# BofA SECURITIES \*\*

## Harmony

# 1H24 beats on grades. Sustainable?

Reiterate Rating: UNDERPERFORM | PO: 96.00 ZAR | Price: 108.48 ZAR

#### 1H24 beat. Now net cash. Interesting.

Harmony Gold (HAR) reported 1H24 results. Gold production 832koz, +7% versus consensus. Production profit ZAR11.1bn, +2% vs consensus. Headline earnings ZAR5.9bn, +13% vs consensus. **Key takeaways:** (1) HAR now in a R74 million net cash position. (2) ZAR1.47/sh dividend declared, consistent with policy but +69% versus consensus. (3) AISC US\$1403/oz, -12% YoY, partly due to ZAR weakness. **Model changes:** 2024E EBITDA +15% to ZAR15.3bn on higher volume and lower unit cost estimates. Reiterate Underperform; whilst we do acknowledge recent strong performance, we think that additional funding will be needed to develop project pipeline. Separately, we think that valuation looks full on 1.1x P/NPV (versus historic average c. 1x). Reiterate Underperform. Price Objective ZAR96 (was ZAR90) on 1x P/NPV (1.1 prior).

#### How sustainable is recent performance?

1H24 performance beat our expectations, largely driven by higher grades (6.29g/t reported versus guidance of 5.6-5.75g/t). **Key question**: How sustainable is recent (strong) performance and ultimately mining at these high grades (vs. history)? Guidance implies c. R6bn spend in 2H (R3.8bn in 1H24). Grades should remain solid at key assets near-term (Moab Khotsong, Mponeng) and as such, we think that HAR could deliver ahead of FY24 production guidance of 1.38-1.48Moz. Medium-term, we think that consistently mining high grades at South African legacy assets is tricky given (1) age of mines, (2) challenging geology and (3) labour & safety challenges.

#### Gold pivot to copper. Project financing in question.

Harmony's "other" copper-gold project, Wafi-Golpu, is located in Papua New Guinea (PNG). The project is now 50/50 owned with Newmont (NEM). The previous JV partner, Newcrest Mining (NCM), was acquired by NEM on 6<sup>th</sup> November 2023 – see our North American Metals & Mining Research team's note <u>A new standard in gold mining</u>. In our view, project capex of US\$2.8bn (2020 technical report) has likely materially inflated. Is NEM a long-term owner/developer of Wafi? Also, as the "junior partner" in the Wafi project, HAR needs a financing solution. In our view, this would likely require at least some new equity. Based on our recent conversations with investors, we think that this is deterring many from owning HAR shares.

| Estimates (Jun) (ZAR)  | 2022A   | 2023A  | 2024E | 2025E | 2026E |
|--|---------|--------|-------|-------|-------|
| EPS (Reported Diluted)   | (1.72)  | 7.80   | 14.1  | 17.2  | 22.6  |
| EPS Change (YoY)   | -120.4% | 553.5% | 80.3% | 22.1% | 31.3% |
| Dividend / Share   | 0.62    | 0.75   | 1.83  | 2.02  | 3.61  |
| ADR EPS (Reported Diluted - US\$)                              | (0.11)  | 0.44   | 0.74  | 0.90  | 1.18  |
| ADR Dividend / Share (US\$)                                    | 0.04    | 0.04   | 0.10  | 0.11  | 0.19  |
| Valuation (Jun)  |         |        |       |       |       |
| P/E  | NM      | 13.9x  | 7.71x | 6.32x | 4.81x |
| Dividend Yield   | 0.57%   | 0.69%  | 1.69% | 1.86% | 3.33% |
| EV / EBITDA*   | 9.40x   | 6.31x  | 4.70x | 4.27x | 3.72x |
| Free Cash Flow Yield*  | 1.75%   | 4.40%  | 8.27% | 9.30% | 16.7% |
| * For full definitions of <i>Qmethod</i> measures, see page 7. |         |        |       |       |       |

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

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 8 to 11. Analyst Certification on page 6. Price
Objective Basis/Risk on page 6.

