BofA SECURITIES

Restaurants Industry

Consumer Conference Takeaways: CMG, FWRG, JACK, PTLO, QSR, SG, TXRH

Price Objective Change

14 March 2024

Equity
United States
Restaurants

Sara Senatore
Research Analyst
BofAS
+1 646 743 2110
sara.senatore@bofa.com

Katherine Griffin
Research Analyst
BofAS
+1 646 855 2849
katherine.griffin@bofa.com

Jessica Owusu Afari
Research Analyst
BofAS
+1 646 617 9040
jessica.owusu-afari@bofa.com

CMG: Throughput, LTOs, loyalty

Throughput remains an opportunity: 50% of stores were fully staffed in 4Q - from 30% in 3Q - but well below 2014/15 (70%+). Service speed amplifies traffic drivers like LTOs (relaunch of Chicken al Pastor) and loyalty (suggestive selling, incentives to drive frequency). CMG will test robotics - Hyphen, Autocado - in store this year (see link to Restaurants Technology: Automating restaurants).

PTLO: Strong value prop, portable concept

The Sunbelt will account for 80% of PTLO's unit growth with AZ, TX, and FL underpinning a 3 yr AUV of $7.3-7.45mm (present sunbelt avg of $6.8mm includes stores predating the current RE strategy). PTLO's prices compare favorably to other fast casuals (~$13 avg check vs ~15-$17) and PTLO is leaning in to menu news (salads).

SG: QTD demand strong; IK benefits bottom and top line

Ex-weather and calendar shifts, 4Q momentum carried into 1Q (seeing LDD comps) and traffic continues to benefit from throughput, innovation, and healthier new markets. Infinite Kitchen drives labor savings (700 bps to margin) with potential added benefits to topline (throughput). We raise our PO from $21 to $24 on a higher terminal multiple (26x vs 22x prior) in line with mature growth restaurant peers as market multiples have expanded.

JACK: Smashed Jack supports comp; unit growth to accel

JACK's softer start to C24 reflects weather and competition, but also a gap in marketing as the Smashed Jack launch was delayed to ensure sufficient supply (without ads, it mixed MSD, the same as prior ad-supported launches). AUVs in white space (Salt Lake) remain high; expect growth from new devt commitments to ramp (16 mos build time).

QSR: Ops, remodels in US, NRG in int'l

As QSR aims to reaccelerate unit growth (of 5% LT vs 3.9% in F23 and ~4.5% in F24E), its focus is on encouraging China licensees to ramp (but not funding growth for BK China and Tim Horton's China). In the US QSR expects to spend $300mm to support franchisee remodels but is focused on ops rather than deep discounts to drive sales NT.

FWRG: Culinary, value drive growth in competitive mkts

While FWRG's 1Q started soft, the absence of check management suggests no change to consumer spending trends. Innovation (5 LTOs per year) remains a key traffic driver while tech (pay at table) is helping serve unmet demand. Market research, unit economics support growth even in competitive markets like Las Vegas and New England.

TXRH: LT traffic share gains, op leverage emerging

TXRH relies heavily on managers in the markets to help determine market-appropriate pricing; despite CDR promos, traffic continues to gap out. As TXRH again leverages labor (labor hours growth <50% traffic growth) and favorable commodities we see earnings upside. TXRH reiterated its 900 store target, but small market success suggests to us that could tick higher.

Stock symbol key:
CMG: Chipotle
PTLO: Portillo's
SG: Sweetgreen
JACK: Jack in the Box
QSR: Restaurant Brands Int'l
FWRG: First Watch
TXRH: Texas Roadhouse

Glossary of terms:
LDD – low double digit

MSD- mid-single digit

AUV- average unit volume

CDR- casual dining restaurant

LT- long term

NT- near term

LTO- limited time offer

RE- real estate

IK- infinite kitchen

Refer to important disclosures on page 7 to 10. Analyst Certification on page 6. Price Objective Basis/Risk on page 4. 12670381

Timestamp: 14 March 2024 05:00AM EDT

Consumer Conference Takeaways

We hosted 9 restaurant companies during BofA's Consumer and Retail Conference on March 12-13th in Miami, FL. We highlight company specific takeaways below.

