# Global Research Highlights

# Bulls Ride Stronger, Faster Economy

Investment Strategy

01 March 2024

Global

**Investment Strategy**
BofAS

**Derek Harris**
Portfolio Strategist
BofAS
+1 646 743 0218
derek.harris@bofa.com

**Thomas Hopkins**
Portfolio Strategist
BofAS
thopkins2@bofa.com

**Evan Morris**
Portfolio Strategist
BofAS
evan.morris@bofa.com

**Andrew Shields, CFA**
Portfolio Strategist
BofAS
andrew.shields@bofa.com

## GDP growth revised higher, and stocks act accordingly

This week our Economics team revised the US outlook in the direction of faster growth in 2024 (2.1% 4Q/4Q). Previously the team expected growth to slow below trend before re-accelerating, but now thinks growth will be more front-loaded. The revisions have been driven by improvement in jobs which has allowed the economy to grow faster than expected. The stronger economic outlook has not gone unnoticed by the market. Stephen Suttmeier reminds us that SPX has rallied 6.8% YTD. Data back to 1928 suggests that when SPX is positive YTD through February, the year is up 80% of the time on an average return of 13.8% which suggests SPX moving higher to 5420. In this pattern the rest of the year (March-December) is up 78% of the time on an average return of 7.8% indicating SPX at 5490. Furthermore, despite the recent run up in stocks, Savita Subramanian's prognosis is that the market likely goes higher from here. Subramanian notes, encouragingly, that earnings and GDP growth have positively surprised in recent quarters and that the market's higher than historical valuation multiple does not necessarily provide an apples-to-apples comparison as it is currently half as levered, higher quality and has lower earnings volatility than prior decades.

## Industrials sector indicators tick up

Michael Feniger is calling attention to an inflection in BofA's Industrial indicators & Surveys, including Ken Hoexter's Truck Shipper Survey and Andrew Obin's Fluid Power Survey, Factory Automation Indicator and Industrial Momentum Indicator, as somewhat promising. The BofA Industrial Momentum Indicator climbed MoM this week, breaking out of its protracted, tight range suggesting light at the end of the tunnel for the US manufacturing malaise. The reason that this inflection is important is because Machinery stock valuation multiples track directionally with the indicators implying that Industrials stocks could follow them higher.

## Survey says help on the way for Apple

Wamsi Mohan has updated his global smartphone survey, conducted across the US, UK, China, and India and believes that a strong refresh cycle will take place in coming years. The new survey results show an elongation of the iPhone refresh cycle with 41% of respondents in Feb 2024 (vs. 36% in Feb of 2022) indicating intent to upgrade their phones every 4 or more years. However, Mohan notes that there are a significant number of iPhone users using older iPhones, where 28% own a phone in the iPhone 13 family, 14% in the iPhone 12 family, and more than 35% in the iPhone 11 family or older. Mohan believes that this large installed base of older iPhones is due for an upgrade and anticipates a strong refresh cycle to take place over the next two years as Generative AI features start to take hold on smartphones.

### Top Macro reports



### Top Industry reports



### Top Stock reports

BofA SECURITIES

US Economic Viewpoint

# US outlook: Supply-side resilience

29 February 2024

Economics
United States

**US Economics**
BofAS

**Michael Gapen**
US Economist
BofAS
+1 646 855 3270
michael.gapen@bofa.com

**Aditya Bhave**
US Economist
BofAS
+1 646 855 9929
aditya.bhave@bofa.com

**Stephen Juneau**
US Economist
BofAS
+1 202 442 7429
stephen.juneau@bofa.com

**Shruti Mishra**
US and Global Economist
BofAS
+1 646 855 1040
smishra44@bofa.com

**Jeseo Park**
US Economist
BofAS
+1 646 855 8688
jeseo.park@bofa.com

See Team Page for List of Analysts

## Faster – and more frontloaded - growth

We revise our US outlook in the direction of faster growth in 2024 (2.1% 4Q/4Q) and slower growth in 2025 (1.8%). We expect a lower peak unemployment rate of 4.1%, but slower disinflation (to 2.6% and 2.3% for core PCE inflation in 2024 and 2025, respectively). Previously we expected growth to slow below trend before re-accelerating. We now think growth will be more front-loaded.

## Supply-side driven resilience continues

Our revisions continue to emphasize improvement in the economy driven by supply-side factors, particularly the rebound in the labor force. This has allowed the economy to grow faster than expected without putting significant upward pressure on wages or inflation. The “catch-up” effect in employment should persist in 2024, albeit to a lesser degree than in prior years.

## The Fed can still ease in this outlook, just slowly

Our revisions do not alter our outlook for monetary policy. We expect the Fed to start a gradual cutting cycle in June owing to progress in reducing inflation. By the end of 2025, we expect the target fed funds rate to be reduced to 3.5-3.75% (75p in cuts this year and 100bp of cuts next year). Tapering of runoff should begin in May, with quantitative tightening (QT) ceasing around the end of the year.

## Market pricing is no longer at odds with our outlook

Markets have reduced the number of expected cuts in recent weeks due to two factors. (1) Activity and inflation that has generally topped expectations. (2) Fed communication that has argued the risk of easing too soon outweighs the risk of easing too late. Currently, markets expect 75bp in rate cuts this year, beginning in June, in line with our forecast.

## Risks to the outlook are balanced

With these revisions, we think risks to our outlook are now balanced. The upside risks are (1) an elongated “catch-up” effect in employment that keeps consumption elevated, (2) continued momentum in productivity, and (3) the crowding-in of private investment from the Inflation Reduction Act and CHIPS Act. While the downside risks are (1) sticky inflation that keeps the Fed from easing (or prompts risks of rate hikes), (2) geopolitical tensions that cause adverse shocks to commodity prices, or (3) a faster-than-expected wind-down in re-employment trends.

Click US Economic Viewpoint for full report including important disclosures.

US Economic Weekly

# The risk of easing policy too quickly

23 February 2024

Economics
United States

**Michael Gapen**
US Economist
BofAS
+1 646 855 3270
michael.gapen@bofa.com

**Aditya Bhave**
US Economist
BofAS
+1 646 855 9929
aditya.bhave@bofa.com

**Stephen Juneau**
US Economist
BofAS
+1 202 442 7429
stephen.juneau@bofa.com

**Shruti Mishra**
US and Global Economist
BofAS
+1 646 855 1040
smishra44@bofa.com

**Jeseo Park**
US Economist
BofAS
+1 646 855 8688
jeseo.park@bofa.com

**US Economics**
BofAS

See Team Page for List of Analysts

IP: Industrial Production

CPI: Consumer Price Index

PPI: Producer Price Index

GDP: Gross Domestic Product

PCE: Personal Consumption Expenditur

FOMC: Federal Open Market Committe

## Weekly viewpoint: The Fed wants to avoid backtracking

Fed speakers took to the airwaves to discuss the outlook for monetary policy. The bottom line is the Fed sees risk management considerations as heavily influencing the timing of rate cuts. The Fed sees risks from easing too quickly as outweighing downside risks from maintaining a restrictive stance for too long. The Fed would prefer to avoid backtracking once it starts.