Timestamp: 29 February 2024 12:30AM EST

#### 29 February 2024

#### Equity

| Key Changes   |          |          |
|---------------|----------|----------|
| (ZAR)         | Previous | Current  |
| Inv. Opinion  | C-3-8    | C-3-7    |
| Price Obj.    | 90.00    | 96.00    |
| 2024E Rev (m) | 53,457.6 | 55,623.4 |
| 2025E Rev (m) | 57,485.1 | 57,987.6 |
| 2026E Rev (m) | 59,898.7 | 60,311.9 |
| 2024E EPS     | 12.19    | 14.06    |
| 2025E EPS     | 16.22    | 17.18    |
| 2026E EPS     | 21.41    | 22.56    |
| 2024E DPS     | 1.02     | 1.83     |
|               |          |          |

Cameron Needham >> Research Analyst MLI (UK) +44 20 7995 5464 cameron.needham@bofa.com

Jason Fairclough >> Research Analyst MLI (UK) jason.fairclough@bofa.com

Paul Kirjanovs >> Research Analyst MLI (UK) paul.kirjanovs@bofa.com

Patrick Mann, CFA >> Research Analyst MLI (UK) patrick.mann@bofa.com Alex Oppong >>

Research Analyst
MLI (UK)
alex.oppong@bofa.com
Michael Widmer

Commodity Strategist MLI (UK) michael.widmer@bofa.com

#### **Stock Data**

| Price (Common / ADR)        | 108.48 ZAR / 5.51 USD   |
|-----------------------------|-------------------------|
| Price Objective             | 96.00 ZAR / 5.35 USD    |
| Date Established            | 29-Feb-2024/29-Feb-2024 |
| Investment Opinion          | C-3-7 / C-3-7           |
| 52-Week Range               | 53.86 ZAR-125.16 ZAR    |
| Market Value (mn)           | 66,932 ZAR              |
| Shares Outstanding (mn)     | 617.0 / 617.0           |
| Average Daily Value (mn)    | 10.70 USD               |
| Free Float                  | 75.0%                   |
| BofA Ticker / Exchange      | HGMCF/JNB               |
| BofA Ticker / Exchange      | HMY / NYS               |
| Bloomberg / Reuters         | HAR SJ / HARJ.J         |
| ROE (2024E)                 | 22.6%                   |
| Net Dbt to Eqty (Jun-2023A) | 8.1%                    |

