

Thomson Reuters

Pagero should bolster organic growth over the long term

Maintain Rating: BUY | PO: 160.00 USD | Price: 151.17 USD

TRI official acquiror of a (seemingly) great asset

On Friday, TRI held a call to discuss its acquisition of Pagero, a provider of e-invoicing and indirect tax software solutions. TRI raised its initial Jan. 11 bid by 25% to \sim \$800mn on Jan. 15 (see our Jan 16 note). It has acquired \sim 60% of Pagero's shares to-date. A competing bid by Avalara was withdrawn on Jan. 18. TRI's offer runs through Feb. 9 and will settle on Feb. 16. TRI plans to consolidate results by the end of 1Q. Pagero is growing sales double-digits, differentiated by its global network, and on the cusp of a wave of regulatory-driven demand. We maintain our Buy rating.

Pagero poised for 20%+ sales growth (we infer)

Pagero is poised for "strong" underlying double-digit sales complemented with \$50mn in sales synergies (by 2027). We expect further sales synergies as TRI has additional use cases beyond indirect taxes for Pagero's invoicing network. Between 2020 and 2022, Pagero grew organic sales at a 25% CAGR. Year-to-date, Pagero has grown sales by 33% (to \$70mn on an annualized basis) and posted 87% client retention and 1.8% churn. The business will be consolidated in the Corporate segment (+4.3% to segment sales).

Pagero has a promising path to profitability

The transaction will be modestly dilutive to TRI's EBITDA margins due to recent investments by Pagero to standup new markets, 2024/25 integration costs (not adjusted out), and incremental investments by TRI to fuel growth. TRI expects to scale margins over the mid-term; we infer that margin expansion will materially ramp in year-three of the acquisition. TRI expects Pagero's profitability to trend towards total TRI margins over the long term (~39%E in 2023).

M&A provides fodder for accelerated organic sales growth

TRI's M&A strategy should help accelerate organic sales over the mid-term. We expect mgmt. to detail a path to faster organic growth at the Mar.12 Investor Day. We wouldn't be surprised by a high-single-digit 3-yr sales goal. TRI targets "best-of-breed" digital products w/o tech debt that help simplify processes, fit into the Big 3 (accounting/tax, legal, & risk/fraud/compliance) and good cultural fit. International exposure is a plus.

Estimates (Dec) (US\$)	2021A	2022A	2023E	2024E	2025E
EPS	2.02	2.62	3.43	3.70	4.11
GAAP EPS	11.51	3.00	5.10	3.34	3.75
EPS Change (YoY)	9.2%	29.7%	30.9%	7.9%	11.1%
DPS	1.62	1.78	1.96	2.16	2.31
EPS (YTRI - C\$)	2.53	3.41	4.62	4.98	5.53
DPS (YTRI - C\$)	2.03	2.32	2.64	2.90	3.11
Valuation (Dec)					
P/E	74.8x	57.7x	44.1x	40.9x	36.8x
GAAP P/E	13.1x	50.4x	29.6x	45.3x	40.3x
Dividend Yield	1.1%	1.2%	1.3%	1.4%	1.5%
EV / EBITDA*	36.8x	31.2x	27.3x	26.3x	24.6x
Free Cash Flow Yield*	2.0%	2.0%	2.6%	2.5%	2.8%
* For full definitions of <i>IQ</i> method ^{≤M} 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 10. Analyst Certification on page 5. Price Objective Basis/Risk on page 5.

22 January 2024 Equity

Heather Balsky Research Analyst BofAS +1 646 855 1497 heather.balsky@bofa.com

Wahid Amin Research Analyst BofAS wahid.amin@bofa.com

Stock Data

Price (NYS / TOR) 151.17 USD / 203.07 CAD Price Objective 160.00 USD / 218.00 CAD Date Established 28-Nov-2023 / 28-Nov-2023 Investment Opinion A-1-7 / A-1-7 52-Week Range 112.87 USD - 152.46 USD Market Value (mn) 68.943 USD Free Float 31.1% Average Daily Value 40.09 USD Shares Outstanding (mn) 456.1 / 456.1 BofA Ticker / Exchange TRI / NYS BofA Ticker / Exchange YTRI / TOR Bloomberg / Reuters TRI US / TRI.N ROE (2023E) 13.9% Net Dbt to Eqty (Dec-30.9% 2022A)

