Global Research Highlights

Bullish or bubble-icious?

Investment Strategy

08 March 2024

Global

Investment Strategy
BofAS

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

Thomas Hopkins
Portfolio Strategist
BofAS
thopkins2@bofa.com

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

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

See Team Page for List of Analysts

Highest S&P 500 target on street

We revised our year-end S&P 500 target to 5400 from 5000 (see Target report) and have had a full week of feedback and pushback. We hear that sentiment is now "full bull", the market is trading in bubble-like territory, and it is time for something else to break from the Fed's aggressive monetary policy. We address FAQs here, essentially derivatives of one very direct question on a recent call: "Savita, are you forecasting a bubble?"

Household net worth surges

Household net worth jumped by $4.8tn in 4Q 23 and is up a staggering $39.3tn (140% of GDP) since the pandemic. In addition, although households have drawn down on excess saving, there is still room to run. Whether through rising asset prices or excess saving, we find good reason to think household spending can remain resilient.

Congress strikes a deal to avert a partial shutdown

The House passed a $460bn spending bill to fund half of the federal government through September 30. We expect the bill to be signed into law ahead of the Friday night deadline to avert a partial shutdown. Negotiations continue over spending bills for the other half of the government, which need to be passed by March 22 to avoid a 1% across the board cut to spending that would kick in on April 30

Wealth is tilting female, and industries need to adapt

$84 trillion in US wealth is expected to be transferred to younger generations over the next two decades – compare that to *2022 global GDP* of $101tn. Some $30tn will be inherited by women in the next decade alone. But that isn't the whole story. Women now outnumber men in university enrollment globally. They are entering the workforce at higher levels, with greater career aspirations. Women are delaying childbearing and having fewer children. How should industry react to women with more spending power, fewer children, and greater confidence? In a word – quickly.

Public builders share gain accelerated in 4Q23

In 4Q23, major public homebuilders' net orders (in units) increased approximately 44% YoY compared to a 9.2% YoY increase in non-seasonally adjusted new home sales (NHS). Aggregate public builders' net orders in 4Q23 accounted for 41.8% of the 143K new home sales (up from 33.5% in 4Q22 and slightly above 41.0% in 3Q23). Public builder market share has increased since 2015 when the public builders held around 30% of share. We expect public builders to continue to outperform private builders in a higher rate environment given: 1) public (equity and debt) homebuilders have lower financing cost on work-in-progress and interest carry for land, and 2) public homebuilders have been able to use mortgage rate buydowns more effectively. In addition, The National Association of Home Builders (NAHB) survey indicates credit for Acquisition, Development & Construction Loans remained tight (although improved sequentially). Average contract interest rate for loans increased from 7.78% to 8.12% for land development and fell 8.66% to 8.41% for spec SF construction in 4Q23

Top Macro reports

Top Industry reports

Top Stock reports

FAQs

Bullish or bubble-icious?

Quantitative Strategy

08 March 2024

Equity and Quant Strategy
United States

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

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

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

We raised S&P 500 year-end target from 5000 to 5400

We revised our year-end S&P 500 target to 5400 from 5000 (see Target) and have had a full week of feedback and pushback. We hear that sentiment is now "full bull", the market is trading in bubble-like territory, and it is time for something else to break from the Fed's aggressive monetary policy. We address FAQs here, essentially derivatives of one very direct question on a recent call: "Savita, are you forecasting a bubble?"

Q: What defines a bubble, and is the S&P 500 one?

A: Prior market bubble conditions include (1) a gap between price and intrinsic value, (2) democratization of the asset class, and (3) rampant speculation, often amplified by the use of leverage. Housing in 2007, Tech in 2000, tulips in 1637 are examples that tick these boxes. But the S&P 500 today does not: passive/index ownership (most of which is a proxy for the S&P 500) makes up just over half of US equity float, but Japan passive equity reached 80%. Moreover, CFTC data show net short positions by speculators. The gap between price and intrinsic value is high based on snapshot PE multiples, but the ex-Magnificent 7 trades closer to long-term average multiples, and, more importantly, today's index lacks comparability to prior decades', in our view.

Q: So historical valuation doesn't matter?

A: Valuation matters. But comparing a trailing PE today to a trailing PE of prior decades makes little sense given the index's mix shift. Furthermore, companies have been forced to abandon low quality EPS growth (levered buybacks, global cost/tax arbitrage) to focus on efficiency, yielding more predictable margins and warranting a higher multiple. Finally, valuation is a poor predictor in the short-term (r-sq of 10% for 1yr returns) but is all that matters in the long-term. Today it indicates lower price returns over the next decade with a higher proportion of total return from dividends.