## Confidence to cut depends on underlying inflation

Underlying inflation is the rate of inflation that should prevail when the economy is functioning normally, with output equal to potential and unemployment equal to the natural rate. We find that underlying PCE inflation fell to 2.8% at end-2023 and trends support a first rate cut in June. A robust economy could lead to delay (See report: US Economic Viewpoint: What lies beneath: underlying inflation and the confidence to cut).

## Data preview: Soft January spending, firm inflation

We estimate that nominal personal income rose by 0.2% in January with a decline in hours worked offsetting solid job and wage growth. We forecast a 0.1% decrease in nominal spending on the month. Retail sales ex food services and autos decreased by 0.9% in January, while unit motor vehicle sales declined. Given our forecast of 0.3% headline PCE inflation, we think real spending decreased by 0.4%. These projections suggest that the saving rate increased three tenths to 4.0%.

We expect core PCE inflation to print at a soft 0.4% m/m in January (0.37% unrounded). We see risk that core PCE could round down to 0.3% m/m. Either way, the wedge between core PCE and core CPI is likely to be small this month. If our forecast proves correct, then the six-month annualized rate of core PCE would likely accelerate from 1.9% to 2.4% and the 3-month annualized rate would pick up from 1.5% to 2.5%. Meanwhile, we expect headline PCE inflation to print at 0.3% m/m (0.33% unrounded), and for the y/y rate to decline by two-tenths to 2.4%.

## Data preview: Second estimate of 4Q US GDP

We expect the second estimate of 4Q US GDP to come in at 3.2% q/q saar after printing at 3.3% in the advance estimate. This is largely due to downward revisions to December retail sales. We expect growth in personal consumption of 2.6% q/q saar versus 2.8% q/q saar. Also, equipment investment estimate was revised lower on account of downward revisions to the December industrial production print. Overall, our expected revisions are minor and the second estimate of US GDP should point to a resilient US economy.

Click US Economic Weekly for full report including important disclosures.

Chart Blast

# Bullish Jan-Feb Barometer for 2024

Market Analysis

## January-February Barometer bullish for 2024

A 1.6% rally for the S&P 500 (SPX) in January generated a bullish January Barometer signal for 2024 (see our report, Bullish January Barometer supports 5000+ for the S&P 500 in 2024). The SPX continued to rally in February with a 5.2% gain for the month. This triggers a bullish January-February Barometer for 2024.

## SPX up YTD through February suggests 5420-5490

The SPX has rallied 6.8% YTD. Data back to 1928 suggest that when the SPX is positive YTD through February, the year is up 80% of the time on an average return of 13.8% (SPX 5420) and the rest of the year (March-December) is up 78% of the time on an average return of 7.8% (SPX 5490). When this has happened in Presidential election years, the SPX has been up 10 out of 11 times for the both the year and March-December on average returns of 14.1% (SPX 5440) and 8.2% (SPX 5510), respectively.

## SPX up in both Jan and Feb suggests 5490-5510

In years when the SPX has traded higher in both January and February, which is the 2024 scenario, the year is up 89% of the time on an average return of 15.6% (SPX 5510) and March-December is up 86% of the time on an average return of 7.8% (SPX 5490). When this has happened in Presidential election years, the SPX has been up 100% of the time (7 out of 7 times) for both the year and March-December on average returns of 15.9% (SPX 5530) and 9.6% (SPX 5580), respectively.

## SPX cup and handle favors upside to 5200 and 5600

The late 2023 breakout from a bullish cup and handle big base pattern projects a measured move to SPX 5200 and provides a pattern count at SPX 5600 (see our 20 Nov 2023 report, Big bases + bullish trends = more upside potential). Prior highs and bullish pattern breakout points offer supports near SPX 4800 and SPX 4600 on pullbacks.

## SPDR S&P Retail ETF (XRT) attempts a bullish breakout

The SPDR S&P Retail ETF (XRT) is coming out of a base from its 2022 and 2023 lows. Holding the 75.77-73.32 area would support this bullish pattern with upside potential to 81.93 (April 2022 peak) and 94 (pattern count). Fibonacci retracement levels also suggest a bullish setup. Holding 74.50-74.00 (key 38.2% retracement levels) would favor upside to 79.80 (50% retracement of the November 2021-September 2022 decline) and 85.60 (61.8% retracement). In addition, the XRT shows signs of a May 2023 into March 2024 head and shoulders bottom versus the SPX that could signal leadership for XRT.

**Investment decisions should not be made prior to reading the research report, which includes important information and disclosures.**
Click Chart Blast for full report including important disclosures.

**29 February 2024**

Market Analysis
United States

**Stephen Suttmeier, CFA, CMT**
Technical Research Strategist
BofAS
+1 646 855 1888
stephen.suttmeier@bofa.com

**BofA Technical Strategy notes**

Stock Flash: Three bulls: FBP, MNDY ar

Market Analysis Comment: Technical gl

Market Analysis Comment: Growing YT

Market Analysis Comment: Nothing ma

**Acronyms**
MA: moving average
SPX: S&P 500
XRT: SPDR S&P Retail ETF

S&P 500 Relative Value Cheat Sheet

# Why a 95th percentile PE shouldn't keep you up at night

28 February 2024

Equity and Quant Strategy
United States

**Savita Subramanian**
Equity & Quant Strategist
BofAS
+1 646 855 3878
savita.subramanian@bofa.com

**Victoria Roloff**
Equity & Quant Strategist
BofAS
+1 646 743 6339
victoria.roloff@bofa.com

**Ohsung Kwon, CFA**
Equity & Quant Strategist
BofAS
+1 646 855 1683
ohsung.kwon@bofa.com

**Jill Carey Hall, CFA**
Equity & Quant Strategist
BofAS
+1 646 855 3327
jill.carey@bofa.com

**Alex Makedon**
Equity & Quant Strategist
BofAS
+1 646 855 5982
alex.makedon@bofa.com

**Nicolas Woods**
Equity & Quant Strategist
BofAS
nicolas.woods_barron@bofa.com

## The S&P 500 is egregiously expensive vs. history

It's hard to be bullish based on valuation: the S&P 500 is statistically expensive on 19 of 20 metrics and is trading at a 95$^{th}$ percentile price to trailing earnings ratio based on data back to 1900 (**Exhibit 1.**). Does this portend a market collapse? Statistical valuation models matter in the long-term and suggest lower returns over the next decade (3% p.a., Exhibit 3). But factors like sentiment and surprise matter more for 3- to 12-months. We incorporate all frameworks into our forecasting toolkit. But at a basic level, we question the validity of comparing an index to its younger selves, especially today's S&P 500.