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

# **iQ**profile<sup>™</sup> Harmony

| Key Income Statement Data (Jun)                | 2022A          | 2023A          | 2024E       | 2025E          | 2026E          |
|--|----------------|----------------|-------------|----------------|----------------|
| (ZAR Millions)                                 |                |                |             |                |                |
| Sales  | 42,645         | 49,275         | 55,623      | 57,988         | 60,312         |
| EBITDA Adjusted                                | 7,635          | 11,376         | 15,253      | 16,788         | 19,265         |
| Depreciation & Amortization                    | (3,683)        | (3,454)        | (4,407)     | (5,043)        | (4,354)        |
| EBIT Adjusted                                  | 3,952          | 7,922          | 10,846      | 11,745         | 14,911         |
| Net Interest & Other Income                    | (5,010)        | (1,316)        | (35.4)      | (138)          | 288            |
| Tax Expense / Benefit                          | 46.0           | (1,723)        | (2,038)     | (813)          | (1,064)        |
| Net Income (Adjusted)                          | 3,055          | 4,941          | 8,705       | 10,633         | 13,964         |
| Average Fully Diluted Shares Outstanding       | 612            | 618            | 619         | 619            | 619            |
| Key Cash Flow Statement Data                   |                |                |             |                |                |
| Net Income (Reported)                          | (1,052)        | 4,820          | 8,705       | 10,633         | 13,964         |
| Depreciation & Amortization                    | 3,683          | 3,454          | 4,407       | 5,043          | 4,354          |
| Change in Working Capital                      | (201)          | (416)          | (152)       | (42.8)         | (154)          |
| Deferred Taxation Charge                       | 0              | 0              | 0           | 0              | 0              |
| Other CFO                                      | 4,948          | 2,731          | 2,317       | 935            | 770            |
| Cash Flow from Operations                      | 7,378          | 10,589         | 15,276      | 16,568         | 18,933         |
| Capital Expenditure                            | (6,214)        | (7,640)        | (9,722)     | (10,322)       | (7,750)        |
| (Acquisition) / Disposal of Investments        | NA             | NA             | NA          | NA             | NA             |
| Other CFI                                      | 14.0           | (2,956)        | 0           | 0              | 0              |
| Cash Flow from Investing                       | (6,200)        | (10,596)       | (9,722)     | (10,322)       | (7,750)        |
| Share Issue / (Repurchase)                     | (430)          | (1.5.4)        | (1.200)     | (7.40)         | (2.050)        |
| Cost of Dividends Paid                         | (430)          | (154)          | (1,396)     | (740)          | (2,068)        |
| Increase (decrease) debt                       | (156)          | 2,490          | (1,206)     | (1,206)        | (1,206)        |
| Other CFF                                      | (565)          | (1,142)        | (255)       | (271)          | (203)          |
| Cash Flow from Financing                       | (1,151)        | 1,194          | (2,857)     | (2,217)        | (3,478)        |
| Total Cash Flow (CFO + CFI + CFF)              | 27.0           | 1,187          | 2,697       | 4,029          | 7,706          |
| FX and other changes to cash                   | (398)          | (768)          | (2,997)     | (1,521)        | (1,347)        |
| Change in Cash                                 | (371)          | 419            | (300)       | 2,508          | 6,359          |
| Change in Net Debt Net Debt                    | 215            | 2,071          | (906)       | (3,714)        | (7,565)        |
|  | 757            | 2,828          | 1,922       | (1,793)        | (9,358)        |
| Key Balance Sheet Data                         | 22.072         | 41 507         | 47.077      | F2.C27         | FC 22C         |
| Property, Plant & Equipment<br>Goodwill        | 32,872         | 41,507<br>0    | 47,077<br>0 | 52,627<br>0    | 56,226         |
| Other Intangibles                              | 0<br>48.0      | 33.0           | 33.0        | 33.0           | 0<br>33.0      |
| Other Non-Current Assets                       | 6,394          | 7,022          | 7,593       | 8,164          | 8,735          |
| Trade Receivables                              | 1,682          | 2,395          | 2,704       | 2,818          | 2,931          |
| Cash & Equivalents                             | 2,448          | 2,393          | 2,704       | 5,075          | 11,434         |
| Other Current Assets                           | 3,364          | 3,416          | 3,675       | 3,794          | 3,726          |
| Total Assets                                   | 46,808         | 57,240         | 63,649      | 72,512         | 83,085         |
| Long-Term Debt                                 | 3,180          | 5,592          | 4,386       | 3,179          | 1,973          |
| Other Non-Current Liabilities                  | 8,536          | 9,901          | 9,901       | 9,901          | 9,901          |
| Short-Term Debt                                | 25.0           | 103            | 103         | 103            | 103            |
| Other Current Liabilities                      | 4,950          | 6,764          | 7,179       | 7,371          | 7,261          |
| Total Liabilities                              | 16,691         | 22,360         | 21,569      | 20,554         | 19,238         |
| Total Equity                                   | 30,117         | 34,880         | 42,080      | 51,958         | 63,847         |
| Total Equity & Liabilities                     | 46,808         | 57,240         | 63,649      | 72,512         | 83,085         |
| Business Performance*                          | ,              | 0.,            | ,           | ,              | ,              |
| Return On Capital Employed                     | 8.53%          | 13.0%          | 16.7%       | 17.6%          | 19.4%          |
| Return On Equity                               | 9.96%          | 15.2%          | 22.6%       | 22.6%          | 24.1%          |
| Operating Margin                               | 9.27%          | 16.1%          | 19.5%       | 20.3%          | 24.1%          |
| Free Cash Flow (MM)                            | 1,164          | 2,949          | 5,554       | 6,246          | 11,184         |
| Quality of Earnings*                           | .,             | _,             | -, :        | -,             | ,              |
|  | 2 424          | 2.14v          | 1 7Ev       | 1 EGv          | 1 264          |
| Cash Realization Ratio Asset Replacement Ratio | 2.42x          | 2.14x<br>2.21x | 1.75x       | 1.56x          | 1.36x          |
|  | 1.69x<br>4.35% | 2.21X<br>26.1% | 2.21x       | 2.05x<br>7.00% | 1.78x<br>7.00% |
| Tax Rate Not Dobt/Fauity                       |                |                | 18.8%       | -3.45%         | -14.7%         |
| Net Debt/Equity                                | 2.51%          | 8.11%          | 4.57%       |                |                |
| Interest Cover                                 | 5.50x          | 7.97x          | 9.54x       | 13.5x          | 24.9x          |

<sup>\*</sup> For full definitions of *IQ*method<sup>≤M</sup> measures, see page 7.