CMG: Maintaining focus on throughput, LTOs drive traffic

Chipotle (CMG) continues to focus on driving faster throughput on its front make lines during peak periods and is seeing positive results, with the mix of stores that have at least four people on the make line improving to 50% in 4Q from 30% in 3Q. Improved throughput positions CMG well to introduce a new LTO (CMG announced the relaunch of Chicken al Pastor – one of its most successful LTOs – on Tuesday 3/12). CMG is confident in driving transactions through a combination of improved throughput in the restaurants, menu innovation with LTOs, and the digital flywheel (loyalty program supports higher frequency, suggestive and personalized upselling on digital channels drive higher check). As we highlighted in some of our recent work (see link to Restaurants Technology: Automating restaurants), CMG is testing automation in restaurants with investments in Hyphen (digital make line) and co-bots (Chippy, Autocado). CMG continues to apply a test and learn approach in rolling out new technology, with a focus on maintaining (if not improving) team member and customer experience and culinary rather than just reducing labor.

PTLO: Sunbelt supports growth runway; value prop strong

Portillo's (PTLO) reaffirmed its long-term growth algorithm which calls for i) 12-15% unit growth, ii) low single-digit same-restaurant sales, iii) mid-teens revenue growth, and iv) low teens adjusted EBITDA growth. PTLO continues to target the Sunbelt for most of its new unit openings as brand awareness and population tailwinds sustain demand. To this point, PTLO provided incremental information regarding AUVs by region. In its core Chicagoland market where penetration and brand awareness are high, AUVs of $11.4mm are well above the company average. In the Sunbelt, where brand awareness and population growth are advantageous (and therefore supportive of high near-term unit growth), AUVs are $6.8mm. In the Midwest, AUVs are lowest at $5.8mm; while brand awareness is high, population trends (flat to declining) is less supportive to unit growth. While competitive intensity has ramped in limited service more broadly, PTLO remains committed to retaining a strong value proposition, leaning into its everyday value rather than discounting. PTLO's value proposition looks compelling relative to peers, with average check of ~$13 versus ~15-$17 for comparable fast casual offerings.

SG: QTD demand strong; IK benefits bottom and top line

Sweetgreen (SG) highlighted demand trends QTD, noting that excluding impacts from weather (which impacted January and first week of February) and calendar shifts (New Year's Day and Easter holidays fall into 1Q24), momentum exiting 4Q has carried into 1Q and traffic remains healthy. In the past few weeks, SG has seen low double-digit SSSG (vs 6% in 4Q). SG attributes the strength in q/q improvement to improved throughput (largely driven by better labor scheduling and deployment), traffic driving initiatives (Protein Plates, better attach), and healthier performance in new markets (i.e., more effective marketing, menu expansion broadening appeal). SG's rollout of the Infinite Kitchen (IK) – an automated robotic makeline – continues to make progress. SG reiterated first order benefits from labor savings and is actively assessing the potential of second order benefits to topline growth from higher throughput (especially from retrofitting high volume stores that could benefit most from increased capacity enabled by IK's faster production capabilities; we note SG's F24 unit growth guidance embeds 2-4 retrofits with IK).

We are raising our PO from $21 to $24 as we apply a higher terminal multiple (26x vs 22x prior, in line with mature growth restaurant peers after adjusting for SG's domestic, company-operated status) as market multiples have expanded. Based on $2.8mm AUVs, 18% RLMs, and 8% G&A ratio, we estimate EBITDA of $274mm. Applying a 26x terminal multiple (vs 22x prior), we arrive at an enterprise value of $7.1 bb. Discounted back, we arrive at a price objective of $24 (vs $21 prior). We reiterate our Buy rating as we continue to see a long growth runway for SG to open new stores and improve expense leverage over time.

JACK: Portfolio yields synergies, pricing to offset CA wage

Jack in the Box (JACK) is seeing benefits from its acquisition of Del Taco (completed 3/22) as the company can leverage menu innovation and marketing across both of its brands (core JIB and DT). On marketing, JACK expects a return to a more normal cadence of advertising and LTOs in F24 which should support traffic share gains (breakfast and late night dayparts are in focus). As quick service peers are leaning more into value messaging (promotions are mostly on digital channels), JACK is focused on targeting all income cohorts by highlighting both value offerings (lower price point) and more premium offerings (like Smashed Jack), and add-on items in between to capture trade up. With AB1228 set to take effect April 1, JACK expects to take price increases more moderately to offset CA wage inflation. Pricing analytics help identify opportunity to take price in each market (i.e., can see pricing for LSR chicken category within a market and determine specific pricing levers).