## If today's S&P 500 is apples; '80s '90s & '10s are oranges

The S&P 500 is half as levered, is higher quality and has lower earnings volatility than prior decades. The index gradually shifted from 70% asset-intensive manufacturing, financials and real estate companies in 1980 to 50% asset-light Tech & Health Care. The internal composition of the S&P 500 also recalls the apples to oranges problem: the Magnificent 7 (~30% by mkt cap) trades at half the equity risk premium of the remaining 493. A fair value approach to the index based on long-term trends in earnings and cost of equity would have grossly underestimated S&P 500 returns in recent years.

## Risk premium may rise for seven, but could fall for 493…

Our analysis of prior regimes suggests that closer control of supply chain, a drop in inflation and rate volatility, and ring-fenced refinancing risk could drive the risk premium lower from here for the majority of companies, especially old economy cyclicals that grew lean and disciplined after being starved of capital for 10+ years. Moreover, today's focus on efficiency/AI rhymes with the 80s' and 90s' shift from labor intensity to labor lightness, a period during which the ERP averaged 250bp, lower than today's level.

## …and cyclically adjusting earnings is more art than science

We found that a log-linear trendline applied to an earnings time series yields a more accurate normalized earnings forecast than other mathematical methods like Shiller's, etc. But the approach is sensitive to its starting point: S&P 500 normalized earnings estimates for 2025 range from $220 to $245 depending on the starting decade. An alternative approach is that of growing trough earnings at a long-term growth rate (8%) which yields $260. This suggests that the regression approach may be overly punitive.

## Our prognosis: likelier direction for S&P from here is up

Our base case is that normalized earnings are unlikely to plummet from current levels assuming no hard landing and near peak Fed funds rates; encouragingly, earnings and GDP growth have positively surprised in recent quarters. We also assume that the equity risk premium for most of the S&P 500 (ex-Mag 7) could be too high and could settle closer to that of the 80s-90s analog. This realistic good case scenario suggests a fair value for the S&P 500 of ~5500. (See **Exhibit 15** for a full range of outcomes based on different earnings and cost of capital assumptions.)

Click S&P 500 Relative Value Cheat Sheet for full report including important disclosures.

# Sell Side Indicator

## Getting warmer

29 February 2024

Equity Strategy
United States

BofA Data Analytics

## Strategists nudged up equity allocations in February

Our Sell Side Indicator (SSI) is a contrarian sentiment barometer that tracks sell side strategists' average recommended allocation to equities in a balanced fund. The indicator ticked up 33bp to 54.7% in February as the S&P 500 rose for a fourth consecutive month (+5.2%). The shift to equities was funded by a move out of bonds, with the average bond allocation dropping 33bp m/m to 33.5% (still at an elevated 86th percentile since 2006). Cash allocations were unchanged at 2.1%.

## Indicator is now above its long-term average

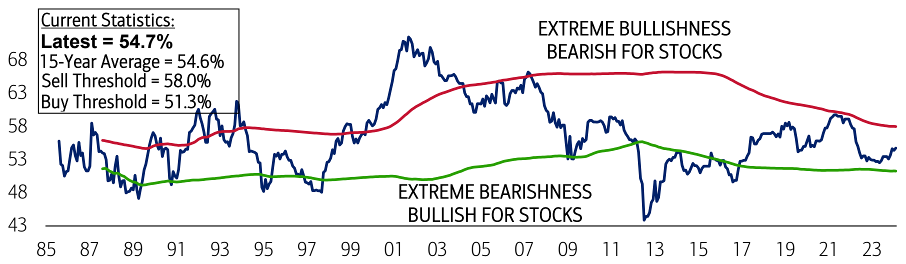
The SSI has been a reliable contrarian indicator – in other words, it has been a bullish signal when Wall Street was extremely bearish and vice versa. The SSI is in "Neutral" territory, a less predictive range than the more extreme "Buy" or "Sell" thresholds. Last month's increase pushed the indicator above its 15yr avg. of 54.6%, moving it a hair's breadth closer to a contrarian "Sell" signal than a "Buy" (3.3 vs. 3.5ppt) for the first time since April 2022. The SSI's current level indicates a price return of +13% over the NTM or 5650 for the S&P 500 by year-end 2024. When we have been here or lower, S&P 500 returns were positive 94% of the time over the next 12m vs. 81% overall.

## Retail sentiment more bullish than bearish

Our SSI signal is firmly "Neutral", but retail sentiment has grown increasingly bullish. Responses from our recent survey of Merrill financial advisors were generally optimistic, with only 4% expecting a recession this year and 77% expecting the bull market to continue beyond 2024. On a scale of 1-10, advisors ranked their bullishness over the next 12 months as 7.5, the highest level in our survey history. Moreover, AAII's bull-bear spread indicates that individual investors are now 25% net bullish, up from a low of 26% net bearish last fall. However, we note that AAII seems to have little predictive power over the S&P 500's 12m fwd returns, yielding an r-sq of 2% (i.e., no relationship) vs. a higher explanatory power of 24% R-sq for the SSI.

**Exhibit 1: Equity sentiment ticked up 33bp in February, moving above its 15yr average**

Sell Side Indicator, 8/1985-2/2024




**Source:** BofA US Equity & Quant Strategy Note: Buy and Sell signals are based on rolling 15-year +/- 1 standard deviation from the rolling 15-year mean. A reading above the red line indicates a Sell signal and a reading below the green line indicates a Buy signal

BofA GLOBAL RESEARCH

**Savita Subramanian**
Equity & Quant Strategist
BofAS
+1 646 855 3878
savita.subramanian@bofa.com

**Victoria Roloff**
Equity & Quant Strategist
BofAS
+1 646 743 6339
victoria.roloff@bofa.com

**Jill Carey Hall, CFA**
Equity & Quant Strategist
BofAS
+1 646 855 3327
jill.carey@bofa.com

**Ohsung Kwon, CFA**
Equity & Quant Strategist
BofAS
+1 646 855 1683
ohsung.kwon@bofa.com

**Alex Makedon**
Equity & Quant Strategist
BofAS
+1 646 855 5982
alex.makedon@bofa.com

**Nicolas Woods**
Equity & Quant Strategist
BofAS
+1 646 556 4179
nicolas.woods_barron@bofa.com



AAII: American Association of Individua

Click Sell Side Indicator for full report including important disclosures.

Machinery, E&C and Waste

# Why indicators perking up matters? The story of 2024 is essentially 2025

**Industry Overview**

27 February 2024

Equity
Americas
Machinery, E&C and Waste

**Michael Feniger**
Research Analyst
BofAS
+1 646 855 1923
michael.feniger@bofa.com

**Sherif El-Sabbahy**
Research Analyst
BofAS
sherif.el-sabbahy@bofa.com

**Nandita Nayar**
Research Analyst
BofAS
nandita.nayar@bofa.com

**Blake Greenhalgh**
Research Analyst
BofAS
blake.greenhalgh@bofa.com

ISM = Institute Supply management

PMI = purchasing manager index

## Downside grabs the attention yet monitor the upside risks

The rally in cyclical industrial Machinery is partly a function of the 'downside risk' being taken off the table: EPS resiliency, secular tailwinds (mega projects) offsetting cyclical headwinds, impressive inventory management (i.e., CAT grew EPS in spite $900mn inventory de-stock), capex slows yet remains resilient (i.e, large corporates from BHP to Meta still spending). That said, an underrated dynamic is some 'upside risks' starting to emerge. In our view, the story of 2024 is if the cycle can find some legs to drive EPS in '25 – we continue to monitor the upturn in some of BofA's proprietary lead indicators.