#### **Company Sector**

Gold & Precious Metals

#### **Company Description**

HAR's operations in South Africa include underground mines, 1 open-pit mine & tailings retreatment ops. In Papua New Guinea, HAR's interests include Hidden Valley, an open-pit gold / silver mine and a 50% stake in the Wafi-Golpu project (Newmont HAR's partner). Harmony maintains a hedging programme, taking out hedges when at positive margin, subject to limits: 25% of FX, 20% of gold, 50% of silver (over next 24 months).

#### **Investment Rationale**

Harmony is a high-cost / low-margin gold producer given that the majority of its production comes from deep, labour-intensive South African underground mines. We forecast US\$ gold prices at a long-term real price of US\$1750, and thus we expect Harmony's margins to compress from current levels as pressure from cost inflation (largely "administered" costs from electricity and labour) is not offset by Rand gold prices, which we forecast remaining fairly static (real terms). Maintain Underperform.

#### Stock Data

| Shares / ADR        | 1.00 |
|---------------------|------|
| Price to Book Value | 1.6x |

| Key Changes  |          |         |
|--------------|----------|---------|
| (US\$)       | Previous | Current |
| Inv. Opinion | C-3-8    | C-3-7   |
| Price Obj.   | 5.02     | 5.35    |
| 2024E EPS    | 0.64     | 0.74    |
| 2025E EPS    | 0.85     | 0.90    |
| 2026E EPS    | 1.12     | 1.18    |
| 2024E DPS    | 0.05     | 0.10    |
|              |          |         |



# **Changes to estimates**

#### **Exhibit 1: Changes to estimates**

We raise 2024E EBITDA to ZAR15.2bn on higher volume and lower cost estimates

|   |           | FY24E     |       |           | FY25E     |       |           | FY26E     |       |
|---|-----------|-----------|-------|-----------|-----------|-------|-----------|-----------|-------|
| June YE                                   | New       | Old       | % chg | New       | Old       | % chg | New       | Old       | % chg |
| Gold price (\$/oz) (market price)         | 1,932     | 1,932     | 0%    | 2,024     | 2,024     | 0%    | 2,070     | 2,070     | 0%    |
| Gold price received (incl. hedges) (US\$) | 1,932     | 1,932     | 0%    | 2,024     | 2,024     | 0%    | 2,070     | 2,070     | 0%    |
| Rand-Dollar exchange (ZAR/USD)            | 18.80     | 18.80     | 0%    | 19.31     | 19.31     | 0%    | 20.04     | 20.04     | 0%    |
| Gold price received (incl. hedges) (R/kg) | 1,158,418 | 1,158,159 | 0%    | 1,259,593 | 1,259,617 | 0%    | 1,333,704 | 1,333,704 | 0%    |
| All in sustaining costs (US\$/oz)         | 1,585     | 1,662     | -5%   | 1,659     | 1,668     | -1%   | 1,533     | 1,601     | -4%   |
| All in sustaining costs (R/kg)            | 960,581   | 1,004,767 | -4%   | 1,029,859 | 1,035,825 | -1%   | 987,722   | 1,031,502 | -4%   |
| Revenue (ZARm)                            | 55,623    | 53,458    | 4%    | 57,988    | 57,485    | 1%    | 60,312    | 59,899    | 1%    |
| EBITDA (ZARm)                             | 15,253    | 13,236    | 15%   | 16,788    | 16,178    | 4%    | 19,265    | 18,515    | 4%    |
| margin                                    | 27%       | 25%       |       | 29%       | 28%       |       | 32%       | 31%       |       |
| EBIT (ZARm)                               | 10,846    | 8,591     | 26%   | 11,745    | 11,151    | 5%    | 14,911    | 14,168    | 5%    |
| Net income (ZARm)                         | 8,705     | 7,543     | 15%   | 10,633    | 10,040    | 6%    | 13,964    | 13,252    | 5%    |
| Basic HEPS (SAcps)                        | 14.06     | 12.19     | 15%   | 17.18     | 16.22     | 6%    | 22.56     | 21.41     | 5%    |
| DPS (SAcps)                               | 1.83      | 1.02      | 79%   | 2.02      | 2.13      | -5%   | 3.61      | 3.22      | 12%   |
| Cash from operations                      | 12,279    | 11,493    | 7%    | 15,047    | 14,371    | 5%    | 17,586    | 16,888    | 4%    |
| Capex (CFS)                               | 9,722     | 9,873     | -2%   | 10,322    | 9,285     | 11%   | 7,750     | 8,218     | -6%   |
| Free cash flow                            | 2,557     | 1,620     | 58%   | 4,725     | 5,086     | -7%   | 9,837     | 8,670     | 13%   |

