Global Research Highlights

The consumer vs. interest rates

Investment Strategy

21 August 2023

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

Is the consumer too hot?

Our Economics team recently likened July data, including better-than-expected retail sales, to a “scorcher”. In addition to retail sales, Housing sector data also once again underscored consumer spending strength. Ahead of the data last week, Savita Subramanian double-upgraded the Consumer Discretionary sector citing ten pro-cyclical drivers. However, continuing consumer strength which is a key part of the new soft-landing consensus has revived concerns that interest rates could remain higher for longer and challenge market optimism. Indeed, Paul Ciana cautioned that US 10y and 30y yields are rising and are about to retest their 4Q22 intraday high, while Stephen Suttmeier believes that the S&P 500 may struggle over the next few months, especially if the tactical resistances remain intact.

The Great Bank Debate

A soft landing for the economy could be just the catalyst that Bank stocks are looking for given their low valuations according to Ebrahim Poonawala. He believes that moderation in deposit costs reflected in cooling flows into money market funds are potentially tempering negative net interest income (NII) revisions. Furthermore, Bank stocks are only trading at a ~9.8x 2024e P/E vs. their 14.6x pre-pandemic 5yr median and 1.4x YE24e P/TBV vs. a 2024e ROTCE forecast of 14%. Still, Poonawala sees breakout potential in both directions: the next leg in bank stocks could also be lower if focus returns to interest rates being higher for longer.

Why Adobe could work

Brad Sills believes that Adobe is one of few software firms with tangible Artificial Intelligence (AI) offerings likely to drive incremental growth in the near-term. In Sills’ view, Adobe is ahead of the curve with offerings such as its generative AI-powered content creation tool, Firefly, which is likely to begin driving meaningful revenue/FCF upside as soon as FY24. In a conservative base case, Sills arrives at AI revenue of $300 million in FY24, growing to $960 million by FY26. In a blue-sky scenario, he believes AI revenue could be $1 billion in FY24, growing to $2.9 billion by FY26.

Top Macro reports

Top Industry reports

Top Stock reports

US Economic Weekly

It's a scorcher

18 August 2023

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

Key takeaways

- This week's data flow was red hot, with July retail sales and IP coming in well above expectations.
- The July FOMC minutes were balanced but a little stale. They suggest that QT might not end when the Fed starts cutting rates.
- Powell should sound less balanced at Jackson Hole, since the latest data raise the risk of a fresh increase in inflation.

US Economic Weekly will be going on a short break and will return Sep 7th.

Remarkable retail sales...

This week's highlight was the surge in July retail sales, which beat our above-consensus forecast (see In a word, remarkable). The four largest categories of retail sales ex-autos registered outsized gains. Moreover, the data are even stronger when viewed in the context of roughly zero inflation in the July CPI report in the categories corresponding to retail sales (goods and food services).

...were backed up by strength in IP and housing

Industrial production (IP) also came in well above expectations (see July Industrial Production: A hot summer). Motor vehicle production rebounded, with assemblies coming in well above the 2019 average. Utilities production also spiked. Meanwhile, housing starts and permits continue to suggest that the sector is close to finding a bottom, particularly in terms of single-family housing, which tends to be a bigger driver of GDP (see US housing starts and permits increase in July). In totality, this week's data raised our 3Q GDP tracker from our official forecast of 2.0% q/q saar to 2.7%.

July FOMC minutes: balanced...

We read the July FOMC minutes, released this week, as balanced. With the Fed getting closer to the end of the hiking cycle, several participants thought that risks "had become more two sided". Two participants even leaned towards a hold in July. There were concerns about credit tightening and financial conditions more generally. The minutes also mention risks to banks and insurers from weakness in commercial real estate. Even so, "most participants" saw "significant upside risks to inflation" that could necessitate additional hikes. The staff upgraded its economic forecast, no longer projecting a recession by year-end. And "some participants" argued that the pickup in home prices could mean that the impact of Fed tightening on the housing sector has peaked.

... with a nod to extended QT

The minutes offered scant forward guidance on policy rates, but they did offer some clues on QT (quantitative tightening). "A number of participants" (which means more than three but less than the majority) noted that QT need not end when the Fed starts to cut rates.

Click US Economic Weekly for full report including important disclosures.

Global Economic Weekly

The decoupling continues, but can it last?

Global Letter: The decoupling continues, but can it last?

Global data is gradually confirming our view that the main economic blocks are likely in the process of decoupling. The US remains strong, while China continues disappointing at the margin and global investors are becoming concerned. Going forward, it is likely this decoupling continues or the negative impact of a China slowdown impacts the US outlook.

United States: It's a scorcher

This week's data flow was red hot, with July retail sales and IP coming in well above expectations. The July FOMC minutes were balanced but a little stale. They suggest that QT might not end when the Fed starts cutting rates. Powell should sound less balanced at Jackson Hole in our view, since the latest data raise the risk of a fresh increase in inflation.

Asia: India – How relevant is El Nino?

Rising probability of El Nino in 2023 has started to weigh on India. We conclude that El Nino may not always result in deficient monsoon rainfall. Deficient rainfall impacts agriculture output but the impact on CPI inflation is non-linear.

Emerging EMEA: CEE – BoP to stay supportive

Czechia, followed by Poland, records more solid CA dynamics than peers, with more scope for improvement in energy balance. General backdrop for CEE manufacturing/exports is not as bad as the recent Euro area PMIs would suggest.

Latin America: Argentina – Milei shakes the landscape

Anti-establishment candidate Milei ended first in Argentina's presidential primaries, much stronger than anticipated. The government devalued the currency. We expect further devaluation following a likely December runoff election.

Global Economic Weekly will be going on a short break and will return Sep 8th

Click Global Economic Weekly for full report including important disclosures.

18 August 2023

Economics
Global

Table of Contents

Claudio Irigoyen
Global Economist
BofAS
+1 646 855 1734
claudio.irigoyen@bofa.com

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

Global Economics Team
BofAS

See Team Page for List of Analysts

Rates Technical Advantage

The formidable retest

16 August 2023

FICC Technical Strategy
Global Markets

Paul Ciana, CMT
Technical Strategist
BofAS
+1 646 855 6007
paul.ciana@bofa.com

For more on technical strategies such as Elliott wave, please see Technicals Explained: In 2023 --> Get to know technical strategy 23 January 2023

2023 FICC Technical Advantage: Animal spirits biting on the leash 05 December 2022

Key takeaways

- US 10y and 30y yields are rising and about to retest their 4Q22 intraday yield highs (4.34% and 4.42%, respectively).
- Weekly chart trend following methods show wave 5 up to new yield highs is underway, such as 4.50-4.60% and 4.70-4.80%.
- Risk: Brief new yield highs and then a sharp reversal lower can signal the YTD "range" remains and maybe a cycle "double top"

View: The formidable retest of 4Q22 yield highs

Our base case year ahead view looked for 10Y yield to retest the 2022 highs in 1H23 with some potential for a modest new high to satisfy divergences and a wave 5. Then in 2H23 to look for signs of a top and the start of a drop. A long-awaited retest is finally here. This week the US 10-year yield traded near the 4.25-4.34% peaks from 4Q22 by reaching 4.27%. The 30-year near its 4.33-4.42% 4Q22 peaks by reaching 4.37%. July and August show ongoing yield uptrends with wave 5 up underway and seeking new yield highs (Chart 2, Chart 13). Given this is viewed as wave 5 up, yield uptrends likely reach new highs and then the trend since March 2020 finds an end point. In this report we recap yield trends/targets and answer questions regarding double top patterns.

10Y and 30Y Yields: Wave 5 up says new highs coming

The weekly charts of US 10Y and 30Y yield completed a wave 4 consolidation pattern with the July breakouts (Oct 22-July 23) and are in wave 5 up. Modest upside targets are 4.5-4.6% (Chart 2) and 4.75% (Chart 13). While this trend following method carries a short UST bias (sell rallies), wave 5 should be the last leg of the yield uptrend since March 2020. The daily chart of 10y yield is still in a rising channel (Chart 1). The monthly chart of 10y yield remains less modest with risk of 5% in this cycle or the next. (Chart 3).

FAQ: Is 10Y yield going to double top?

