe Jadrosich
	Trex Company, Inc.	TREX	TREX US	Rafe Jadrosich
NEUTRAL				
	Dream Finders Homes, Inc.	DFH	DFH US	Rafe Jadrosich
	KB Home	KBH	KBH US	Rafe Jadrosich
	Lennar Corporation	LEN	LEN US	Rafe Jadrosich
UNDERPERFORM				
	Fortune Brands Innovations Inc	FBIN	FBIN US	Rafe Jadrosich
	Hayward Holdings, Inc.	HAYW	HAYW US	Rafe Jadrosich
	Masco Corp	MAS	MAS US	Rafe Jadrosich
	Mohawk Industries	MHK	MHK US	Rafe Jadrosich
	Patrick Industries, Inc.	PATK	PATK US	Rafe Jadrosich
	Pool Corporation	POOL	POOL US	Shaun Calnan, CFA



IQmethod[™] Measures Definitions

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

EV / EBITDA Enterprise Value Basic EBIT + Depreciation + Amortization

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

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

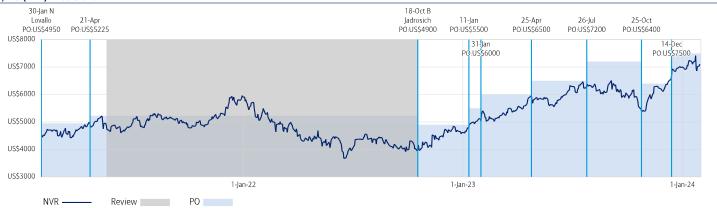
IQprofile^{≤M}, **IQ**method^{≤M} are service marks of Bank of America Corporation. **IQ**database® is a registered service mark of Bank of America Corporation.



Disclosures

Important Disclosures

NVR, Inc. (NVR) Price Chart



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

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

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

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	39	44.83%	Buy	22	56.41%
Hold	18	20.69%	Hold	11	61.11%
Sell	30	34.48%	Sell	8	26.67%

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%
Inderperform	N/A	≥ 20%

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

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

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

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

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

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

The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: NVR, Inc. BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: NVR, Inc.

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

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: NVR, Inc.

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 Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorite 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 (Fundamentalia): Merrill Lynch (Hong Kong): Merrill (Hong Kong): Merril (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Mexico): Merrill Ly de Bolsa, regulated by the Comisión Nacional Bancaría y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch (Israel): Merrill Lynch (Israel): Merrill Lynch (Israel) (Israel): Merrill Lynch (Israel): Merr Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

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

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

General Investment Related Disclosures:

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

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



financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

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

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

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

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

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

BofA ESGMeter Methodology:

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

Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities. Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities have not been reviewed by and may not reflect 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 mate

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.