## As demand slows, BofA Indicators starting to 'perk up'

Industrial demand is slowing: local rental markets moderating, construction starts weakening, aggregates shipments 'flat to down', etc. In our view, this development is not a surprise post an aggressive tightening cycle & subdued indicators (ISM in contraction for 15 consecutive months). This is why the inflection in BofA's Industrial indicators & Surveys - Ken Hoexter's Truck Shipper Survey, Andrew Obin's Fluid Power Survey, Factory Automation Indicator, Industrial Momentum Indicator – is somewhat promising.

## Manufacturing malaise: light at end of the tunnel…

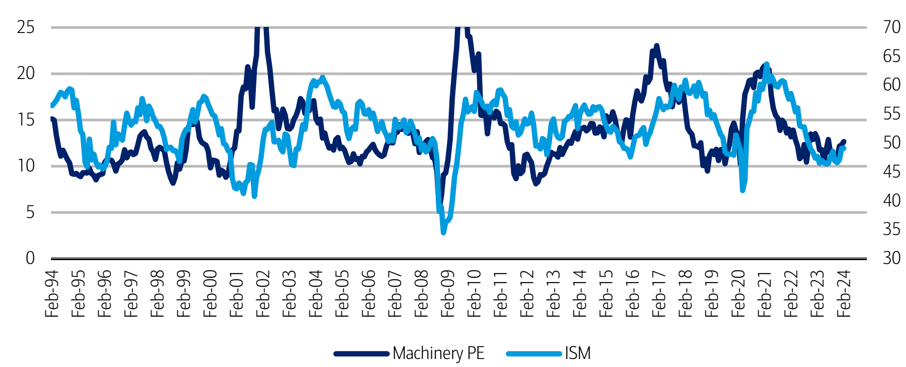
The BofA Industrial Momentum Indicator (published today) climbed MoM, breaking out of its protracted, tight range – Indicator typically leads the PMI by 1-2 months. There are four periods (five including now) where the ISM remained below 50 (contraction) for more than 15 months (see inside). Typically, cyclicals relative performance after those 15 months is positive on a 12-month basis (excluding 1990's). See pages inside.

## ..why does it matter? Indicators go up, multiples go up

While share price performance broke down vs ISM over the last year – a function of a more resilient EPS profile – Machinery multiples still track (directionally) with the ISM.

**Exhibit 2: Machinery 12 month forward PE vs ISM**

Machinery multiples typically rerate in periods when ISM moves higher




**Source:** BofA Global Research, DataStream, Bloomberg

BofA GLOBAL RESEARCH

Click Machinery, E&C and Waste for full report including important disclosures.

US Semiconductors

# Graphics Update: NVDA leading charge in data center, gaming upcycle still strong

**Industry Overview**

27 February 2024

Equity
United States
Semiconductors

**Vivek Arya**
Research Analyst
BofAS
+1 646 855 1755
vivek.arya@bofa.com

**Blake Friedman**
Research Analyst
BofAS
+1 646 556 1850
blake.friedman@bofa.com

**Duksan Jang**
Research Analyst
BofAS
+1 646 556 4825
duksan.jang@bofa.com

**Lauren Guy**
Research Analyst
BofAS
+1 646 855 4273
lauren.guy2@bofa.com

## NVDA holding leadership in $85bn+ accelerator market

We review Q4 GPU/discrete GPU (dGPU) trends (per Mercury), particularly in the data center, which now drives the market for NVDA/AMD. Indeed, data center sales on track to be >85% of NVDA sales (vs. ~25% five years ago) and ~50% for AMD (vs. 10%-15% five years ago). Though visibility highly limited into data center GPU ordering trends, we note major takeaways from latest Mercury data: 1) GPU silicon units in Q4 reached >900k (up >100% YoY), with NVDA commanding nearly 95% market share (with share >97% at a system level given higher ASPs); 2) Hopper (H100/HGX platform) products vast majority of overall NVDA data center revenue, with A100 mix continuing to decline (though still meaningful) and L40S SKUs ramping (though still small); 3) Given current Hopper mix, Mercury believes NVDA GPU silicon sales (~850k) increased >20% QoQ, driven by continued H100 (and L40S) units; 4) AMD data center GPU revenue surged to ~$400mn in Q4 (vs. ~$75mn over past 3qtrs) as shipments ramped to support new El Capitan Supercomputer (AMD GPU silicon unit sales estimated to more than triple QoQ). We reiterate Buy on both NVDA and AMD, as we believe there is significant growth ahead for the $85-$90bn accelerator market. We note our ~$180bn TAM (up >2x in 3 years) still below bull case estimates from vendors like AMD ($400bn).

## Gaming update: Growth ongoing as mix improves

We also update our dGPU tracker for PC gaming, low-end PC, and consoles (~10%-15% of NVDA/AMD sales over next few years). Net-net, for the full year, CY23 dGPU market represented $10.4bn, up 11% YoY post inventory digestion in CY22 (down more than 30% YoY). In Q4 alone, discrete GPU (dGPU) sales of $2.9bn increased +3% QoQ (though up a robust 60% YoY), remaining above NVDA's prior $2.5bn/qtr objective as mix continues to support growth. Q4 dGPU market benefitted from both strong unit growth (+30% YoY) and ASP strength (up >25% YoY). Indeed, per Mercury, mix is improving, with demand at high end of market (RTX 4070/80/90) expanding, while cooling for older products (16xx series, RTX 3050/3060). As we pass the holiday season, we expect Q1 dGPU consumer sales to be down in line with seasonality (-2% QoQ), though we remain only 5 quarters out from recent cycle trough, suggesting gaming upcycle could last into late CY25/26 (representing an approx. 3yr upcycle, in line with past trends).