The term “double top” gets thrown around a lot just because price (or yield) tests the prior high and starts to turn down. A double top is definite when the trough between the two peaks is broken. The 10Y yield is far from this point right now. We review 10y yield charts since 1962 and show eight medium term double top patterns. One thing that is clear is yield tends to retest the prior high or makes a modest new high. Then a violent, sharp reversal lower occurs. If we see a sharp reversal week in H2 in the 4.3-4.5% area along with other systematic buy signals, oscillator and volume divergences and/or weaker than expected economic data (U-rate > 3.7%?) then that could be the bullish UST turn to favor lower yields. Next we’d see the 10Y and 30Y yields fall below their rising weekly trend lines now at 3.88% and 3.95% (See Chart 2 and Chart 13). For what it’s worth, calling it a double top today (we’re not as of now) technically implies the 10Y and 30Y yield can decline to +/- 2.50% in 2024.

Click Rates Technical Advantage for full report including important disclosures.

Market Analysis Comment

Tracking the ebbs and flows

Market Analysis

14 August 2023
Market Analysis
United States

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

SPX bounces from first support (4450)

After testing the target for the summer rally at 4580 (see report SPX hits targets for summer rally), the SPX dipped to 4444 on Friday (8/11) to test the first support at 4450 with the rising 50-day MA near 4443 prior to a rebound. If this tactical bounce continues, prior support at 4527 (7/20 low) and the 8/2 daily downside price gap from 4550 to 4568 provide resistance ahead of the 7/27 peak at 4607.

Still a corrective phase if SPX resistances hold

August-October is the weakest 3-month period of the year for the SPX going back to 1928. In Presidential Cycle Year 3, the SPX has lackluster returns from August-November prior to a bullish December (see report Tactical correction underway). This suggests that the SPX may struggle over the next few months, especially if the tactical resistances highlighted above remain intact, with supports near 4325 and 4200.

SPX: Bullish daily 9 suggests tactical bounce, but a…

A bullish daily Demark 9 for the SPX on Monday (8/14) suggests tactical downside exhaustion and favors a rally from support at 4450. In addition to the chart resistances highlighted above, Demark indicators show resistance from 4562-4576 to 4602. The NASDAQ 100 and NASDAQ Comp also recorded bullish daily Demark 9s on 8/14.

Recent bearish weekly 9 means risk of seasonal overhang

A mid July bearish weekly 9 and early August weekly bearish engulfing pattern increase the risk that tactical rallies on the SPX fade given more challenging seasonality from August-October and a less robust Presidential Cycle Year 3 pattern until December. Weekly Demark does not yet show downside exhaustion, which is a risk factor for SPX.

Bullish: high yield leads investment grade once again

The iBoxx High Yield (HY) relative to the iBoxx Investment Grade (IG) ratio looked like it had topped out with a risk-off signal from an October 2022 peak. But weakness for HY vs IG proved to be short-lived with HY bottoming out and rising sharply from a late March low vs IG. This risk-on move has the potential to continue beyond last October's high, which would extend the current up cycle for HY vs IG from the early 2020 low.

Risk of bearish divergence on % of stocks > 200-day MAs

The percentage of stocks above 200-day MAs generated a bullish signal from a 2022 double bottom. Higher highs for this indicator confirmed the rally for the SPX in early February but have not confirmed the higher highs on the index since the June breakout above the 4200 area. While below the February high of 78.64%, this breadth indicator is a risk for a bearish divergence. The NASDAQ Comp and NYSE have a similar bearish divergence. This divergence occurs heading into weaker August-October seasonality and a less robust part of the Presidential Cycle.

Click Market Analysis Comment for full report including important disclosures.

Technical Strategy notes

Market Analysis Comment: Tactical correction underway 08 August 2023

Market Analysis Comment: Summer seasonality less robust in August 01 August 2023

Chart Blast: SPX hits targets for summer rally 28 July 2023

Acronyms in this note

A-D = Advance-decline

MA = moving average

SPX = S&P 500

OAS: Option adjusted spread

HY = High yield

IG = Investment grade

CPI: Consumer price index

MACD: Moving average convergence divergence

ICI: investment Company Institute

GICS: Global Industry Classification Standard

MLP: Master limited partnership

P&C: Property and Casualty

Sector Focus Point

Let’s get cyclical: 10 reasons to double upgrade Consumer Discretionary...

...and downgrade Consumer Staples

We raise Consumer Discretionary (CD) to O/W from U/W & lower Staples (CS) to U/W from M/W. Our BofA Consumer analysts provide fundamental support (see inside). From a macro view...

1) BofA economists: “No recession, better consumption.”

BofA economists now expect a soft land landing/no recession and raise US consumption growth by 100bp in 2024. Inflation has cooled and Fed hikes may be closer to behind us.

2) Active managers at max underweights in Discretionary

... by long only (LO) and hedge funds (HF) after six quarters of bracing for a recession.

3) Cycle shifting: Downturn to Recovery, hikes nearly done

Cycles have been far from clearcut post-COVID, but our US Regime Indicator has been a good tool for style rotation and flipped from “Downturn” to “Early Cycle” - see Profiles – where CD has led vs CS. And the end of hiking cycles usually marks the bottom in CD.

4) Earnings: CD catching up to CS, highest % of beats

Estimates are now catching up to CS; CD leads in sales & EPS beats (see EPS Tracker).

5) 85% of US mortgages are fixed.

This is far better than any other major region (see Global Econ Viewpoint).

6 – 7) Homebuilders as a canary; real wages back in black

CD tends to lag homebuilders which troughed late last year. CD is one of the biggest beneficiaries of real wage growth which turned positive after two years (Exhibit 8).

8. S&P 500: 85% goods 15% services, mid income > high

Slowing services spend hits SMID more; the “rich-cession” matters more for Europe.

9) Quant model ranks Discretionary #3, Staples last

US Momentum & Value is based on value, revisions and momentum (see Cheat Sheet).

10) Reports of US consumers’ death greatly exaggerated

Recent headlines (depleted excess savings, student loan headwinds) may overstate risks. Pandemic-era stimulus was gravy, we’re now back to run-rate savings. Resumption of loan payments is likely a modest and gradual return to a formerly manageable headwind.

Risk to outlook: jobs, plus AMZN & TSLA

Discretionary trades expensive – but without AMZN/TSLA (half of the sector by market cap) trades in-line with its average PE – as a stand-alone, and relative to Staples. AMZN also has crowding risks. But the lynchpin of consumer confidence is employment, where layoffs so far have been ring-fenced to pockets (Silicon Valley, Wall Street etc).

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

14 August 2023

Equity and Quant Strategy
United States

Savita Subramanian
Equity & Quant Strategist
BofAS
savita.subramanian@bofa.com

Jill Carey Hall, CFA
Equity & Quant Strategist
BofAS
jill.carey@bofa.com

Ohsung Kwon, CFA
Equity & Quant Strategist
BofAS
ohsung.kwon@bofa.com

Alex Makedon
Equity & Quant Strategist
BofAS
alex.makedon@bofa.com

Victoria Roloff
Equity & Quant Strategist
BofAS
victoria.roloff@bofa.com

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

Elizabeth L Suzuki
Research Analyst
BofAS
elizabeth.suzuki@bofa.com

Sara Senatore
Research Analyst
BofAS
sara.senatore@bofa.com

Curtis Nagle, CFA
Research Analyst
BofAS
c.nagle@bofa.com

Robert F. Ohmes, CFA
Research Analyst
BofAS
robert.ohmes@bofa.com

Alexander Perry
Research Analyst
BofAS
aperry3@bofa.com

Madeline Cech
Research Analyst
BofAS
madeline.cech@bofa.com

Jessica Owusu Afari
Research Analyst
BofAS
jessica.owusu-afari@bofa.com

Definitions:
O/W = overweight
M/W = marketweight
U/W = underweight

US Banks

Earnings & beyond: Uneasy calm

Industry Overview

13 August 2023

Equity
United States
Banks

Ebrahim H. Poonawala
Research Analyst
BofAS
+1 646 743 0490
ebrahim.poonawala@bofa.com

Brandon Berman
Research Analyst
BofAS
+1 646 855 3933
brandon.berman@bofa.com

Isiah Austin
Research Analyst
BofAS
+1 646 855 0472
isiah.austin@bofa.com

Gabriel Angelini
Research Analyst
BofAS
+1 646 855 3081
gabriel.angelini@bofa.com

David Kigunda
Research Analyst
BofAS
+1 646 743 0179
david.kigunda@bofa.com

Breakout potential in both directions

Bulls argue soft-landing, limited likelihood of industry-wide capital event, manageable liquidity pressures and still discounted valuations (especially relative to the S&P). Bears point to risk from a reacceleration in inflation, persistent risk from higher for longer interest rates (margin squeeze, credit deterioration, stalling growth). We are still in search of the "clearing event" with persistent cooling in inflation that allows for Fed rate cuts without crushing the economy/job market as the blue-sky scenario. *See Exhibits 1-101 for a rundown on key operating trends.*

Links to 2Q23 review notes: Large-caps: BK, C, CFG, FITB, GS, HBAN, JPM, KEY, MS, MTB, PNC, RF, STT, TFC, USB, WFC. Mid-caps: ALLY, ASB, BOH, & TCBI, CFR, CMA, EWBC, FBP & FHB, FHN, NYCB, PB, SNV, WAL ZION.