ESGMeter™ High

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

iQprofile[™] Thomson Reuters

iQmethod [™] – Bus Performance*					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025
Return on Capital Employed	4.3%	9.2%	10.8%	11.5%	13.1%
Return on Equity	8.4%	9.8%	13.9%	16.5%	19.5%
Operating Margin	19.6%	27.7%	33.3%	28.0%	28.8%
Free Cash Flow	1,354	1,387	1,788	1,693	1,95
<i>iQ</i> method SM – Quality of Earnings*					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025
Cash Realization Ratio	1.8x	1.6x	1.5x	1.3x	1.4:
Asset Replacement Ratio	2.8x	4.3x	4.6x	4.7x	4.2
Tax Rate	152.5%	9.4%	23.6%	19.0%	19.0%
Net Debt-to-Equity Ratio	21.7%	30.9%	18.1%	15.0%	14.9%
Interest Cover	6.3x	9.4x	13.4x	14.4x	14.8
Income Statement Data (Dec)					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025
Sales	6,348	6,627	6,831	7,182	7,628
% Change	6.1%	4.4%	3.1%	5.1%	6.2%
Gross Profit	1,978	2,347	2,649	2,763	2,955
% Change	-0.4%	18.7%	12.9%	4.3%	7.09
EBITDA	1,970	2,329	2,663	2,763	2,95
% Change	-0.3%	18.2%	14.3%	3.8%	7.09
Net Interest & Other Income	(188)	248	(245)	(140)	(149
Net Income (Adjusted)	998	1,269	1,591	1,683	1,819
% Change	8.4%	27.2%	25.4%	5.7%	8.1%
Free Cash Flow Data (Dec) (US\$ Millions)	2021A	2022A	2023E	2024E	2025
Net Income from Cont Operations (GAAP)	3,892	1,508	1,644	1,021	1,122
Depreciation & Amortization	770	724	726	750	757
Change in Working Capital	832	8	658	(76)	40
Deferred Taxation Charge	662	(144)	(369)	76	66
Other Adjustments, Net	(4,315)	(114)	(322)	496	538
Capital Expenditure	(487)	(595)	(549)	(575)	(572
Free Cash Flow	1,354	1,387	1,788	1,693	1,951
% Change	7.6%	2.4%	28.9%	-5.3%	15.3%
Share / Issue Repurchase	(1,400)	(1,282)	(993)	(800)	(1,750
Cost of Dividends Paid	(775)	(837)	(900)	(983)	(1,023
Change in Debt	(21)	993	(1,710)	0	(
Balance Sheet Data (Dec)					
(US\$ Millions)	2021A	2022A	2023E	2024E	2025
C 0 F : .	778	1,069	1,151	1,699	1,748
Cash & Equivalents		1 000			
Trade Receivables	1,057	1,069	1,083	1,119	
Trade Receivables Other Current Assets	1,057 618	673	601	626	668
Trade Receivables Other Current Assets Property, Plant & Equipment	1,057 618 1,324	673 1,336	601 1,622	626 1,538	668 1,436
Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets	1,057 618 1,324 18,372	673 1,336 17,564	601 1,622 13,730	626 1,538 11,837	668 1,436 11,754
Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets Total Assets	1,057 618 1,324 18,372 22,149	673 1,336 17,564 21,711	601 1,622 13,730 18,186	626 1,538 11,837 16,819	1,436 11,754 16,80 0
Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets Total Assets Short-Term Debt	1,057 618 1,324 18,372 22,149 0	673 1,336 17,564 21,711 1,647	601 1,622 13,730 18,186 1,480	626 1,538 11,837 16,819 1,480	668 1,436 11,754 16,80 6 1,486
Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities	1,057 618 1,324 18,372 22,149 0 2,581	673 1,336 17,564 21,711 1,647 3,244	601 1,622 13,730 18,186 1,480 2,541	626 1,538 11,837 16,819 1,480 2,497	1,436 11,75 ² 16,800 1,480 2,609
Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities Long-Term Debt	1,057 618 1,324 18,372 22,149 0 2,581 3,786	673 1,336 17,564 21,711 1,647 3,244 3,114	601 1,622 13,730 18,186 1,480 2,541 1,640	626 1,538 11,837 16,819 1,480 2,497 1,640	1,436 11,754 16,800 1,480 2,605 1,640
Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities Long-Term Debt Other Non-Current Liabilities	1,057 618 1,324 18,372 22,149 0 2,581 3,786 1,948	673 1,336 17,564 21,711 1,647 3,244 3,114 1,757	601 1,622 13,730 18,186 1,480 2,541 1,640 1,645	626 1,538 11,837 16,819 1,480 2,497 1,640 1,749	1,436 11,752 16,80 0 1,480 2,609 1,640 1,864
Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities Long-Term Debt Other Non-Current Liabilities Total Liabilities	1,057 618 1,324 18,372 22,149 0 2,581 3,786 1,948 8,315	673 1,336 17,564 21,711 1,647 3,244 3,114 1,757 9,762	601 1,622 13,730 18,186 1,480 2,541 1,640 1,645 7,305	626 1,538 11,837 16,819 1,480 2,497 1,640 1,749 7,366	1,194 668 1,436 11,754 16,800 1,480 2,605 1,640 1,864 7,589
Trade Receivables Other Current Assets Property, Plant & Equipment Other Non-Current Assets Total Assets Short-Term Debt Other Current Liabilities Long-Term Debt Other Non-Current Liabilities	1,057 618 1,324 18,372 22,149 0 2,581 3,786 1,948	673 1,336 17,564 21,711 1,647 3,244 3,114 1,757	601 1,622 13,730 18,186 1,480 2,541 1,640 1,645	626 1,538 11,837 16,819 1,480 2,497 1,640 1,749	1,436 11,754 16,80 6 1,486 2,605 1,646 1,864