**Source:** BofA Global Research estimates

BofA GLOBAL RESEARCH

# **Results summary**

#### **Exhibit 2: Results summary**

Production profit was +2% versus Visible Alpha consensus, i.e. beat

|                            | 1H 24A  | 1H 23A  | YoY  | 1H 24E  | % Var | Consensus | % Var |
|----------------------------|---------|---------|------|---------|-------|-----------|-------|
| Group production (koz)     | 832     | 733.3   | 14%  | 783     | 6%    | 777       | 7%    |
| AISC (\$/oz)               | 1,403   | 1,598   | -12% | 1,617   | -13%  | 1488      | -6%   |
| AISC (ZAR/kg)              | 843,043 | 890,048 | -5%  | 975,808 | -14%  |           |       |
| Revenue (ZAR mn)           | 31,415  | 23,259  | 35%  | 28,239  | 11%   | 28867     | 9%    |
| Production profit (ZAR mn) | 11,140  | 5,415   | 106% | 8,877   | 25%   | 10869     | 2%    |
| Headline Earnings (ZAR mn) | 5,919   | 1,804   | 228% | 4,307   | 37%   | 5244      | 13%   |
| Capex (ZAR mn)             | 3,826   | 3,630   | 5%   | 5,220   | -27%  | 3510      | 9%    |
| Dividend (ZARc/sh)         | 1.47    | 0.0     | nm   | 0.63    | 133%  | 0.87      | 69%   |

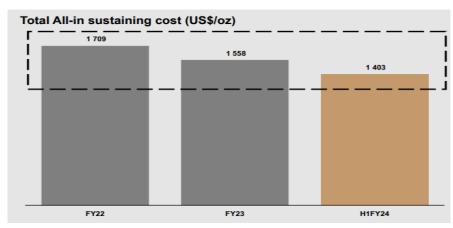
**Source:** BofA Global Research estimates

BofA GLOBAL RESEARCH

### Costs down on grades & ZAR

Exhibit 3: All-in sustaining cost (US\$/oz)

Down YoY, partly driven by rand-denominated cost base / weak rand



**Source:** Company presentation

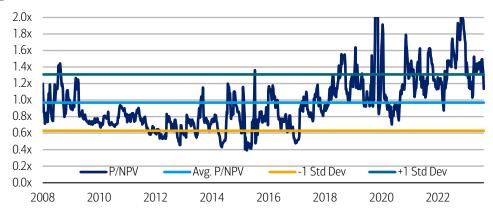
BofA GLOBAL RESEARCH



### **Valuation**



HAR trades on c. 1.1x P/NPV, above historic average c. 1x



Source: BofA Global Research estimates, Bloomberg

BofA GLOBAL RESEARCH

# Price objective derivation

#### **Exhibit 5: Price objective derivation**

We derive our price objective based on 1x P/NPV

| Sum-of-the-parts-valuatior | 1 |
|----------------------------|---|
| Tshepong                   |   |

| oun or the pures rulaution     |       |
|--------------------------------|-------|
| Tshepong                       | 5502  |
| Mponeng                        | 17101 |
| Moab Khotsong                  | 21689 |
| Joel                           | 713   |
| Doornkop                       | 2341  |
| Kusasalethu                    | 883   |
| Masimong                       | 636   |
| MWS                            | 5820  |
| Phoenix (Tailings retreatment) | 2565  |
| Central plant reclamation      | 2069  |
| Surface dumps                  | 194   |
| Kalgold                        | 463   |
| Hidden Valley                  | 9621  |
| G&A                            | -7268 |
| Net cash/ (debt) (t-1)         | -2828 |
| Total SOTP NPV                 | 59503 |
| NPV/share (ZAR)                | 96.13 |
| NPV multiple                   | 1.0   |
| Price objective                | 96    |
| Current share price            | 109   |
| Upside/(downside) potential    | -12%  |

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Our 2024 DPS estimate increases from ZAR1.02 to ZAR1.83 and we change our income rating from 8 (same/lower) to 7 (same higher).