QSR: Focus on Int'l unit growth, franchisee profitability

Restaurant Brands Int'l (QSR) has a stated long term unit growth target of 5% (vs 3.9% in F23 and ~4.5% in F24E). As QSR aims to reaccelerate unit growth, uncertainties remain in the Middle East, and in China, a key growth market. With a softer consumer environment in China, QSR does not anticipate funding growth for either of its equity partners (BK China and Tim Horton's China). Although near-term challenges are pressuring development, QSR expects unit openings to ramp up towards the end of F24 – with potential upside to development should China recover faster than expected. In the US, the BK turnaround remains a key area of focus. QSR expects to spend $300mm in Capex, TI (tenant inducements), and BK remodels in F24 to advance the turnaround.

FWRG: Scale and labor advantages underpin share gains

After slowness in January, FWRG is seeing a return to typical traffic, with little signs of check management as PPA continues to outpace pricing. Scale and labor act as distinct competitive advantages enabling traffic gains. FWRG's scale versus smaller, regional competitors translates to more favorable supplier terms (and ability to raise prices more modestly). FWRG also continues to see benefits from lower labor turnover versus the industry average, with more favorable scheduling (FWRG restaurants run 7am-2:30pm) and competitive benefits important factors. Investments into technology are yielding benefits (recent roll outs of the digital waitlist and pay at the table option reduce congestion in the restaurants, alleviating friction for staff and customers alike and reducing risk of turning away potential traffic). Overall, compelling unit economics underpin FWRG's plans to open new units in new markets with strong breakfast culture like Las Vegas and New England, with additional room in existing markets to reach scale (around 25 stores in a market). Although new stores are a drag on system margins (margins are typically 5-8% lower initially due to higher labor), they reach mature margins within about a year.

TXRH: Focus NT on margins, LT on growth runway

Texas Roadhouse (TXRH) emphasized its strong value proposition as a competitive advantage in an environment where consumers are more discerning with their spending. TXRH is committed to maintaining its price gap to the industry while pricing to offset inflation, with a methodical approach that incorporates local market dynamics to inform company level pricing action. TXRH has also taken price more surgically at the item level (e.g., taking more price on Porterhouse cut where inflation has been outsized). TXRH's value extends beyond price into experience (convenience and consistency, both in restaurants and in the off-premise channel); digital investments that add efficiency (I.e., pay-at-the-table) amplify customer experience. The midpoint of TXRH's margin guidance assumes modest traffic growth and pricing; leveraging labor productivity (labor hours/traffic growth fell <50% in 4Q, turnover has improved vs pre-COVID levels) and benefitting from a more favorable commodities backdrop (likely in 1H vs 2H given beef cycle / inflation cadence) pose potential upside. As TXRH continues to demonstrate industry-leading traffic and strong brand resonance, the company sees potential for 900 stores systemwide.

Exhibit 1: Stocks mentioned
Prices and ratings for stocks mentioned in the report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
CMG	CMG US	Chipotle Mex Grill	US$ 2722.69	B-1-9
FWRG	FWRG US	First Watch	US$ 24.22	C-1-9
JACK	JACK US	Jack in the Box	US$ 73.1	C-1-7
PTLO	PTLO US	Portillo's Inc.	US$ 13.08	C-1-9
QSR	QSR US	Restaurant Brands In	US$ 82.75	B-3-7
YQSR	QSR CN	Restaurant Brands In	C$ 111.5	B-3-7
SG	SG US	Sweetgreen	US$ 21.37	C-1-9

Source: BofA Global Research

BofA GLOBAL RESEARCH

Price objective basis & risk

Chipotle Mexican Grill (CMG)

Our $3,000 price objective is based on earnings power. At the current unit growth rate, we think Chipotle should be able to reach its targeted 8000 store count in roughly 7 years. By then we'd expect AUVs to exceed $4mm - under the assumption that comps increase in-line with cost inflation - and margins to be in line with prior peaks of 27%. Assuming a G&A of 5%, which is more similar to mature company operated systems, this system would generate $7.9bb in EBITDA. At a 20x multiple, consistent with current valuation multiples on high growth companies, the implied EV would be $173bb, or $77bb discounted back to today. We then add the current net cash and project out 12 months to derive our price objective of $3,000.