Company Sector

Business Services

Company Description

Thomson Reuters is a leading information services provider focused on the legal, tax & accounting, and regulatory end markets. Its deep domain expertise, proprietary data and software and analytics tools are used by roughly 500,000 clients, with roughly 80% recurring revenue. Major brands include Westlaw, Checkpoint, and Reuters News.

Investment Rationale

We are bullish on Thomson Reuters, which we see as an attractively priced defensive compounder. It is a cleaner story following the Refinitiv sale, has strong positions in attractive/growing markets, and is over-capitalized. The "Change Program" calls for accelerating organic revenue growth and meaningfully higher margins by 2023. We see robust EPS/FCF growth in 2023 and beyond, and believe valuation expansion is likely as TRI proves out its ability to deliver. Buy.

Stock Data

Average Daily Volume	265,197
Shares / Common - Dual Listed	1.00

Quarterly Earnings Estimates

	2022	2023
Q1	0.67A	0.84A
Q2	0.62A	0.87A
Q3	0.57A	0.82A
∩4	0.75Δ	0.91F



* For full definitions of \emph{iQ} method $^{\text{SM}}$ measures, see page 6.

Pagero overview

Below are a few key stats and charts that provide an overview if the company.

Exhibit 1: Organic sales growth

Organic sales growth averaged 16% between 2019 and 2022

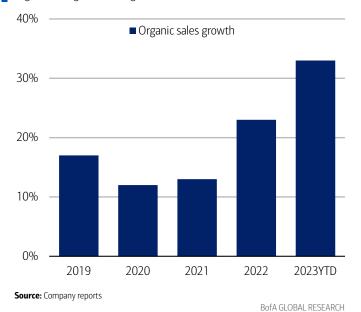
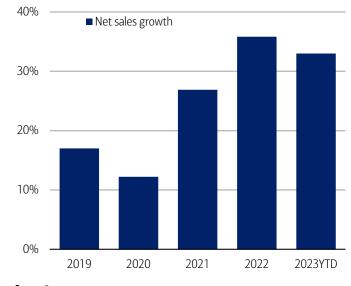


Exhibit 2: Net sales growth

Net sales growth averaged 23% between 2019 and 2022



Source: Company reports

BofA GLOBAL RESEARCH

Exhibit 3: Annualized recurring revenue growth

Annualized recurring revenue growth averaged 26% in 2019-2022

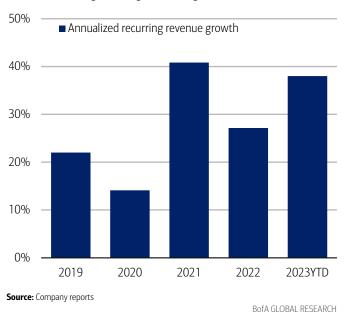
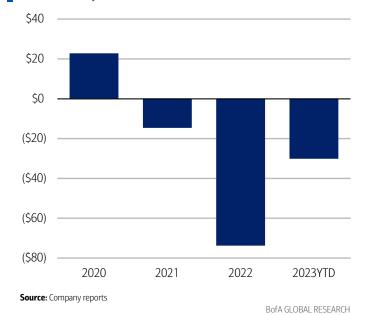