# **Model summary**

**Exhibit 6: Model summary**These are our latest published estimates based on our house commodity price forecasts

| Income Statement (Rm) - June YE)               | 30-Jun-23 | 30-Jun-24 | 30-Jun-25 | 30-Jun-26 |
|--|-----------|-----------|-----------|-----------|
| Revenue  | 49,275    | 55,623    | 57,988    | 60,312    |
| Cost of sales                                  | -39,535   | -42,668   | -44,112   | -43,287   |
| - Production costs <b>excluding royalty</b>    | -34,217   | -36,706   | -38,071   | -37,917   |
| - Royalty expenses                             | -651      | -827      | -490      | -509      |
| - Amortisation & depreciation                  | -3,454    | -4,407    | -5,043    | -4,354    |
| - Impairment of assets                         | 0         |           |           |           |
| - Rehab expenditure                            | -32       | -111      | -111      | -111      |
| - Care & maintenance                           | -227      | -227      | -227      | -226      |
| - Employment termination & restructuring costs | -597      | -116      | -120      | -119      |
| - Share based payments                         | -51       | -51       | -51       | -51       |
| - Other  | -306      | -222      |           |           |
| Gross (loss)/profit                            | 9,740     | 12,956    | 13,875    | 17,025    |
| Corporate, admin & other expenditure           | -1,044    | -1,044    | -1,044    | -1,040    |
| Exploration                                    | -506      | -506      | -506      | -504      |
| Gain on derivatives                            | -194      | 353       |           |           |
| - FX gain/(loss)                               | -634      | 0         |           |           |
| Other operating expenses                       | -268      | -560      | -580      | -570      |
| Operating profit                               | 7,094     | 11,199    | 11,745    | 14,911    |
| Profit/(loss) from associates                  | 57        | 73        | 73        | 73        |
| Other  | -214      | 0         |           |           |
| Investment income                              | 663       | 676       | 657       | 813       |
| Finance cost                                   | -994      | -1,137    | -868      | -598      |
| Profit/(loss) before taxation                  | 6,606     | 10,810    | 11,608    | 15,199    |
| Taxation                                       | -1,723    | -2,038    | -813      | -1,064    |
| Current  | -643      | -1,622    | -813      | -1,064    |
| Deferred                                       | -1,080    | -416      |           |           |
| Net profit/(loss) from continuing operations   | 4,883     | 8,773     | 10,795    | 14,135    |
| Effective tax rate                             | -26%      | -19%      | -7%       | -7%       |
| Current Tax rate on Tax Inc estimate           | -7%       | -15%      | -7%       | -7%       |
| Profit/(loss) from discontinued operations     |           |           |           |           |
| Net profit/(loss)                              | 4,883     | 8,773     | 10,795    | 14,135    |
| Non-controlling interest                       | -63       | -68       | -162      | -171      |
| Attributable to owners of the parent           | 4,820     | 8,705     | 10,633    | 13,964    |
| Source: BofA Global Research estimates         |           |           | _         |           |

BofA GLOBAL RESEARCH



#### Price objective basis & risk

#### Harmony (HGMCF / HMY)

Our price objective of R96ps (ADR US\$5.35) is set at a 1x Price to NPV multiple. We use a multiple slightly above HAR's historical average of about 1x to reflect a higher gold price environment. We use a real discount rate of 5%, in line with our convention for gold mining companies.

The upside risks to our price objective are as follows: i) Additional production/value being realised from acquired mines, namely Mponeng & MWS (acquired 2020), Moab Khotsong (acquired FY18) than we currently model. This could result from pillar mining, tailings, below infrastructure reserves and/or reducing costs. ii) Sale or realistic funding option for the Golpu project in Papua New Guinea that causes Harmony's share of the NPV of this project to be realised in the share price (not our base case). iii) Higher-than-expected gold and copper prices. iv) Weaker-than-expected ZAR. v) Lower-than-expected cost inflation.

The downside risks to our price objective are i) higher-than-expected cost inflation in South Africa, predominantly from wages and electricity, ii) stronger-than-expected ZAR, iii) further production disruptions related to the Covid-19 virus, iv) lower-than-expected gold prices, v) labour unrest, vi) production negatively impacted by a shortage of electricity in South Africa.

#### **Analyst Certification**

I, Cameron Needham, 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.