**Exhibit 1: GPU Tracker Snapshot**

dGPU sales grew 11% in 2023

| ($mn) | 2023 | 2024E | 2025E | 2026E |
|---|---|---|---|---|
| Total dGPU | $10,411 | $11,967 | $13,086 | $14,311 |
| YoY% | 11% | 15% | 9% | 9% |
| PC Gaming | $10,050 | $11,579 | $12,640 | $13,829 |
| YoY% | 15% | 15% | 9% | 9% |
| Tradtl PC | $362 | $388 | $447 | $483 |
| YoY% | -39% | 7% | 15% | 8% |
| Console | $6,680 | $3,953 | $3,717 | $3,659 |
| YoY% | -4% | -41% | -6% | -2% |

**Source:** BofA Global Research estimates

BofA GLOBAL RESEARCH

## Next catalysts: NVDA GTC, Broadcom analyst day

Data center GPU demand should remain at the forefront, with NVDA's GTC kicking off on March 18. Generative Artificial Intelligence (genAI) will be the key theme, and we expect NVDA to provide additional details on its roadmaps across accelerators (GH200, B100, x100, etc.) and networking (Spectrum-X, BlueField). Indeed, we expect much focus to be placed on the B100 and possible price increases (expectations could be in range of 20%-30% increase vs. current H100 priced at ~$30k). On 3/20, Broadcom will host its Enabling AI in Infrastructure Investor meeting, detailing its critical silicon/networking offerings. We expect further clarity around AVGO's ability to provide customers with leading custom ASICs ($5.5bn-$6bn rev runrate) as well as advancements in making Ethernet viable for AI networking ($2bn rev potential in FY24E).

### Glossary

**GPU:** graphics processing unit
**NVDA**: Nvidia
**AMD**: Advanced Micro Devices
**SKU:** stock keeping units
**ASP**: average selling price
**GTC:** GPU Tech Conferece
**AI:** Artificial Intelligence
**PC**: Personal computer
**TAM:** Total Addressable Market
**AVGO:** Broadcom

Click US Semiconductors for full report including important disclosures.

US Biopharmaceuticals

# BofA Insights into GLP-1 Market Trends: Week of 2/19

**Industry Overview**

26 February 2024

Equity
United States
Biopharmaceuticals

**Geoff Meacham**
Research Analyst
BofAS
+1 646 855 1004
geoff.meacham@bofa.com

**John Joy**
Research Analyst
BofAS
+1 646 855 1136
john.joy@bofa.com

**Alexandria Hammond**
Research Analyst
BofAS
+1 646 855 1654
alexandria.hammond@bofa.com

**Susan Chor**
Research Analyst
BofAS
+1 646 855 0102
susan.chor@bofa.com

**Charlie Yang**
Research Analyst
BofAS
+1 646 855 5732
charlie.yang@bofa.com

## US GLP-1 scripts up 22% y/y, obesity share now 14%

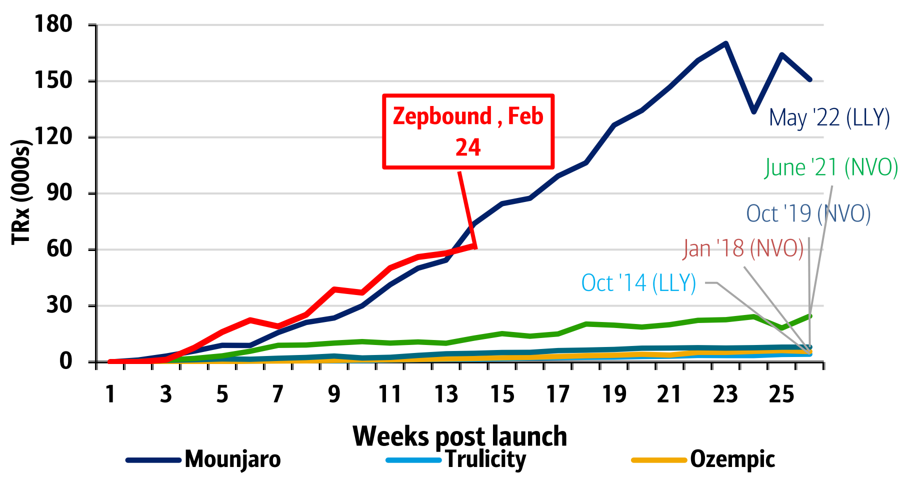
With IQVIA script data including Lilly's (Buy, $800 PO) Zepbound now available, we're providing insight into market share and demand trends for GLP-1s and diabetes drugs (DPP4, SGLT2, Insulin, Metformin). Data from the week of 2/16 shows continued strong growth, as GLP- 1 scripts are up 22% y/y and projected to hold 31% share in the diabetes market for 1Q24E, up from 25% in 1Q23. Our data suggests that 14% of GLP-1 TRx are for Obesity, while 86% are for diabetes. We continue to expect above consensus growth in the space, as we are bullish on adoption from payers and broader obesity uptake.

## Zepound gives Lilly 37% of obesity market

According to IMS, Lilly's GLP-1 TRX are up +26% y/y for the week of 2/16 following the approval of Zepbound, their obesity focused GLP-1 (see our note on the approval here). Lilly has 46% share of the overall GLP-1 market, behind competitor Novo's (Covered by Graham Parry and Sachin Jane) 54% share. Moving to Obesity, the fasting growing GLP-1 market, Lilly has 38% share while Novo has 62%. We expect Lilly to see share gains in the coming weeks as Zepbound supply constraints ease and DTC campaigns rollout (see our note on the importance of online platforms for anti-obesity medications).

**Exhibit 3: GLP-1 Launch Curves**

Zepbound has the second TRx of any GLP-1 through its first 14 weeks after launch




**Source:** IQVIA, Bloomberg

BofA GLOBAL RESEARCH

**Investment decisions should not be made prior to reading the research report, which includes important information and disclosures.**

Click US Biopharmaceuticals for full report including important disclosures.

# Apple Inc.

## Survey signals incoming iPhone refresh cycle and strong customer loyalty

**Maintain Rating: BUY | PO: 225.00 USD | Price: 182.63 USD**

### Expect strong refresh cycle to take place in coming years

We update our global smartphone survey, conducted across the US, UK, China, and India. We saw an elongation of iPhone refresh cycle with 41% of respondents in Feb 24 (vs. 36% from our last published report in Feb 22) indicating intent to upgrade their phones every 4 or more years. However, we also noted a significant number of iPhone users using older iPhones, where 28% own an iPhone in the iPhone 13 family, 14% in the iPhone 12 family, and more than 35% in the iPhone 11 family or older (see Fig 10). We believe the installed base is due for an upgrade and anticipate a strong refresh cycle to take place over the next two years as Generative AI features start to take hold on smartphones. Maintain Buy given multi-year iPhone cycle driven by GenAI, strong services growth, and margin expansion.

### Regained mindshare in China post initial Huawei success

In Sep–Oct 23, iPhone lost mindshare to Huawei in China but quickly regained its preferential status in the region (Fig 8). Customer loyalty for Apple remains strong with 57% of current iPhone users intending to buy an iPhone during their next upgrade, which compares to 55% for Samsung, 43% for Huawei and 33% for Xiaomi (Fig 9).

### Early days for Vision Pro but appealing at a lower price

10% of respondents in the U.S. reported that they are planning on buying the Apple Vision Pro (vs. 8% in UK, 19% in China, and 33% in India). We gauged purchase interest for those that do not plan on buying the Vision Pro at current prices (to determine their desired price points). On average, China respondents have the highest price points of $2,338 (~16,827 RMB) followed by UK respondents ($2,124 or £1,673), US respondents ($2,090), while India respondents have the lowest price point of $1,741 (~144,333 INR).