Exhibit 4: EBITDA (in SEK)

Pagero's EBITDA has been negative the last three years as it has invested in new market entry



Other key Pagero stats

 In 2022, ~87% of Pagero's 600mn SEK sales were recurring. Of total sales, 46% of were recurring license revenues and 54% were recurring transaction-based revenues (tied to document flows). The 13% of which were non-recurring included mostly one-time costs from implementation services.



In 2022, 87% of net sales came from established markets where sales grew 18% and EBITDA margins were 35%. Established markets included the Nordic region, Central Europe, and select LatAm countries. The remaining 13% of sales were in investment markets where sales grew 88%, but EBITDA margins were -330% due to investments in building up the markets. Investment markets include the US and the UK, where 2022 sales grew 128% and 51%, respectively.

Overview of regulatory tailwinds

- According to Pagero, communication between corporate business partners s still
 largely manual and analogue. Digital documents in business systems such as orders,
 delivery notes and invoices are printed or exported to PDF by one party, and then
 manually keyed in by the other party. Pagero is working to modernize
 communication by building a digital business network.
- Many countries are introducing legal requirements for companies to send and receive digital invoices. By the end of 2022, 80+ countries had announced or introduced requirements for e-invoicing and digital tax reporting. As of the end of 2022, 35+ countries had implemented legal requirements for electronic invoicing and/or tax reporting, and 40+ countries were in the planning and/or implementation phase.



Price objective basis & risk

Thomson Reuters (TRI / YTRI)

Our \$160 price objective (C\$218) is based on 37.5x CY24E P/FCF (vs. 33x CY24E P/FCF prior). This reflects greater confidence in the durability of TRI's sales growth and a premium to peers at 24x. We think a premium is warranted given our view of TRI's resilient business model and margin expansion potential from its Change Program.

Downside risks: 1) failure to deliver revenue acceleration or margin targets associated with the "Change Program" could hurt valuation, 2) drag from Global Print and Reuters News accelerates, and 3) risks associated with Woodbridge's controlling stake. Upside risks: 1) successful execution of go-to-market strategies could accelerate revenue growth, 2) tuck-in M&A and/or share buybacks could boost earnings, and 3) rising value in TRI's LSEG stake.

Analyst Certification

I, Heather Balsky, 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 - Business, Education & Professional Services Coverage Cluster