No recession narrative could support valuations

Earlier this month, BofA Economics team removed its recession call, forecasting US GDP growth of +2.1%/+1.1% for 2023/24. While we see EPS risks skewed to the downside, portfolio managers could be forced to revisit their positioning in bank stocks if "soft landing" narrative picks-up steam, need to add exposure to cyclicals. Bank stocks trading at 9.8x 2024e P/E vs 14.6x pre-pandemic 5yr median and 1.4x YE24e P/TBV vs 2024e ROTCE forecast of 14%.

Deposit costs or credit to deliver alpha from here?

Messaging from management teams observing a moderation in deposit pricing reflected in cooling inflows into money market funds. If worst of deposit re-pricing priced-in, then negative net interest income (NII) revisions may be tempered from here vs. 1H23. However, unclear if credit ready to take over the baton for alpha creation as systemic issues yet to emerge. FY24 NII revisions -9%/-13% YTD for BofA Large-cap/Mid-cap banks. Non-performing loans as % of loans: Large-caps; -1bp QoQ; Mid-caps; +7bp.

Basel capital reforms, long slog ahead

Fed's capital proposal seen as worst-case scenario, but potential for changes significant. We believe it is extremely challenging (if not impossible) to anchor investment thesis on this issue, although certain investors may choose to stay on the sidelines until additional clarity emerges. Most banks remain in capital optimization/conservation mode given the macro and anticipated regulatory changes. Expect more banks to announce loan sales, business exits as they look to shore-up capital/liquidity. Relevant research: Basel Capital NPR: As advertised, Expert call takeaways: de-coding Fed's proposal on capital changes

Positioning for bear market rallies

Potential for a positive macro outcome combined with discounted valuations warrants that investors maintain some exposure to the group. The group has witnessed six bear market rallies since March 2022 (Exhibit 12). We see the following stocks as offering a particularly attractive risk/reward: Wells Fargo (WFC), Goldman Sachs (GS), BNY Mellon (BK), US Bancorp (USB), New York Community (NYCB), East West (EWBC), First Horizon (FHN), Western Alliance (WAL).

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

Automotive Industry

Weekly automotive pit stop

Industry Overview

18 August 2023

Equity
United States
Autos/Car Manufacturers

Recent US industry reports and data points – Pages 2-8

- Potential UAW strike = ~2% risk to GDP as the clock counts down to 9/14
- Total recall 2Q:23 – Big beats met with skepticism on potential 2H risks
- Timing is everything...upgrading Auto Suppliers
- Year Ahead 2023: Five Auto themes & top stock picks in difficult macro
- Sales: July fireworks not as spectacular as expected – US SAAR of 15.7mm

Core Autos primers (see links):

- Car Wars 2024-2027: Rise of powertrain conundrum & return of market share shifts
- Who Makes the Car of the Future – 2023
- The Auto Dealer Dilemma – will the good times keep rolling?

Valuation update – Pages 9-13

We believe that the accompanying valuation framework is one of the most important fundamental factors that should be considered when making investment decisions on the stocks in our coverage universe. However, given the extreme volatility in certain links of the automotive value chain, investors should be cognizant that the stocks are sensitive to headlines and swings in expectations, especially in the short term.

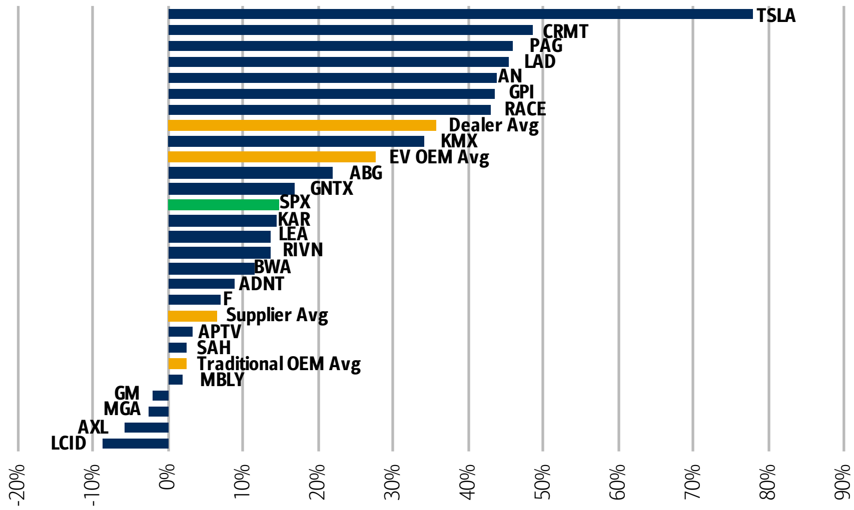
Buy: ABG, ADNT, AN, APTV, BWA, F, GM, GPI, LAD, LEA, MGA, PAG, RACE, RIVN

Neutral: AXL, GNTX, LCID, MBLY, TSLA

Underperform: CRMT, KAR, KMX, SAH

Exhibit 1: 2023 YTD stock performance

YTD stock performance of automotive coverage vs. supplier, dealer & OEM averages as well as S&P Index



Source: Bloomberg as of 8/17/23

BofA GLOBAL RESEARCH

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

Click Automotive Industry for full report including important disclosures.

John Murphy, CFA
Research Analyst
BofAS
+1 646 855 2025
johnj.murphy@bofa.com

John P. Babcock
Research Analyst
BofAS
+1 646 743 0046
john.p.babcock@bofa.com

Federico Merendi
Research Analyst
BofAS
+1 646 556 2798
federico.merendi@bofa.com

William Healey
Research Analyst
BofAS
+1 646 855 5747
william.healey2@bofa.com

ADNT	Adient Plc
AXL	American Axle
CRMT	America's Car-Mart
APTV	Aptiv PLC
ABG	Asbury Auto
AN	AutoNation, Inc.
BWA	BorgWarner
KMX	CarMax
RACE	Ferrari
F	Ford Motor
GM	General Motors
GNTX	Gentex
GPI	Group 1 Auto
KAR	KAR Auction Svcs
LCID	Lucid Group
LEA	Lear Corp.
LAD	Lithia Motors A
MBLY	Mobileye
MGA	Magna Intl
PAG	Penske Auto Group
RIVN	Rivian Automotive
SAH	Sonic Automotive
TSLA	Tesla

Homebuilders

Housing starts rise in July despite lower builder confidence

Industry Overview

16 August 2023

Equity
United States
Homebuilders

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

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

July housing starts up 6% YoY and 4% MoM

July 2023 housing starts pace (seasonally adjusted annualized rate) increased to 1.45MM, compared to downwardly revised June starts of 1.40MM (+3.9% MoM) and 1.37MM in July 2022 (+5.9% YoY). Single family starts increased on a MoM and YoY basis (+6.7% MoM, +9.5% YoY), while multifamily (MF) starts fell on a MoM and YoY basis (-1.7% MoM, -0.8% YoY). By region: Midwest (+9.9% MoM, +10.6% YoY), South (-1.3% MoM, +11.9% YoY) and West (+14.0% MoM, +13.3% YoY), Northeast (+1.0% MoM, -38.9% YoY). **Supply outlook:** We expect public homebuilders to increase the pace of housing starts in 2H23 relative 1H23 given the improved selling pace over the last six months. We forecast single-family housing starts to decline (7%) YoY in 2023 to 933k (revised higher from 922k), which implies 11% YoY growth in 2H23. See our report: Housing start acceleration to drive more upside for BLD and OC.

Housing permits decline (13.0%) YoY, but rose 0.1% MoM

July 2023 housing permits (SAAR) increased slightly to 1.442MM compared to 1.441MM in June 2023 (+0.1% m/m and -13.0% y/y). Single-family permits rose +0.6% MoM and +1.3% YoY, while Multifamily permits fell -1.0% MoM and -30.8% YoY.