Downside risks are: 1) lower than expected consumer uptake of new product innovations or digital ordering capabilities, 2) higher than expected food or labor costs that Chipotle is unable to offset with increased pricing, and 3) macroeconomic pressures that slow consumer income growth or otherwise dampen consumption.

First Watch (FWRG)

We believe FWRG should trade a premium consistent with its faster growth and higher returns. FWRG currently trades in line with its peer group of restaurants and retailers with similar above-market growth rates. We believe a valuation in line with other high growth peers is justified owing to FWRG's faster than average topline growth, extended growth runway, as the brand goes national, and higher incremental returns, with restaurant level ROIs of about 40% or 2x other full service restaurants. We apply a 15x multiple to our forward EBITDA estimates (F25, $134mm) to arrive at our $31 PO. This target multiple is conservative relative to high growth peers' average of 17x.

Downside risks: higher-than-expected cannibalization of existing restaurants due to new store openings, staffing challenges and/or higher-than-expected wage inflation, higher-than-expected occupancy costs as First Watch ramps-up new stores at a faster rate. Upside risks: higher-than-expected AUVs of new units, faster-than-expected SSS growth, lower labor and G&A costs.

Jack in the Box (JACK)

Our $104 price objective is based on a 0.7x relative PE multiple (13.8x absolute) applied to our 12 month forward earnings estimates (2Q25-1Q26: $7.56). This is a material discount to highly franchised peers, given historically slower growth and more capital-intensive ownership model.

Downside risks to our price objective are: 1) sales could soften due to economic or competitive pressures, 2) food and labor costs rise and margins come under renewed pressure, 3) execution risk around speed of service, menu and marketing initiatives which are critical to driving sales at Jack in the Box.

Portillo's Inc. (PTLO)

We set our $25 PO based on steady state earnings power. We assume PTLO grows its store base at 13% to reach 725 stores in the long term, and that average volumes grow with inflation. At $7.7 bb in sales, assuming stable RLMs and 8% G&A, PTLO would generate $1.4 bb in EBITDA. Applying an 11x multiple and discounting back equates to a $25 fair value in one year.

Risks to our PO: potential industry headwinds from wage inflation (MSD-HSD run rate for the industry) and food cost volatility, inability to fully offset downward pressure on volumes and margins from new store openings, and execution risks as the company looks to sustain a 10% unit growth rate.

Restaurant Brands International Inc. (QSR / YQSR)

We view QSR's 5-yr historical average multiple of 1.1x as appropriate as lagging sales trends and greater investment needs drive lower estimate revisions. We apply this multiple to our 12 months forward EPS estimate (F25) EPS to arrive at a price objective of $78 (C$105.83). Our 1.1x relative multiple (vs the S&P 500) translates to an absolute P/E multiple of 20.9x.

Upside risks: better-than-expected results on sales trends and market share gains as a result of investments in stores, technology, and marketing spend. Faster-than-expected turnaround in the Burger King brand. Faster-than-expected growth of the Tim Horton's brand.

Downside risks: Higher-than-expected G&A spending, continued lag in topline growth trends relative to competitors, slower-than-expected recovery in supply chain and/or labor constraints associated with COVID-19.

Sweetgreen (SG)

Our $24 PO is based on normalized earnings power. Assuming SG is able to reach its long-term target of 1000 stores in ten years, with 18% restaurant-level margin and 8% G&A, we arrive at $274mm EBITDA. We apply a 26x terminal multiple - consistent with mature growth restaurant peers after adjusting for SG's domestic, company-operated status - to arrive at EV of $7.1 bb, discounted back to today at 13%.

Downside risks are i) slower SSSG as a result of lower discretionary spending, ii) inability to gain traction in new markets outside of the urban core, iii) failure to offset food and labor cost inflation through pricing and volume growth, iv) worse than expected development challenges (construction costs, permitting) which could limit unit growth.

Texas Roadhouse (TXRH)

We view TXRH's 5-year average of 1.3x (excluding COVID spike) as the appropriate target multiple given TXRH's best-in-class traffic trends and topline growth and our expectations for further operating leverage. Our PO of $160 is based on a relative multiple of 1.3x (vs the S&P 500 index, or a 24.4x absolute multiple) on our 12-month forward EPS (F25, $6.54).