### Takeaways for Services and other Apple products

Avg. spending for Apple services increased in the US and the UK with users paying $31.57 per month (vs. $28.05 from previous report) in the US, and £24.70 (vs. £22.35 from previous report) in the UK, on average. Interest in Apple Services bundle grew in the US (37% reported interests vs. 34% in our previous report) and in the UK (33% reported interests vs. 32% in our previous report). Plans to upgrade the Apple Watch are highest in India (60%) followed by China (54%), the US (54%), and the UK (20%).

| **Estimates (Sep) (US$)** | **2022A** | **2023A** | **2024E** | **2025E** | **2026E** |
|---|---|---|---|---|---|
| EPS | 6.11 | 6.13 | 6.70 | 7.59 | 8.16 |
| GAAP EPS | 6.12 | 6.12 | 6.70 | 7.59 | 8.16 |
| EPS Change (YoY) | 8.9% | 0.3% | 9.3% | 13.3% | 7.5% |
| Consensus EPS (Bloomberg) | | | 6.60 | 7.16 | 7.79 |
| DPS | 0.90 | 0.94 | 0.99 | 1.04 | 1.09 |
| **Valuation (Sep)** | | | | | |
| P/E | 29.9x | 29.8x | 27.3x | 24.1x | 22.4x |
| GAAP P/E | 29.8x | 29.8x | 27.3x | 24.1x | 22.4x |
| Dividend Yield | 0.5% | 0.5% | 0.5% | 0.6% | 0.6% |
| EV / EBITDA* | 21.4x | 22.1x | 20.6x | 18.6x | 17.7x |
| Free Cash Flow Yield* | 3.9% | 3.5% | 3.6% | 3.8% | 4.1% |

**Investment decisions should not be made prior to reading the research report, which includes the opinion key and other important information and disclosures.** Click Apple Inc for full report including important disclosures.

**28 February 2024**

Equity

BofA Data Analytics

**Wamsi Mohan**
Research Analyst
BofAS
+1 646 855 3854
wamsi.mohan@bofa.com

**Ruplu Bhattacharya**
Research Analyst
BofAS
+1 646 855 0315
ruplu.bhattacharya@bofa.com

**Joseph Leeman**
Research Analyst
BofAS
+1 646 855 1262
joseph.leeman@bofa.com

**Nathawan Asdornwised**
Research Analyst
BofAS
+1 646 855 1848
nathawan.asdornwised@bofa.com

**Stock Data**

| | |
|---|---|
| Price | 182.63 USD |
| Price Objective | 225.00 USD |
| Date Established | 18-Jan-2024 |
| Investment Opinion | B-1-7 |
| 52-Week Range | 143.90 USD - 99.62 USD |
| Mrkt Val (mn) / Shares Out (mn) | 2,823,806 USD / 15,461.9 |
| Free Float | 94.0% |
| Average Daily Value (mn) | 9959.87 USD |
| BofA Ticker / Exchange | AAPL / NAS |
| Bloomberg / Reuters | AAPL US / AAPL.OQ |
| ROE (2024E) | 139.3% |
| Net Dbt to Eqty (Sep-2023A) | 130.5% |
| 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".

AI: Artificial Intelligence

# Eli Lilly and Company

# Can you take me higher? PO to $1000

**Reiterate Rating: BUY | PO: 1,000.00 USD | Price: 753.68 USD**

01 March 2024

Equity

## Lilly PO to $1000 on continued diabetes + obesity upside

Lilly remains a favorite name in our Biopharma coverage, even with strong YTD performance (+29%; DRG index: +10%), based on peer-leading revenue growth, margin expansion, and a compelling pipeline. While investors clearly recognize the commercial opportunity for Mounjaro (diabetes) and Zepbound (obesity), we'd argue that additional opportunities in heart disease (HFpEF; phase 3), obstructive sleep apnea (OSA; phase 3), and liver disease (NASH; phase 2) are vastly underappreciated. Indeed, we've added these commercial opportunities to our Lilly model as well as the next-gen GLP-1 oral (orforglipron), which elevates our PO for Lilly to $1000 (from $800). We're maintaining a Buy rating as we expect continued strength in shares given a scarcity of high growth stories in Healthcare—we forecast a 5-year CAGR for rev/ EPS of +21% (+2% cons)/ +46% (+5% cons)— along with upward commercial momentum throughout 2024.

## Tirzepatide sales could top $60B in 2030

Following the addition of label expansions for tirzepatide, we now forecast sales growing to >$60B in 2030 (from $15B in 2024). Moreover, when we include next-gen assets, oral (orforglipron; phase 3) and GGG agonist (retatrutide; phase 3), we see global sales for the assets at >$80B in 2030. We acknowledge there's wood to chop on access/ manufacturing capacity, but we'd argue our forecasts are still conservative, as by 2030, we assume <7% of US adults will be on a GLP-1 for obesity (includes competitors).

## Competition is key, but a wide commercial moat for Lilly

While we've seen a slew of new pipeline assets in the incretin space—some with robust clinical results—based on our prescriber discussions, we still see substantial commercial moats that should shape market dynamics. Indeed, we suspect investors discount Lilly + Novo's (covered by Jain + Parry) substantial expertise in the space, which together with a lack of available manufacturing capacity, create very high competitive hurdles.

## Neuroscience, oncology and I&I are additive

Given the robust P&L impact of Lilly's GLP-1 portfolio, its neuroscience, oncology, and I&I segments seem less impactful. That said, these other segments add diversification + optionality and for oncology / I&I, we see an impressive +16% 5-year CAGR.

| Estimates (Dec) (US$) | 2022A | 2023A | 2024E | 2025E | 2026E |
|---|---|---|---|---|---|
| EPS | 7.94 | 6.32 | 12.70 | 18.05 | 26.10 |
| GAAP EPS | 6.90 | 5.80 | 12.37 | 17.78 | 25.83 |
| EPS Change (YoY) | 7.4% | -20.4% | 100.9% | 42.1% | 44.6% |
| Consensus EPS (Bloomberg) | | | 12.51 | 17.99 | 24.30 |
| DPS | 3.88 | 4.47 | 5.14 | 5.91 | 6.80 |
| **Valuation (Dec)** | | | | | |
| P/E | 94.9x | 119.3x | 59.3x | 41.8x | 28.9x |
| GAAP P/E | 109.2x | 129.9x | 60.9x | 42.4x | 29.2x |
| Dividend Yield | 0.5% | 0.6% | 0.7% | 0.8% | 0.9% |
| EV / EBITDA* | 86.1x | 93.3x | 47.4x | 34.9x | 24.7x |
| Free Cash Flow Yield* | 0.7% | 0.1% | 1.3% | 1.9% | 2.8% |

**Investment decisions should not be made prior to reading the research report, which includes the opinion key and other important information and disclosures.** Click Eli Lilly and Company for full report including important disclosures.