MBA purchase index fell 2.7% WoW

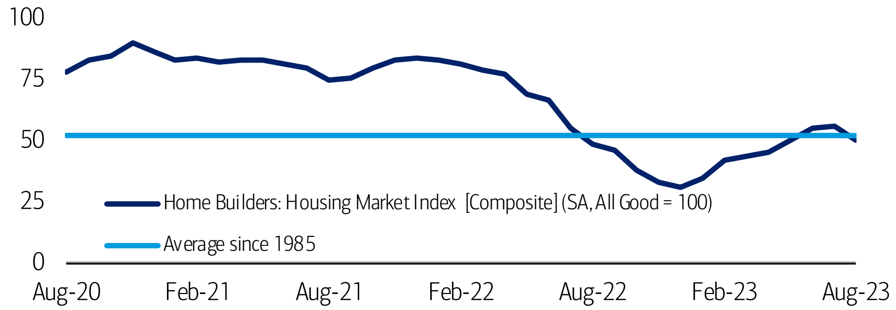
Mortgage Bankers Association (MBA) purchase applications index (seasonally adjusted) continued to decline YoY (-27.0% YoY) and fell -2.7% WoW in the week ended August 4th.

NAHB confidence declines sharply MoM

Homebuilder confidence, as measured by the National Association of Home Builders (NAHB) Index, fell 6 points to 50 in August, indicating that a neutral view of the current market. Year-to-date, builder's outlook for the market has improved with better traffic/sales, low levels of existing home inventory and supply chains improvements, however, over the last month, mortgage rates and inputs costs have moved higher.

Exhibit 2: NAHB Homebuilder sentiment index

Homebuilder sentiment fell to 50 in Aug, indicating a neutral view of the current market



Source: National Association of Home Builders

BofA GLOBAL RESEARCH

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

Click Homebuilders for full report including important disclosures.

Wells Fargo & Company

CFO meeting takeaways: Best of both worlds

Reiterate Rating: BUY | PO: 50.00 USD | Price: 42.22 USD

17 August 2023

Equity

Self-help, growth, Basel reforms in focus

Our investor meeting with CFO Michael Santomassimo highlighted the significant opportunities ahead to drive growth, boost franchise efficiency, and return capital as WFC continues to make progress towards achieving management's 15% ROTCE target. Our discussion focused on the potential impact of the Fed's capital proposal, expense management, credit quality (specifically CRE), and lending/fee revenue opportunities. See page 5 for takeaways from our meeting.

Best-positioned GSIB to navigate Basel capital changes

We consider WFC among the best-positioned GSIBs to adapt to Basel reforms. Excess capital (to absorb the impact from higher operational risk), combined with a less complex capital markets business, should lead to below-average RWA inflation. WFC is operating with 200bp of excess capital (15% of market capitalization), providing significant capital flexibility. We roughly estimate a RWA increase of ~20% based on the Fed's proposal. Our forecast assumes share buybacks of $15.0bn/$11.9bn for FY23/24.

Efficiency boost should remain a significant EPS lever

Management sees significant cost-save opportunities across the franchise, which should keep a lid on expense growth and drive an improving efficiency ratio (WFC lags peers in three of the four operating segments) over the coming years. Our forecast assumes that core annual expenses remain in the $51bn range through FY25 or flat vs. FY23 guide. As a result, we revise up our 2025 EPS estimate by 4% to $5.62.

Market share gains expected, wealth, investment banking

In addition to gaining lending market share (aided by capital flexibility), management laser focused on boosting credit card offerings (5% of loans vs. 15% GSIB peer median), turning around the wealth management business (under new leadership since 2020) and growing investment banking revenues. Trading revenues have grown noticeably recently, with potential for additional runway if/when the Fed-mandated asset cap is lifted.

Best risk/reward in the group, in our view

At 1.1x our year-end 2023e TBV/share and 9.3x our 2024e EPS, WFC stock offers among the most compelling risk/reward in the group. Investors can gain exposure to the best of both worlds – GSIB-like EPS defensibility and regional bank-like gearing to the US economy. The valuation discount vs. higher-quality peers (JPMorgan-JPM, PNC Financial-PNC) should narrow on the improving ROTCE outlook and fading regulatory drag. We reiterate our Buy rating.

Estimates (Dec) (US$)	2021A	2022A	2023E	2024E	2025E
EPS	4.77	4.50	4.60	4.60	5.62
GAAP EPS	4.96	3.29	4.60	4.60	5.62
EPS Change (YoY)	NM	-5.6%	2.3%	-0.1%	22.3%
Consensus EPS (Bloomberg)			4.87	4.84	5.42
DPS	0.60	1.10	1.30	1.47	1.62
Valuation (Dec)					
P/E	9.0x	9.5x	9.3x	9.3x	7.6x
GAAP P/E	8.6x	13.0x	9.3x	9.3x	7.6x
Dividend Yield	1.4%	2.6%	3.0%	3.4%	3.8%

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

Key Changes

(US$)	Previous	Current
2023E Rev (m)	80,806.0	80,669.6
2024E Rev (m)	79,025.3	78,762.9
2025E Rev (m)	79,588.5	79,748.0
2025E EPS	5.40	5.62

Ebrahim H. Poonawala
Research Analyst
BofAS
+1 646 743 0490
ebrahim.poonawala@bofa.com

Brandon Berman
Research Analyst
BofAS
+1 646 855 3933
brandon.berman@bofa.com

Isiah Austin
Research Analyst
BofAS
+1 646 855 0472
isiah.austin@bofa.com

Gabriel Angelini
Research Analyst
BofAS
+1 646 855 3081
gabriel.angelini@bofa.com

Stock Data

Price	42.22 USD
Price Objective	50.00 USD
Date Established	11-Jul-2023
Investment Opinion	B-1-7
52-Week Range	35.25 USD -48.84 USD
Mrkt Val / Shares Out (mn)	217,585 USD / 5,092.1
Average Daily Value	658.58 USD
BofA Ticker / Exchange	WFC / NYS
Bloomberg / Reuters	WFC US / WFC.N
ROE (2023E)	10.5%
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".

CRE: commercial real estate
GSIBs: globally systemically important bank
ROTCE: return on tangible common equity
RWAs: risk-weighted assets
TBV: tangible book value
vs.: versus

Adobe

Ahead of the curve with AI; upgrade to Buy

Rating Change: BUY | PO: 630.00 USD | Price: 514.49 USD

17 August 2023

Equity

AI to drive meaningful incremental revenue in FY24

We upgrade Adobe shares to Buy from Neutral, given our view that the company is emerging as an AI leader. As we outlined in our report, Navigating the Next Frontier of Enterprise Software published in May, many software firms are likely to benefit from AI as new offerings are launched in the coming years. However, Adobe is ahead of the curve, and we believe that AI offerings (such as generative AI-powered content creation tool Firefly) are likely to begin driving meaningful revenue/FCF upside as soon as FY24.

See multiple AI monetization opportunities

We see three potential AI monetization opportunities: 1) a paid Firefly subscription, 2) credit packs for Firefly consumption, and 3) custom agreements with global brands to blend data/LLMs with Adobe's. In a conservative base case, we arrive at AI revenue of $300 million in FY24, growing to $960 million by FY26 (which assumes Firefly penetration of 18% to the Creative Cloud/Express installed base). In a blue-sky scenario, we arrive at AI revenue of $1 billion in FY24, growing to $2.9 billion by FY26 (which assumes 33% Firefly penetration to Creative Cloud/Express users).

With or without Figma, Adobe to succeed in collaboration

Uncertainty remains regarding the timing and likelihood of the proposed Figma acquisition closing. However, Adobe remains confident that the US, European Commission, and UK regulators will approve the deal on the merits of the joint benefits to creative professionals (we agree). It is clear that Adobe is already developing collaborative capabilities organically and embedding these into key offerings (e.g., multi-player capabilities in Adobe Express). If the Figma deal were terminated, Adobe would continue developing features organically to better address critical collaborative features.

Upgrade to Buy and raise PO to $630 from $575 ...

... given incremental growth likely to come from AI in FY24. Our revised $630 PO is 27x our C25E FCF (1.9x adjusted for a +14% 3-year FCF CAGR). The new 27x C25E FCF multiple represents a premium to the GARP software group (trading at 1.3x 17% FCF growth) to reflect potential acceleration from AI. If we include incremental FCF from AI (in our mid-case estimate), our PO would represent 25x estimated C26E FCF.