Downside risks are: i) lower-than-expected retail beef prices and as a result, decreased value proposition for steakhouses, ii) traffic growth deceleration in response to menu price increases, iii) greater than expected slowdown in consumer spending / macroeconomic risk pressuring discretionary income, iv) slower than expected unit growth at Texas Roadhouse.

Analyst Certification

We, Sara Senatore and Katherine Griffin, hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers. We also certify that no part of our respective compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

US - Restaurants Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Chipotle Mexican Grill	CMG	CMG US	Sara Senatore
	Darden Restaurants	DRI	DRI US	Sara Senatore
	Domino's Pizza	DPZ	DPZ US	Sara Senatore
	Dutch Bros	BROS	BROS US	Sara Senatore
	First Watch	FWRG	FWRG US	Sara Senatore
	Jack in the Box	JACK	JACK US	Sara Senatore
	Krispy Kreme	DNUT	DNUT US	Sara Senatore
	Papa Johns International	PZZA	PZZA US	Sara Senatore
	Portillo's Inc.	PTLO	PTLO US	Sara Senatore
	Starbucks	SBUX	SBUX US	Sara Senatore
	Sweetgreen	SG	SG US	Katherine Griffin
	Texas Roadhouse	TXRH	TXRH US	Sara Senatore
	Wingstop Inc	WING	WING US	Sara Senatore
NEUTRAL				
	Bloomin Brands	BLMN	BLMN US	Sara Senatore
	McDonald's	MCD	MCD US	Sara Senatore
	Shake Shack	SHAK	SHAK.US	Sara Senatore
	The Cheesecake Factory	CAKE	CAKE US	Katherine Griffin
	Yum Brands Inc	YUM	YUM US	Sara Senatore
UNDERPERFORM				
	Brinker International	EAT	EAT US	Katherine Griffin
	Cracker Barrel	CBRL	CBRL US	Katherine Griffin
	Restaurant Brands International	YQSR	QSR CN	Sara Senatore
	Restaurant Brands International Inc.	QSR	QSR US	Sara Senatore
	Wendy's Co	WEN	WEN US	Sara Senatore

Disclosures

Important Disclosures

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

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	21	58.33%	Buy	10	47.62%
Hold	10	27.78%	Hold	3	30.00%
Sell	5	13.89%	Sell	4	80.00%

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[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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

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

Price Charts for the securities referenced in this research report are available on the Price Charts website, or call 1-800-MERRILL to have them mailed.
BofAS or one of its affiliates acts as a market maker for the equity securities recommended in the report: Chipotle Mex Grill, First Watch, Jack in the Box, Portillo's Inc., Restaurant Brands In, Sweetgreen, Texas Roadhouse.
BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Portillo's Inc., Restaurant Brands In.
The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: First Watch, Jack in the Box, Portillo's Inc., Restaurant Brands In.
BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Chipotle Mex Grill, First Watch, Jack in the Box, Portillo's Inc., Restaurant Brands In.
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: Chipotle Mex Grill, First Watch, Jack in the Box, Portillo's Inc., Restaurant Brands In.
BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: First Watch, Portillo's Inc., Restaurant Brands In.
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: First Watch, Jack in the Box, Restaurant Brands In.
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: Jack in the Box, Portillo's Inc., Texas Roadhouse.
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: Chipotle Mex Grill, First Watch, Jack in the Box, Portillo's Inc., Restaurant Brands In, Sweetgreen, Texas Roadhouse.
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: Chipotle Mex Grill, First Watch, Portillo's Inc., Restaurant Brands In.
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

BofAS together with its affiliates beneficially owns a net long position of 0.5% or more of the total issued share capital of this issuer. Ownership positions speak as of a date no more than three trading days prior to the date of this report: Portillo's Inc.
One or more research producing entities within the Bank of America group beneficially owns a net long position of 0.5% or more of the total issued share capital of this issuer. Ownership positions speak as of a date no more than three trading days prior to the date of this report: Portillo's Inc.
From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.
Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.
The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.
Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.
Refer to BofA Global Research policies relating to conflicts of interest.
"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.
Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:
BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the

ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by 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. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic Communications Disclaimers for further information.

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

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

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

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

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

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

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

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

BofA ESGMeter Methodology:

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