### Key Changes

| (US$) | Previous | Current |
|---|---|---|
| Price Obj. | 800.00 | 1,000.00 |
| 2024E Rev (m) | 43,948.7 | 43,913.7 |
| 2025E Rev (m) | 51,908.5 | 52,450.3 |
| 2026E Rev (m) | 62,693.6 | 64,584.2 |
| 2024E EPS | 13.05 | 12.70 |
| 2025E EPS | 17.90 | 18.05 |
| 2026E EPS | 24.95 | 26.10 |
| 2024E EBITDA (m) | 15,654.7 | 15,696.8 |
| 2025E EBITDA (m) | 20,909.1 | 21,369.2 |
| 2026E EBITDA (m) | 28,599.4 | 30,191.2 |
| 2024E DPS | 5.12 | 5.14 |

**Geoff Meacham**
Research Analyst
BofAS
+1 646 855 1004
geoff.meacham@bofa.com

**Alexandria Hammond**
Research Analyst
BofAS
+1 646 855 1654
alexandria.hammond@bofa.com

**Susan Chor**
Research Analyst
BofAS
susan.chor@bofa.com

**Charlie Yang**
Research Analyst
BofAS
charlie.yang@bofa.com

**John Joy**
Research Analyst
BofAS
john.joy@bofa.com

### Stock Data

| | |
|---|---|
| Price | 753.68 USD |
| Price Objective | 1,000.00 USD |
| Date Established | 1-Mar-2024 |
| Investment Opinion | B-1-7 |
| 52-Week Range | 309.20 USD - 794.47 USD |
| Mrkt Val (mn) / Shares Out (mn) | 716,120 USD / 950.2 |
| Free Float | 89.4% |
| Average Daily Value (mn) | 2619.94 USD |
| BofA Ticker / Exchange | LLY / NYS |
| Bloomberg / Reuters | LLY US / LLY.N |
| ROE (2024E) | 81.8% |
| Net Dbt to Eqty (Dec-2023A) | 205.2% |
| 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".

# Welltower

# Deep dive: A multiyear senior housing beta trade with an alpha overlay

**Reiterate Rating: BUY | PO: 129.00 USD | Price: 91.86 USD**

**27 February 2024**

Equity

**Key Changes**

| (US$) | Previous | Current |
|---|---|---|
| Price Obj. | 96.00 | 129.00 |

**Joshua Dennerlein**
Research Analyst
BofAS
+1 646 855 1681
joshua.dennerlein@bofa.com

**Jeffrey Spector**
Research Analyst
BofAS
+1 646 855 1363
jeff.spector@bofa.com

**Farrell Granath**
Research Analyst
BofAS
+1 646 855 1351
farrell.granath@bofa.com

**REITs Team**
BofAS

## We are bullish on WELL's growth prospects

Welltower (WELL) offers a best in class operating platform. Investors, however, have long questioned its premium valuation. In this report, we offer an extensive analysis and find 1) its inexpensive given its future growth potential and (2) our analysis shows it could be worth $217/sh in 2028 (>2x Friday's closing price). Thus, we are raising our one year forward PO to $129 from $96, implying upside of 40%. Our view supports WELL's continued inclusion on Spector's Top Pick List & BofA's Global Research US1 list.

## Traditional valuation metrics are misleading

The biggest pushback we hear on the company which invests in healthcare real estate is that it looks expensive. By traditional metrics we agree. However, we think investors need to take a different approach given unique factors including: (1) cyclical: WELL is still recovering from NOI lost during COVID, (2) secular: accelerating demographic demand (see note: Primer) & (3) Alpha factor: data science, operating platform & capital allocation.

## Our analysis shows the company is not expensive

We take three paths to valuing WELL: (1) a multi-year PEGY analysis to screen for relative value against other high multiple REITs, (2) an earnings scenario analysis with a multiple overlay once earnings reach a new steady state, and (3) a multi-year NAV.

## A premium valuation is warranted

In our view, the company deserves a premium multiple on an absolute basis. WELL has put into place several initiatives over the years that have better positioned the company to capture the demographic wave driving future SH fundamentals. (See inside for more)

## Institutionalizing an asset class equals higher margins

We think the market isn't recognizing the margin expansion opportunity because: A (1) WELL's portfolio initiatives should drive significant margin expansion and (2) growing exposure to Wellness Housing (~60% margin, 55+ housing) will increase overall margins. Upside margin expansion is 48.6% on the SHOP segment (including Wellness Housing).

| **Estimates (Dec) (US$)** | **2022A** | **2023A** | **2024E** | **2025E** | **2026E** |
|---|---|---|---|---|---|
| FFO / Share (Reported) | 3.33 | 3.64 | 4.10 | 4.89 | 5.65 |
| GAAP EPS | 0.30 | 0.66 | 1.28 | 1.94 | 2.56 |
| FFO / Share Change (YoY) | 3.7% | 9.3% | 12.6% | 19.3% | 15.5% |
| DPS | 2.44 | 2.44 | 2.53 | 2.63 | 2.73 |
| FFO / Share (Normalized) | 3.33 | 3.64 | 4.10 | 4.89 | 5.65 |
| AFFO / Share | 2.82 | 3.11 | 3.55 | 4.35 | 5.11 |
| **Valuation (Dec)** | | | | | |
| P/FFO (Reported) | 27.6x | 25.2x | 22.4x | 18.8x | 16.3x |
| GAAP P/E | 306.2x | 139.2x | 71.8x | 47.4x | 35.9x |
| Dividend Yield | 2.7% | 2.7% | 2.7% | 2.9% | 3.0% |
| EV / EBITDA | 33.8x | 28.6x | 23.1x | 19.5x | 16.8x |
| P/FFO (Normalized) | 27.6x | 25.2x | 22.4x | 18.8x | 16.3x |
| P/AFFO | 32.6x | 29.5x | 25.8x | 21.1x | 18.0x |
| NAV / Share | 61.81 | 72.09 | 84.96 | NA | NA |

**Stock Data**

| | |
|---|---|
| Price | 91.86 USD |
| Price Objective | 129.00 USD |
| Date Established | 26-Feb-2024 |
| Investment Opinion | B-1-7 |
| 52-Week Range | 65.18 USD - 94.63 USD |
| Mrkt Val (mn) / Shares Out (mn) | 50,742 USD / 552.4 |
| Free Float | 100.0% |
| Average Daily Value (mn) | 236.72 USD |
| BofA Ticker / Exchange | WELL / NYS |
| Bloomberg / Reuters | WELL US / WELL.N |
| ROE (2024E) | 2.8% |
| Net Dbt to Eqty (Dec-2023A) | 53.6% |
| 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".

See Key Terms for definitions of comm

**Investment decisions should not be made prior to reading the research report, which includes the opinion key and other important information and disclosures.**
Click Welltower for full report including important disclosures.

# Price objective basis & risk

**Apple Inc. (AAPL)**
Our PO of $225 is based on approximately 32x our C24E EPS. Our target multiple compares to the 5-year historical range of 16-34x (median 27x). We believe a multiple at the higher end of the historical range is justified given a large cash balance and opportunity to diversify into new end markets, increasing mix and diversity of services.