Estimates (Nov) (US$)	2021A	2022A	2023E	2024E	2025E
EPS	12.47	13.72	15.70	17.74	20.20
GAAP EPS	12.47	13.72	15.70	17.74	20.20
EPS Change (YoY)	23.5%	10.0%	14.4%	13.0%	13.9%
Consensus EPS (Bloomberg)			15.74	17.76	20.21
DPS	0	0	0	0	0
Valuation (Nov)					
P/E	41.6x	37.8x	33.0x	29.2x	25.7x
GAAP P/E	41.6x	37.8x	33.0x	29.2x	25.7x
Dividend Yield	0%	0%	0%	0%	0%
EV / EBITDA*	28.9x	26.4x	24.4x	21.9x	19.6x
Free Cash Flow Yield*	2.9%	3.1%	3.2%	3.8%	4.4%

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

Key Changes

(US$)	Previous	Current
Inv. Opinion	B-2-9	B-1-9
Inv. Rating	NEUTRAL	BUY
Price Obj.	575.00	630.00

Brad Sills
Research Analyst
BofAS
+1 415 676 3531
brad.sills@bofa.com

Adam Bergere
Research Analyst
BofAS
+1 415 279 8591
adam.bergere@bofa.com

Stock Data

Price	514.49 USD
Price Objective	630.00 USD
Date Established	17-Aug-2023
Investment Opinion	B-1-9
52-Week Range	274.73 USD - 552.94 USD
Mrkt Val (mn) / Shares Out (mn)	236,423 USD / 455.8
Average Daily Value (mn)	1444.48 USD
BofA Ticker / Exchange	ADBE / NAS
Bloomberg / Reuters	ADBE US / ADBE.OQ
ROE (2023E)	46.5%
Net Dbt to Eqty (Nov-2022A)	-30.1%
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

GARP = growth at reasonable price

LLM = large language model

PO = price objective

Price objective basis & risk

Adient Plc (ADNT)

Our price objective of $52 for ADNT is based on an EV/EBITDA multiple of roughly 6.0x on our FY2024 estimates, slightly above the historical average of roughly 5.5x as the company successfully completed debt refinancing and secured its capital structure, and continues to improve in performance with its turnaround efforts.

Downside risks: 1) inability to win sufficient and profitable new business, expand the backlog, and reaccelerate top line growth, 2) inability to complete restructuring programs or cost rationalization initiatives, 3) decline in new vehicle production, 4) inability to consistently execute financially, 5) raw material cost inflation, 6) inability to handle OEM price downs, 7) failure to maintain a lean cost structure, 8) new program/platform launch risk.

Upside risks: 1) ADNT successfully wins back business, expands its backlog and reaccelerates its top line growth, 2) better than expected operating leverage from continued growth in global auto production, 3) significant progress made on restructuring programs and cost rationalization actions, 4) material market share gains in China market, 5) wind-down of non-recurring items boosts ongoing cash flow power.

Adobe (ADBE)

Our PO of $630 is based on an EV/FCF multiple of 27x our C25E free cash flow estimate. This represents 1.9x our 3-year FCF CAGR of of 14%, a premium to the large-cap GARP (growth at reasonable price) software group average of 1.3x. We view the premium as justified given Adobe's AI leadership position and durability of both top- and bottom-line growth.

Risks to our PO are 1) competition from point solutions and platform vendors, 2) application spending cyclicality, and 3) future acquisitions, which could weigh on margin expansion.

American Axle (AXL)

Our price objective of $10 is based on an EV/EBITDA multiple of roughly 4x on our 2024 estimates, which is somewhat lower than the historical average of roughly 4.5x, but in range of recent trading ranges and reflective of the forthcoming US/NA and Global production volume recovery.

Downside risks: 1) a slowdown in large truck volume growth, particularly at key customers, 2) failure to diversify its customer base, geographic, and product exposure, 3) expansion into new segments could significantly reduce operating margins, 4) continued sharp rise in raw material costs, 5) loss of business at key customers, and 6) disruption at AXL's suppliers.

Upside risks: 1) US/NA cycle holds in and production volumes continue to increase, 2) continued strength in large truck volume growth, 3) further diversification of customer base and geographic footprint, 4) transformative M&A materially changes positioning.

America's Car-Mart, Inc. (CRMT)

Our price objective of $60 is based on a P/E multiple of approximately 15x on our FY2024 (CY2023) EPS estimates, which is about in line with an average through-cycle multiple. We believe this is appropriate given emerging macroeconomic headwinds to CRMT's business including tight inventory in the used vehicle market and weakening of lower-income consumers.

Upside risks: 1) economic conditions improve and income disparity narrows, providing an outsized benefit to CRMT's lower-income bracket consumers, 2) interest rates remain high, used vehicle prices decline and CRMT resumes its role as a lender of last resort as competitive pressures abate, 3) used vehicle supply improves, 4) greater cost containment and operating leverage than forecast, 5) credit metrics improve (collections, defaults, loss rate, etc.)

Downside risks: 1) stalled economic improvement, particularly in rural markets where CRMT is overexposed, 2) interest rates decline quickly and used vehicle values rise, keeping competitive pressure from dealers and lenders high, 3) Inflation remains elevated, 4) used vehicle supply remains restricted, 5) inability to cover fixed costs and achieve operating leverage, 6) deterioration of credit metrics (collections, defaults, loss rate, etc.) and 7) increasing scrutiny by state legislators and/or the CFPB.

Aptiv PLC (APTV)

Our PO of $140 for APTV is based on an EV/EBITDA multiple of roughly 13x on our 2024 estimates. Our assumed valuation metrics are in line with the average historical trading multiple, but well above the traditional automotive suppliers, which trade in ranges of 3x to 6x. We believe a valuation premium to the group is warranted, as APTV is more of a pure-play electrification / autonomy / connectivity / mobility-centric company, unencumbered by factor risks from other non-future tech businesses/products. However, we see the stock trading in line with its historical average given the hurdles on the semiconductor supply front, which are not completely resolved yet.

Downside risks: 1) sustained volatility in international markets, 2) a longer than expected decline or flatline in US/global automotive volumes, 3) a continued rise in raw material costs and semiconductors disruptions, 4) loss of key customers or suppliers, 5) inability to win new business, 6) competitive pricing pressure.

Upside risks: 1) strength in global auto production volumes, particularly in North America, 2) increased business wins as a result of Safe, Green, Connected portfolio that continue to support growth above market, 3) shareholder-friendly actions, including accretive M&A and share repurchases, support earnings and the stock.

Asbury Auto (ABG)

Our price objective of $340 is based on a P/E multiple of roughly 11x on our 2024 estimates, which is about in line with an average dealer through-cycle multiple. We believe this is appropriate in light of the ongoing recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, which should translate into revenue and earnings growth across the dealer vertical over our forecast period.

Downside risks: 1) a swift and/or material downturn in US sales, 2) market share losses by the brands to which ABG is overexposed, 3) higher interest rate environment causes material demand deterioration and/or repossessions, 4) consumer dissatisfaction with auto retailing, and 5) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) US/North America cycle recovers and plateaus at a high level of sales, continues growing, or even declines less than expected, 2) ABG is able to gain back and/or maintain some gross profit per unit in its new and used vehicles businesses, 3) used vehicle focus dries demand, top line and earnings growth beyond the peak in new vehicle sales, and 4) interest rates decline quicker than expected, stimulating demand in 2H23.

AutoNation, Inc. (AN)

Our price objective of $245 is based on a P/E multiple of roughly 11x on our 2024 estimates, which is about in-line with an average dealer through-cycle multiple. We believe this is appropriate in light of the ongoing recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, which should translate into revenue and earnings growth across the dealer vertical over our forecast period.

Downside risks: 1) a swift and/or material downturn in US sales, 2) poorer-than-expected cost performance and margin compression, 3) a stoppage in share repurchase activity or material sell-off by key shareholders, 4) higher interest rate environment causes material demand deterioration and/or repossessions 5) consumer dissatisfaction with auto retailing, and 6) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) US/NA cycle recovers and plateaus at a high level of sales, continues growing, or even declines less than expected, 2) AN is able to gain or even just maintain gross profit per unit in its new and used vehicles businesses, 3) standalone used vehicle stores capture some demand and drives top line and earnings growth beyond the peak in new vehicle sales, and 4) interest rates decline quicker than expected, stimulating demand in 2H23.

BorgWarner (BWA)
Our price objective of $67 is based on an EV/EBITDA multiple of roughly 8.0x on our 2024 estimates, above the historical average of roughly 7.0x, which we believe reflects the higher growth trajectory on which the company positioned itself after the spin-off of the Fuel Systems and Aftermarket segments in July 2023.