**EEMEA - Materials Coverage Cluster** 

| Investment rating | Company                   | BofA Ticker | Bloomberg symbol | Analyst          |
|-------------------|---------------------------|-------------|------------------|------------------|
| BUY               |                           |             |                  |                  |
|                   | Kazatomprom               | XWREF       | KAP LI           | Jason Fairclough |
|                   | Kazatomprom               | XCWGF       | KAP KZ           | Jason Fairclough |
|                   | Northam Platinum Holdings | NPTLF       | NPH SJ           | Cameron Needham  |
| NEUTRAL           |                           |             |                  |                  |
|                   | Anglo Platinum            | AGPPF       | AMS SJ           | Cameron Needham  |
|                   | AngloGold Ashanti         | AULGF       | ANG SJ           | Cameron Needham  |
|                   | AngloGold Ashanti         | AU          | AU US            | Cameron Needham  |
|                   | Gold Fields               | GFI         | GFI US           | Cameron Needham  |
|                   | Gold Fields               | GFIOF       | GFI SJ           | Cameron Needham  |
| UNDERPERFORM      |                           |             |                  |                  |
|                   | Erdemir                   | ERELF       | EREGL TI         | Jason Fairclough |
|                   | Exxaro Resources          | EXXAF       | EXX SJ           | Cameron Needham  |
|                   | Harmony                   | HGMCF       | HAR SJ           | Cameron Needham  |
|                   | Harmony                   | HMY         | HMY US           | Cameron Needham  |
|                   | Impala Platinum           | IMPUF       | IMP SJ           | Cameron Needham  |
|                   | Impala Platinum           | IMPUY       | IMPUY US         | Cameron Needham  |
|                   | KGHM Polska Miedz         | KGHPF       | KGH PW           | Jason Fairclough |
|                   | Kumba Iron Ore            | KUMBF       | KIO SJ           | Cameron Needham  |
|                   | Maaden                    | XSDRF       | MAADEN AB        | Jason Fairclough |
|                   | Sibanye-Stillwater        | SBYSF       | SSW SJ           | Cameron Needham  |
|                   | Sibanye-Stillwater        | SBSW        | SBSW US          | Cameron Needham  |
|                   |                           |             |                  |                  |

### *IQ*method<sup>™</sup> Measures Definitions

| <b>Business Performance</b> | 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   |
|                             | Other LT Liabilities   |   |
|                             |  |   |

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.

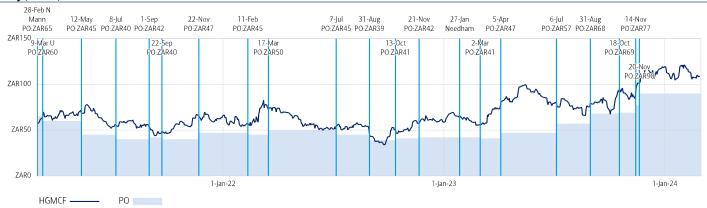
**IQ**profile<sup>≤M</sup>, **IQ**method<sup>≤M</sup> are service marks of Bank of America Corporation. **IQ**database® is a registered service mark of Bank of America Corporation.



### **Disclosures**

### **Important Disclosures**

#### Harmony (HGMCF) 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.

#### Harmony (HMY) 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: Non-Ferrous Metals/Mining & Minerals Group (as of 31 Dec 2023)

| Coverage Universe | Count | Percent | Inv. Banking Relationships R1 | Count | Percent |
|-------------------|-------|---------|-------------------------------|-------|---------|
| Buy               | 58    | 53.70%  | Buy                           | 26    | 44.83%  |
| Hold              | 24    | 22.22%  | Hold                          | 10    | 41.67%  |
| Sell              | 26    | 24.07%  | Sell                          | 13    | 50.00%  |

#### 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<sup>R2</sup>

 Buy
 ≥ 10%
 ≤ 70%

 Neutral
 ≥ 0%
 ≤ 30%

 Underperform
 N/A
 ≥ 20%

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: Harmony.

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. Harmony.

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: Harmony.

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 (Australia): Merrill Lynch (Hong Kong): Merrill (Hong Kong): Merr (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Canada): Merrill Lynch (Mexico): Merrill Ly de Bolsa, regulated by the Comisión Nacional 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): Merrill Lynch (Israel) intended 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 KSA 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



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

MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic Communications Disclaimers for further information.

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

#### General Investment Related Disclosures:

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

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

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

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

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

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

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

#### Copyright and General Information:

Copyright 2024 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities. Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public inform

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.