Downside risks are: a) weaker iPhone 15 cycle on consumer spending risk, b) weaker near-term services trajectory where App Store & Licensing can decelerate, c) gross profit dollars declining y/y next few quarters, d) iPads/Macs reverting to pre-COVID levels, and e) stronger dollar. Other risks are potential trade conflicts, tariffs, longer iPhone replacement cycles, commoditization in the smartphone market, intensifying competition in the tablet market, ability to manage beat and raise expectations for EPS estimates, and requirement to maintain pace of product innovation.

Upside risks are: a) stronger sales of Pro iPhone models which can help average selling price and help the mix of the business, b) est. revisions can be lower vs. peers, c) potential new products (AR/VR), and services (advertising). Other upside risks are stronger than expected iPhone cycle, gross margin upside from better mix of higher end iPhones, tailwinds from lower memory costs, and a faster than expected recovery in emerging markets.

**Eli Lilly and Company (LLY)**
Our $1000 price objective is based on a probability-adjusted net present value (NPV) analysis of franchise verticals including Endocrinology ($691/share), Oncology ($135/share), Cardiovascular ($4/share), Neuroscience ($14/share), Immunology ($46/share), other pharmaceutical products and early pipeline assets ($128/share), as well as approximately -$17/share in net cash. We use a WACC ranging from 5% for approved products to 8% for pipeline products, depending on the stage of development. We apply terminal values ranging from -12% (cardiology) to 1% (endocrinology) based on projected sales decline following loss of exclusivity within each business vertical.

Risks to our price objective are 1) better-than-expected launches of competing products, 2) emerging clinical data for pipeline assets that does not confirm prior observations, 3) failure to effectively commercialize approved products, 4) potential drug pricing system restructuring in the US.

**Welltower (WELL)**
Our $129 price objective for WELL is now derived by running a 5 year forward analysis of WELL's growth prospects under various scenarios. Our base case implies a share price of $152 in 2028. Then we discount that share price back using a discount rate of 4.28% (the 10-year Treasury rate as of 02.26.2024) to back into our PO of $129. Upside risks to our PO are better-than-expected senior housing or medical office building performance, higher-than-forecast dividend growth and lower interest rates. Downside risks to our PO are further public-pay reimbursement cuts, a more competitive acquisitions environment, weaker-than-expected senior housing fundamentals, increased tenant credit risk, and rising interest rates.

# Disclosures

## Important Disclosures

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% |

[R1]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.

EXCHANGE-TRADED FUNDS (ETF) INVESTMENT OPINION KEY: Opinions reflect both an Outlook Rating and a Category Rating. OUTLOOK RATINGS reflect the analyst's assessment of the ETF's attractiveness relative to other ETFs within its category (including sector, region, asset class, thematic, and others). There are three outlook ratings: 1 - the ETF is more attractive than covered peers in the same category over the next 12 months; 2 - the ETF is similarly attractive to covered peers in the same category over the next 12 months; and 3 - the ETF is less attractive than covered peers in the same category over the next 12 months. CATEGORY RATINGS, indicators of the analyst's view of the ETF's category and which incorporate published views of BofA Global Research department analysts, are: FV - Favorable view, NV - Neutral view and UF - Unfavorable view.

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: Apple Inc., Eli Lilly, SPDR S&P Retail ETF, Welltower.
BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Apple Inc., Eli Lilly, State Street, Welltower.
The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Apple Inc., Eli Lilly, State Street, Welltower.
BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Apple Inc., Eli Lilly, State Street, Welltower.
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: Apple Inc., Eli Lilly, State Street, Welltower.
An officer, director or employee of BofAS or one of its affiliates is an officer or director of this issuer: Apple Inc.
BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Apple Inc., Eli Lilly, State Street, Welltower.
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: Apple Inc., Eli Lilly, State Street, Welltower.
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: Eli Lilly, Welltower.
BofAS together with its affiliates beneficially owns one percent or more of the shares of this fund. 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 the month reflect the ownership position at the end of the second month preceding the date of the report: SPDR S&P Retail ETF.
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: Apple Inc., Eli Lilly, SPDR S&P Retail ETF, Welltower.
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: Apple Inc., Eli Lilly, State Street, Welltower.
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

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.

ETFs are redeemable only in Creation Unit size through an Authorized Participant and may not be individually redeemed. ETFs also are redeemable on an "in-kind" basis. The mechanism for

creation and redemption of ETFs may be disrupted due to market conditions or otherwise.
The public trading price of an ETF may be different from its net asset value, and an ETF could trade at a premium or discount to its net asset value.
Investors in ETFs with international securities assume currency risk.
U.S. exchange-listed, open-end ETFs must be offered under and sold only pursuant to a prospectus. U.S. exchange-listed ETFs may not be marketed or sold in a number of non-U.S. jurisdictions and may not be suitable for all investors. Investors should consider the investment objectives, risks, charges and expenses of the ETF carefully before investing. The prospectus for the ETF contains this and other information about the ETF. Clients may obtain prospectuses for the ETFs mentioned in this report from the ETF distributor or their Merrill Global Wealth Management financial advisor. The prospectuses contain more complete and important information about the ETFs mentioned in this report and should be read carefully before investing.
BofAS or one of its affiliates receives licensing fees in connection with certain Select Sector Indices, Select Sector SPDR Funds, and the use of various marks associated with the foregoing. Such fees are paid from The Select Sector SPDR Trust ("Trust"), in respect of each Select Sector SPDR Fund, based on the average aggregate daily net assets of such Select Sector SPDR Fund (based on net asset value as described in the Trust's prospectus). Such fees also may be made in respect of other ETF providers for the right to create ETFs based on the Select Sector Indices, or different versions thereof.
"Standard & Poor's®", "S&P®", "S&P 500®", "Standard & Poor's 500", "500", "Standard & Poor's Depositary Receipts®", "SPDRs®", "Select Sector SPDR" and "Select Sector Standard & Poor's Depositary Receipts" are trademarks of The McGraw-Hill Companies, Inc. and have been licensed for use in connection with the listing and trading of Select Sector SPDRs on the AMEX. The stocks included in each Select Sector Index (upon which the Select Sector SPDRs are based) were selected by the index compilation agent in consultation with S&P from the universe of companies represented by the S&P 500 Index. The composition and weightings of the stocks included in each Select Sector Index can be expected to differ from the composition and weighting of stock included in any similar S&P 500 sector index that is published and disseminated by S&P.
For clients in Wealth Management, to the extent that the securities referenced in this report are ETFs or CEFs, investors should note that (1) the views and ratings presented by BofA Global Research personnel may vary from those of other business units of BofA Securities. including the Due Diligence group within the Chief Investment Office of MLPF&S ("CIO Due Diligence"); and (2) the CIO Due Diligence review process is used to determine the availability of an ETF or CEF for purchase through the Wealth Management division of MLPF&S and its affiliates.

### 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:


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.
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.