Company	BofA Ticker	Bloomberg symbol	Analyst
Alight Inc	ALIT	ALIT US	Heather Balsky
Aramark	ARMK	ARMK US	Heather Balsky
Cintas	CTAS	CTAS US	Heather Balsky
CoStar Group	CSGP	CSGP US	Heather Balsky
Dun & Bradstreet Holdings, Inc.	DNB	DNB US	Heather Balsky
Equifax	EFX	EFX US	Heather Balsky
Gartner	IT	IT US	Heather Balsky
Moody's Corp.	MCO	MCO US	Heather Balsky
S&P Global	SPGI	SPGI US	Heather Balsky
Strategic Education	STRA	STRA US	Heather Balsky
Thomson Reuters	YTRI	TRI CN	Heather Balsky
Thomson Reuters	TRI	TRI US	Heather Balsky
FactSet Research Systems Inc	FDS	FDS US	Heather Balsky
	FA	FA US	Heather Balsky
	VRSK	VRSK US	Heather Balsky
•			,
ASGN Inc.	ASGN	ASGN US	Heather Balsky
Clarivate PLC			Heather Balsky
ManpowerGroup	MAN	MAN US	Heather Balsky
MSCI Inc		MSCI US	Heather Balsky
Robert Half	RHI	RHIUS	Heather Balsky
TransUnion	TRU	TRU US	Heather Balsky
	Alight Inc Aramark Cintas CoStar Group Dun & Bradstreet Holdings, Inc. Equifax Gartner Moody's Corp. S&P Global Strategic Education Thomson Reuters Thomson Reuters Thomson Reuters FactSet Research Systems Inc First Advantage Corporation Verisk Analytics ASGN Inc. Clarivate PLC ManpowerGroup MSCI Inc Robert Half	Alight Inc Aramark Aramark Cintas CoStar Group CSGP Dun & Bradstreet Holdings, Inc. Equifax EFX Gartner IT Moody's Corp. S&P Global Strategic Education STRA Thomson Reuters Thomson Reuters TRI FactSet Research Systems Inc First Advantage Corporation FA Verisk Analytics ASGN Clarivate PLC ManpowerGroup MAN MSCI Inc Robert Half ARMK CTAS ARMK CTAS CSGP DNB EFX CSGP DNB EFX CSGP DNB EFX SFR TTRI THOMSO MCO S&P Global SPGI STRA TTRI THOMSON REUTERS TRI FACTSET RESEARCH Systems Inc FDS First Advantage Corporation FA Verisk Analytics VRSK	Alight Inc Aramark Aramark ARMK ARMK US Cintas CCTAS CTAS US CoStar Group CSGP CSGP CSGP US Dun & Bradstreet Holdings, Inc. DNB DNB US Equifax EFX EFX US Gartner IT IT US Moody's Corp. MCO MCO US S&P Global SPGI SPGI SPGI US Strategic Education STRA STRA US Thomson Reuters THI TRI US Thomson Reuters TRI TRI US FactSet Research Systems Inc First Advantage Corporation Verisk Analytics ASGN ASGN US Clarivate PLC ManpowerGroup MAN MAN US MSCI Inc Robert Half RHI CSGP CSGP CSGP US ARMK US TTAS US TRA US TRI TRI US



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
	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.

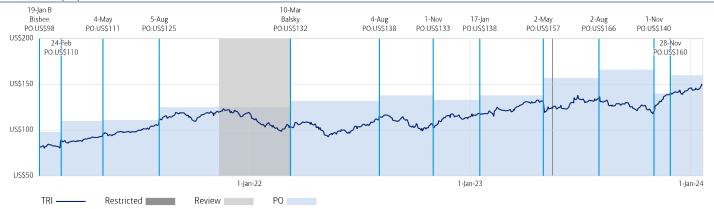
Redatabase is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

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

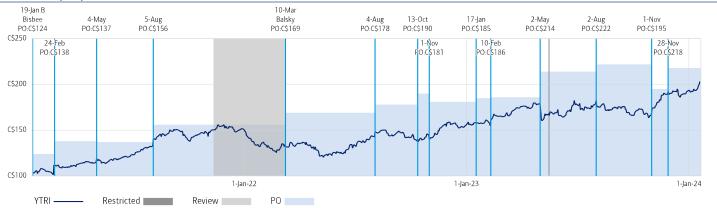
Thomson Reuters (TRI) Price Chart



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.

Thomson Reuters (YTRI) 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: Business Services Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	26	55.32%	Buy	17	65.38%
Hold	8	17.02%	Hold	3	37.50%
Sell	13	27.66%	Sell	11	84.62%

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

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

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



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

Investment rating Total return expectation (within 12-month period of date of initial rating) Ratings dispersion guidelines for coverage cluster^{R2}

 Buy
 ≥ 10%
 ≤ 70%

 Neutral
 ≥ 0%
 ≤ 30%

 Underperform
 N/A
 ≥ 20%

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: Thomson Reuters.

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

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

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: Thomson Reuters.

BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Thomson Reuters.

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: Thomson Reuters.

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: Thomson Reuters.

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: Thomson Reuters.

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

Other Important Disclosures

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

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

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

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

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

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

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

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch (Formal Lynch (Australia): Merrill Lynch (Hong Kong): Merrill (Hong Kong): (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) 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 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



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.

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 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 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 resea

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

General Investment Related Disclosures:

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

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

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

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

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

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

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

BofA ESGMeter Methodology:

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

Copyright and General Information:

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



law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Subject to the quiet period applicable under laws of the various jurisdictions in which we distribute research reports and other legal and BofA Securities policy-related restrictions on the publication of research reports, fundamental equity reports are produced on a regular basis as necessary to keep the investment recommendation current.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