Downside risks: 1) relaxed fuel-efficiency regulations, 2) increased competition in the turbocharger industry, 3) a longer than expected decline or flatline in US/global automotive volumes, 4) a continued rise in raw material costs, 5) slower electric vehicle adoption.

Upside risks: 1) strength in global auto production volumes, particularly in North America, 2) faster adoption of electric and hybrid vehicles, 3) BWA regains lost investor confidence through continued execution and performance.

CarMax, Inc. (KMX)
Our price objective of $44 is based on a P/E multiple of roughly 12x on our FY2025 (CY2024) estimates, which is the lower end of the average P/E multiple historical range, which we view as appropriate as it reflects challenges presented by the short supply of used vehicles.

Upside risks: 1) used vehicle pricing remains range bound as supply increases and KMX effectively manages its inventory to drive total profits, 2) reversal in the trend of consumers opting for new vehicles rather than late-model used, 3) greater than anticipated store growth, 4) increase in customer interaction/footprint through online presence.

Downside risks: 1) extreme fluctuations in used vehicle pricing, which would have a big impact on sentiment towards the stock, 2) an extensive trend of customers opting for new vehicles rather than late-model used, 3) deterioration in credit availability and decline in the ABS market, 4) disruption from newer tech-oriented entrants, 5) potential demand destruction stemming from macro pressures.

East West Bancorp, Incorporated (EWBC)
Our $75 PO incorporates recession risk (via applying a trough P/TBV multiple). We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 9.0x/8.0x/1.8x multiples respectively, versus peer multiples (9.5x/9.3x/1.2x) due to risk of outsized EPS pressure in the current rate environment.

Upside risks to our PO are a faster-than-expected economic rebound, higher interest rates. Downside risks to our PO are a worsening in the macro-economic outlook, decline in interest rates.

Ferrari (RACE / XJHKF)

Our $380 PO for RACE US (EUR347 for RACE IM) is based on an adj. EV/EBITDA multiple of roughly 26x on our 2024 estimates, which is a slight premium to RACE's current trading level due to ongoing volume, sales, and earnings growth. This valuation is also supported by a DCF analysis. The multiples used for our valuation framework are a premium to the current trading range of a number of luxury companies we classify as RACE's peer group, but warranted, in our view, given RACE's outsized growth opportunity and stability.

Downside risks: 1) devaluation of the brand due to overproduction or licensing expansion, 2) a decline in the wealth/size of the HNWI community, 3) degradation in perceived vehicle quality or performance, 4) impairment of its Formula 1 reputation or perceived racing pedigree, 5) F-1 losses persist or accelerate, 6) deterioration in adjacent businesses, 7) intensifying competition in the luxury vehicle market, 8) dependence on certain large volume suppliers, 9) significant rise in raw material costs, 10) significant voting power and control attributable to Piero Ferrari & Exor S.p.A.

Upside risks: 1) modest volume expansion, 2) an upward bias on pricing, 3) growth in adjacent businesses, 4) gradual brand and licensing extension, 5) moderation or rationalization of F-1 losses, 6) execution & cost efficiency realization, and 7) management commitment to preserving the exclusive luxury culture.

First Horizon Corporation (FHN)

Our $14 PO is based on apply a 50% weighting to our 2023 P/E, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV. We assign 9.5x/9.5x/1.2x multiples based on historical valuation for bank stocks, FHN and our expectations for a US economic recession over the next 6-12 months (we apply a trough P/TBV multiple). The assigned multiples are in-line with peer multiples (9.5x/9.0x/1.2x) given the persistent overhang on EPS outlook tied to deposit growth trends which offsets the superior growth potential and significant capital optionality.

Risks to the upside are stronger-than-expected loan/deposit growth and better-than-expected mgmt. execution post-TD acquisition termination. Risks to the downside are lack of clarity from mgmt. on strategic and operating outlooks, deposit outflows, regulatory overhang, slower revenue growth trends, and a worsening US economic outlook.

Ford Motor (F)

Our price objective of $23 is based on an EV/EBITDAP multiple (EV/EBITDA adjusted for pension) of roughly 4x on our 2024 estimates. This valuation methodology reflects a multiple within Ford's historical range (3-6x). We believe a multiple at this level is warranted considering the timing of the cycle and as the company is on the verge of executing something analogous to our Core to Future transition framework, by which it will strengthen its core business pillars to fund its future business.

Downside risks: 1) a more swift and/or material downturn in US auto sales, 2) a sharp and sustained rise in input costs, 3) disruption in the supply base, 4) significant increase in gas prices, 5) new vehicle pricing deteriorates, 6) market share losses pressure results, 7) unwillingness of dealers to shoulder inventory risk, 8) suppliers gain significant pricing power, 9) stress in capital markets makes borrowing more expensive, 10) Incremental execution risk as management ramps up.

Upside risks: 1) continued strength in US auto cycle, 2) growth in China remains robust, which Ford is able to leverage with product launches, 3) mix and pricing remain favorable, 4) capital allocation is directed towards shareholder returns (special dividend, etc.).

General Motors Company (GM)

Our price objective of $75 is based on an EV/EBITDAP multiple (EV/EBITDA adjusted for pension) of roughly 4x on our 2024 estimates. This valuation methodology reflects a multiple within GM's historical range (3-6x). We believe a multiple at this level is warranted considering the timing of the cycle and as GM's Core business is being well managed even amidst a choppy macro, while the accelerating focus on Future-proofing the business with the development of the necessary components of the future of mobility services, including an autonomous electric vehicle fleet (Cruise Anywhere) and connectivity (OnStar), may provide upside.

Downside risks: 1) a more swift and/or material downturn in US auto sales, 2) a sharp and sustained rise in input costs, 3) disruption in the supply base, 4) significant increase in gas prices, 5) new vehicle pricing deteriorates, 6) market share losses pressure results, 7) unwillingness of dealers to shoulder inventory risk, 8) suppliers gain significant pricing power, 9) stress in capital markets makes borrowing more expensive, 10) key members of management leave.

Upside risks: 1) continued strength in US auto cycle, 2) growth in China remains robust, which benefits GM through its established market position, 3) mix and pricing remain favorable, 4) capital allocation is directed towards shareholder returns (share repurchases, etc.).

Gentex (GNTX)

Our $35 price objective on GNTX shares is based on an EV/EBITDA multiple of roughly 10x on our 2024 estimates, which reflects a well above average supplier multiple, and in line with the company's historical trading range. However, we believe a lower multiple could be applied given longer-term structural headwinds for its core products unless new product lines are added to the portfolio.

Upside risks: 1) new program wins that drive higher-than-expected shipment growth, 2) a successful launch of new technology that allows the company to avoid losing market share and re-accelerate growth, 3) stronger-than-expected positive operating leverage, and 4) any regaining of pricing power with the automakers.

Downside risks: 1) a further slowdown in global auto shipments, 2) softer-than-expected operating leverage, 3) a continued rise in raw materials costs, and 4) increased competition from other suppliers 5) risk of management pursuing large and potentially dilutive M&A.

Goldman Sachs (GS)

Our $388 PO incorporates recession risk (via applying a trough multiple). We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 12.6x/12.0x/1.5x multiples, respectively, above peers (9.3x/8.5x/1.5x) due to lower credit risk relative to peers into a potential recession.

Risks to the upside is stronger capital markets activity.
Risks to the downside are a weaker economy/capital markets, macro or geo-political issues, competition, structural pressures, tougher global regulation, and litigation.

Group 1 Auto (GPI)

Our price objective of $450 is based on a P/E multiple of roughly 11x on our 2024 estimates, which is about in-line with an average dealer through-cycle multiple. We believe this is appropriate in light of the ongoing recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, which should translate into revenue and earnings growth across the dealer vertical over our forecast period.

Downside risks: 1) weaker demand than expected in the US, and/or UK, 2) the loss of key management, 3) the possibility that GPI is unable to achieve the operating leverage we forecast, 4) higher interest rate environment causes material demand deterioration and/or repossessions, 5) consumer dissatisfaction with auto retailing, and 6) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) US/NA cycle recovers and plateaus at a high level of sales, continues growing, or even declines less than expected, 2) GPI is able to gain back some gross profit per unit in its new and used vehicles businesses, 3) growth in international markets helps to offset weakness in the US market, and 4) interest rates decline quicker than expected, stimulating demand in 2H23.

Harley-Davidson (HOG)
Our $50 PO is based on 9-10x our F24 adj. EPS of $5.10 (incl. Livewire) as we believe HOG should trade more in line with its historical multiple of 10-15x given: (1) potential EPS upside on new model launches, (2) accelerating brand momentum, supported by a reset to a "Pull" market strategy (under new CEO Jochen Zeitz), (3) newly established leadership in Electric motorcycles and the creation of a dedicated EV division, and (4) the long-term opportunities for motorcycle division EBIT margin recovery to peak 15%+ and stronger International growth (incl. China).

Risks to the downside are (1) Aggregate on-highway new motorcycle units have been challenged historically, (2) The timing of a launch of a premium low displacement motorcycle for China remains uncertain, (3) Rider safety remains a top concern for new joiners, and (4) HOG global dealerships are declining.

KAR Auction Services (KAR)
Our price objective of $16 is based on an adjusted EV/EBITDA multiple of roughly 8x on our 2024 estimates. Although KAR's longer-term historical average EV/EBITDA multiple range is somewhat illustrative, it is not directly applicable because of significant changes in the company since it was last public. We believe recent management changeover will catalyze a broader turnaround effort and result in more sustainable improved operating performance. However, the lack of wholesale vehicle supply in the short term may usurp management's best efforts.

Upside risks: 1) supply of wholesale vehicles bounces back faster than currently expected, 2) execution of a large, transformational acquisition, 3) development of relationships with new suppliers and customers.

Downside risks: 1) supply of new vehicles does not recover or further declines 2) failure to maintain relationships with key customers, 3) failure to maintain key managers.

Lear Corp. (LEA)
Our $230 price objective on LEA shares is based on an EV/EBITDA multiple of roughly 7.0x on our 2024 estimates. This multiple is a slight premium to the company's historical average since we believe adjustment to a lower volume environment and the company's vertical integration will bolster already strong cash flow that is being returned to shareholders through dividends and growing share buybacks.

Downside risks: 1) a slower or further decline in US/global automotive volume growth, 2) disruption from the re-emergence in the Seating market of LEA's largest competitor (ADNT), 3) increased pricing pressure from OEM customers, 4) loss of business at key customers, 5) fierce competition in the automotive supply base, 6) a new rise in raw material costs, 7) execution risk of restructuring, operations, and acquisitions.

Upside risks: 1) faster recovery than expected in global auto production volumes, 2) continued execution and progress on margin expansion, 3) shareholder-friendly actions including accretive M&A and share repurchases support earnings and the stock.

Life Time (LTH)

Our $24 PO is based on an enterprise value of 11X our F24 adj. EBITDA estimate of $564.0mn, a valuation more in line with other Best-in-Class Experience Membership Models.

Risks to the downside are: 1) Life Time operates in a highly competitive U.S. market with other luxury fitness providers including Equinox, high-end boutique fitness studios including F45 & Xponential Fitness, and other fitness/experience based membership models incl. country clubs, (2) rise in COVID-19 case counts could pressure Life Time recovery trends especially if case counts continue to pressure consumer sentiment, (3) strong momentum during the peak new member sign up period of mid-December/January is important for Centers to achieve strong results for the full new year, (4) Continued rise of at home fitness, including Peloton, could pressure demand for in-center fitness models, (5) Life Time has significant leverage with a forecasted Net Debt / Adj. EBITDA ratio of 23.8X for YE 2021, & (6) New Center construction/opening delays could push off timing of contribution from new Centers vs. current model expectations.

Lithia Motors A (LAD)

Our price objective of $455 is based on a P/E multiple of roughly 11x on our 2024 estimates, which is a slight premium to an average dealer through-cycle multiple. We believe this is appropriate in light of the company's track record of strong earnings and recent strong execution of M&A growth actions.

Downside risks: 1) a swift and/or material downturn in US sales, 2) slower improvement in operating leverage than forecast, 3) substantial market share loss by domestic brands, to which LAD is exposed, 4) higher interest rate environment causes material demand deterioration and/or repossessions, 5) consumer dissatisfaction with auto retailing, and 6) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) acquisition activity above current forecasts, 2) continued recovery in US auto sales beyond current estimates, 2) LAD is able to gain back/maintain some gross profit per unit in its new and used vehicles businesses, and 3) interest rates decline quicker than expected, stimulating demand in 2H23.

Lucid Group (LCID)

Our price objective of $8 is based on 6x EV/Sales on our 2025 estimates, which implies roughly 0.5x EV/Sales and 3x EV/EBITDA on pro-forma capital-induced 2030 estimates. Our valuation framework for LCID is relatively consistent with TSLA and includes the following steps: 1) What the current stock price affords to LCID in incremental plants/units. 2) What the incremental units translates into in incremental revenue/profits. 3) What the incremental revenue/profits translates into in terms of multiples on theoretical pro-forma 2030 metrics.

Downside risks: 1) inability to continue to raise low cost capital to fund business ventures, 2) inability to convert refundable reservations into contracted orders, unit sales, and revenue, 3) greenfield/clean-sheet approach to EV manufacturing introduces risk of successful execution, 4) direct-to-consumer sales and service model may create challenges for business to scale, 5) inability to reach sustainable positive EBITDA/FCF.

Upside risks: 1) significant and better than expected customer traction for introduced/unveiled products, 2) successful execution of go-to-market strategy via direct-to-consumer sales and service model, 3) better than expected progress on start and ramp of production with clean-sheet manufacturing approach, 4) breakthrough in advanced battery technology to drive ICE/EV parity, 5) incremental government/regulatory support/stimulus for EV market.

Magna Intl (MGA / YMG)

Our $80 price objective on MGA US (CAD107 for MG CN) is based on an EV/EBITDA multiple of roughly 6x on our 2024 estimates, above the historical average of roughly 5.0x, which we believe reflects MGA's superior long-term positioning, and expertise of the complete vehicle/components that provides the company with a competitive advantage amid the ongoing industry evolution and technological advancement (Big Bang).

Downside risks: 1) a flatline or decline in the US SAAR and NA production volumes for longer than expected, 2) inability to deliver on projected growth targets in emerging markets, 3) stress at key customers, most notably the Detroit Three.

Upside risks: 1) strength in global auto production volumes, particularly in North America, 2) expansion into China market, 3) continued execution and progress on restructuring programs and margin expansion, 4) shareholder-friendly actions including accretive M&A and share repurchases support earnings and the stock.

Mobileye (MBLY)

Our PO of $44 is based on 9x EV/Sales on 2025E, which is above the average of four closest peers (NVDA, QCOM, LAZR, AMBA) and higher than the range of the two Tier 2+ ADAS/AV hardware companies in the comp set. Ultimately, our 2025 estimate primarily reflects growth we expect from ADAS offerings and the higher multiple provides upside optionality for MBLY's Level 4+ Consumer AV and Robotaxi applications. we believe there is also potential for MBLY to unlock additional value from adjusting its strategy.

Downside risks: 1) Market penetration of Level 2+ ADAS may take longer than expected and pathway/timing of Level 4+ autonomous vehicle (AV) capabilities is unclear, 2) inability to maintain technological leadership over competition, 3) standardization of ADAS/AV technology could make it challenging to maintain gross and operating margins, 4) macro/market volatility could impact demand and product launches, 5) export control limitations of key semiconductor technology and restriction of US citizens/greencard holders from working in certain Chinese entities, 6) lack of liquidity in the stock and/or future stock sales.

Upside risks: 1) Mega-trend towards ADAS & autonomy, 2) timing and go-to-market strategy of MBLY's Level 4+ offerings could exceed expectations, 3) MBLY may be more successful in winning new customers/contracts, 4) barriers to entry could prove more formidable, 5) industry consolidation in ADAS/AV, 6) better operating performance and/or changes to strategy.

New York Community Bancorp (NYCB)

Our $15 PO is based on apply a 50% weighting to our 2023 P/E, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV. We assign 10.0x/9.5x/1.4x multiples based on historical valuation for bank stocks, NYCB and our expectations for a US economic recession over the next 6-12 months. The assigned multiples are broadly above peer multiples (9.5x/9.0x/1.2x).

Upside risks to our price objective are: better than expected growth 2) steepening in the yield curve and 3) better than expected deal synergies. Downside risks to our price objective are: worse than expected growth, significantly higher than (market) expected Fed Funds rate, severe downturn in the NYC economy and the NYC commercial real estate market.

Owens Corning (OC)

Our PO for OC is $165. Our PO is based on 7.5x 2024E EV/EBITDA, in line with Owens Corning's historical average and roughly in line with OC's historical discount to the group to the current peer group average. We believe that a multiple in the middle of OC's historical range is appropriate given positive demand and pricing trends but some input cost pressure and capacity constraints.

Downside risks: 1) further input cost pressure, 2) softer-than-expected new construction and repair and remodel trends in the US, 3) slower-than-expected GDP growth in key regions, 4) deceleration in industrial production, 5) further competitor capacity additions in the insulation industry, 6) inability to successfully integrate acquisitions, 7) slowing global growth.

Upside risks: 1) stronger than-expected new construction and repair and remodel trends in the US, 2) upside to GDP growth in key regions and global industrial production, 3) better-than-forecast capacity utilization, particularly in Insulation, 4) stronger-than-expected pricing power.

Penske Auto Group (PAG)

Our price objective of $205 is based on a P/E multiple of roughly 12x on our 2024 estimates, which is about in-line with an average dealer through-cycle multiple. We believe this is appropriate in light of the ongoing recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, which should translate into revenue and earnings growth across the dealer vertical over our forecast period.

Downside risks: 1) the loss of Roger Penske's leadership, 2) a swift and/or material downturn in US sales, 3) slower recovery in Europe sales, 4) higher interest rate environment causes material demand deterioration and/or repossessions 5) unfavorable foreign exchange rates, 6) consumer dissatisfaction with auto retailing, and 7) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) acquisition activity above current forecasts, 2) continued recovery in US auto sales beyond current estimates, 3) significant improvement in cost leverage beyond our estimates. 4) interest rates decline quicker than expected, stimulating demand in 2H23.

Rivian Automotive (RIVN)

Our price objective of $40, based on 3x EV/Sales on our 2025 estimates, implying 0.5x EV/Sales and 3x EV/EBITDA on pro-forma capital-induced 2030 estimates. Our valuation framework for RIVN is relatively consistent with TSLA and includes the following steps: 1) What the current stock price affords to RIVN in incremental plants/units. 2) What the incremental units translates into in incremental revenue/profits. 3) What the incremental revenue/profits translates into in terms of multiples on theoretical pro-forma 2030 metrics.

Downside risks: 1) inability to continue to raise low cost capital to fund business ventures, 2) inability to convert pre-orders and orders into unit sales, revenue, and eventually earnings, 3) termination of or amendment to sales and service agreement with anchor customer, 4) direct-to-consumer sales and service model may create challenges for business to scale, 5) inability to reach sustainable positive EBITDA/FCF with investment across numerous business areas.

Upside risks: 1) significant and better than expected customer traction for introduced/unveiled products, 2) successful execution of go-to-market strategy via direct-to-consumer sales and service model, 3) better than expected progress ramp of production and successful build-out of incremental capacity, 4) breakthrough in advanced battery technology to drive ICE/EV parity, 5) incremental government/regulatory support/stimulus for EV market.

Sonic Automotive (SAH)
Our price objective of $57 is based on a P/E multiple of roughly 9x on our 2024 estimates, which is just below an average dealer through-cycle multiple. We believe this is appropriate in light of the somewhat stalled recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, as well as SAH's over exposure to the Used market via its standalone EchoPark stores.

Upside risks are 1) prolonged upside in the US cycle beyond our forecasts, 2) material accretive M&A activity, 3) market share gains as a result of successful initiatives. 4) interest rates decline quicker than expected, stimulating demand in 2H23.

Downside risks are 1) a swift and/or material downturn in US sales, 2) higher interest rate environment causes material demand deterioration and/or repossessions, 3) consumer dissatisfaction with auto retailing, and 4) the potential for franchise law and/or consumer finance law changes.

Tesla Motors (TSLA)
Our price objective of $300 is based on 8.5x EV/Sales and 46x EV/EBITDA on our 2024 estimates, which implies roughly 3x EV/Sales and 25x EV/EBITDA on pro-forma capital-induced 2025 estimates. Our valuation framework for TSLA includes the following steps: 1) What the current stock price affords to TSLA in incremental plants/units. 2) What the incremental units translates into in incremental revenue/profits. 3) What the incremental revenue/profits translates into in terms of multiples on theoretical pro-forma 2025 metrics.

Downside risks: 1) inability to continue raising low-cost capital to fund business ventures, 2) inability to generate positive earnings/FCF, 3) slower ramp in electric vehicle demand, 4) setbacks or lack of advancements in battery technology, 5) fierce competition from incumbent OEMs, 6) inability to execute efficiently with higher volume, 7) low gasoline prices, and 8) loss of management.

Upside risks: 1) better execution and cost containment, 2) a sharp/sustained rise in gasoline prices, 3) a breakthrough in advanced battery technology, 4) increase in federal or state incentives, 5) short covering.

The Bank of New York Mellon Corporation (BK)
Our $55 PO incorporates recession risk. We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 11.5x/10.5x/2.1x multiples respectively, above trust bank peers (11.0x/9.8x/2.1x) reflecting cyclical and self-help factors that should drive EPS defensibility.

Risk to the upside is stronger equity/bond markets.
Risks to the downside are a severe selloff in equity/bond markets that that could put downward pressure on fee growth and M&A that could temper capital return.

TopBuild Corp (BLD)
Our $340 PO is based on a 10.5x EV/2024E EBITDA multiple, in line with its average from 2017-2023. We think BLD's valuation will trade more in-line with its historical valuation as housing starts recover.

Upside risks to our PO: 1) faster than expected recovery in new home starts, 2) further residential market share gains through organic growth and M&A, 3) continued strength in the commercial/industrial market, 4) continued price increases on insulation products. Downside risks: 1) a downturn in the housing market leading to less starts, 2) deflation in insulation products leading to weaker revenue growth and margin pressure, 3) a broad pullback in commercial/industrial activity.

Topgolf Callaway Brands Corp (MODG)
Our $26 price objective is based on an enterprise value of 9-10x our C2024 adj. EBITDA estimate of $743MM, a premium to other Leisure Brands & Experience models (trading at 7x) reflecting stickiness in new customer acquisition and pricing opportunity across both golf equipment and Topgolf.

Risks to the downside are: 1) tough comparisons as MODG laps surge in demand for golf equipment, (2) slowdown in golf participation as consumers return to other forms of entertainment in a post-COVID environment, (3) resurgence in COVID-19 cases could pressure recovery trends for Topgolf, and (4) risk from increasing supply chain headwinds including from Vietnam Factory shutdowns, elevated freight costs, & rising raw material input costs.

U.S. Bancorp (USB)
Our $45 PO incorporates recession risk (via utilization of historical trough P/TBV multiple). We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 9.5x/8.5x/2.0x multiples respectively, in-line to above peer multiples (9.3x/8.5x/1.5x) given the bank's credit history and execution.

Downside risks are increased credit deterioration and higher expense growth. Upside risks are better than expected positive operating leverage, specifically on revenue, lower realized credit losses (vs. peers), and stronger economic growth.

Wells Fargo & Company (WFC)
Our $50 PO incorporates recession risk. We apply a 50% weighting to our 2023 P/E multiple, with the remaining 50% evenly split between 2024 P/E and 2023 P/TBV multiples. We assign 11.5x/11.2x/1.2x multiples respectively, compared with large-cap peers (9.3x/8.5x/1.5x).

Downside risks to our price objective are a worse-than-expected economic downturn that lead to significantly higher-than-expected credit losses, elevated expense trajectory, slower-than-expected resolution of its consent orders. Upside risks are better-than-expected credit quality (i.e., lower loan losses) and material expense management that improve visibility on future earnings.

Western Alliance Bancorp (WAL)
Our $60 PO is driven by assigning a 1.3x YE23 TBV vs. our return on tangible common equity forecast of around 16% for FY24. We believe the perceived risk to EPS/ROTCE from rising funding costs and/or credit risk if the economy hits a hard landing is likely to cause investors to assign a higher cost of equity. Given the uncertain EPS outlook, we believe the stock is more likely to trade on P/TBV relative to ROTCE expectations vs. on EPS outlook.

Risks to the upside are stronger-than-expected loan/deposit growth. Risks to the downside are deposit outflows, regulatory overhang, slower revenue growth trends, and a worsening US economic outlook.

Analyst Certification

We, Alexander Perry, Brad Sills, Ebrahim H. Poonawala, John Murphy, CFA, Paul Ciana, CMT, Rafe Jadrosich, Robert F. Ohmes, CFA and Savita Subramanian, 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.

iQmethod SM Measures Definitions

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

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

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

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[R1]
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.

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 Investment Industry Regulatory Organization of Canada; 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.

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.