Q: Is it 1995 or 1999?

A: More 1995. US equity sentiment is at almost precisely the same level as in 1995 based on our Sell Side Indicator – neutral, not wildly bullish like 1999. The S&P 500 ERP is at almost the same level as in the mid-90s, and actually went negative by 1999. The efficiency/productivity themes of today (AI, automation) are nascent like the PC revolution was in the mid-90s. In 1999, Tech was valued on price to eyeballs, today, the earnings contribution and capital discipline of TMT is similar to that of 1995's Nifty 50.

Q: Where is equity sentiment today, really?

A: The net message of investor sentiment frameworks is neutral on US equities. Bull markets end with euphoria, and today euphoria has been ring-fenced to themes (AI, GLP-1 etc.) Sentiment *has* warmed up on equities since mid-2023, driving our slightly lower level of conviction in an up market, but is nowhere near bullish levels of prior market peaks. In our view, this bull market has legs.

Click FAQs for full report including important disclosures.

The Flow Show

"We're Not Far From It..."

07 March 2024

Investment Strategy
Global

BofA
Data
Analytics

Michael Hartnett
Investment Strategist
BofAS
+1 646 855 1508
michael.hartnett@bofa.com

Elyas Galou >>
Investment Strategist
BofASE (France)
+33 1 8770 0087
elyas.galou@bofa.com

Anya Shelekhin
Investment Strategist
BofAS
+1 646 855 3753
anya.shelekhin@bofa.com

Myung-Jee Jung
Investment Strategist
BofAS
+1 646 855 0389
myung-jee.jung@bofa.com

Scores on the Doors: crypto 55.8%, oil 10.8%, stocks 5.6%, gold 4.6%, commodities 4.6%, US dollar 1.5%, HY bonds 1.0%, cash 0.9%, IG bonds -0.8%, gov bonds -2.4% YTD.

Zeitgeist: "$6tn to $7tn in money market funds and all of it getting 5% in interest...maybe that's what giving everyone the confidence to go speculate."

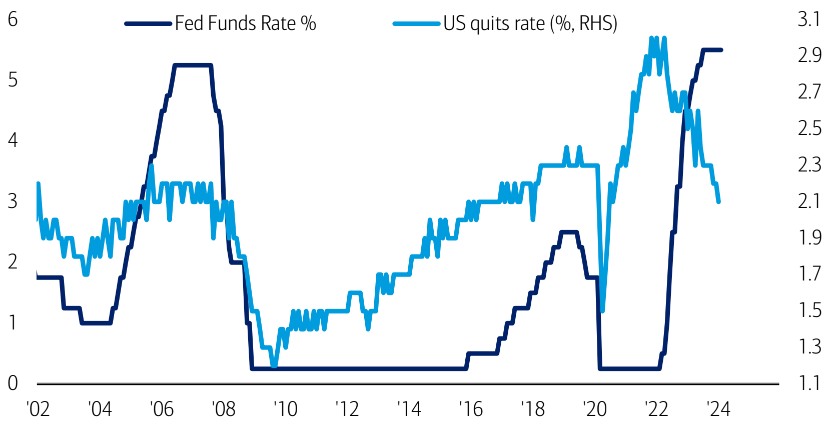
March 10th 2000: Nasdaq bubble peaked; note that semiconductors relative to S&P500 hit the highest level since Mar'00 (Chart 4) over the past few days.

March 9th 2020: 10-year Treasury yield hit 0.3%, all-time low; wars, inflation, deficits...historic bond losses past 4 years (52% for 30-year UST, 67% for 100-year Austria bond); my American wife was once asked "what's the best thing about living in London?"...she replied "Paris"; today: what's the best thing about stocks?...bonds.

March 9th 2023: SVB collapsed & kick-started Silicon Valley bull with aid of $0.5tn Fed liquidity and AI; while this decade's social, political, geopolitical, fiscal trends are unlike 2010s, the enduring "bromance" of the Fed & Wall St (Chart 5), plus bull leadership of IG bonds & US tech stocks remain like 2010s.

The Biggest Picture: "hard" landing probability (5%) very low vs "soft" (75%) & "no" (20%); yet slumping "quits ratio" (lowest since Jun'20 - Chart 2) consistent with Fed cuts & says "labor market risk" growing; Feb payrolls >225k = no landing, 175-200k soft landing, but <100k likely kick-starts bonds & hard landing price action.

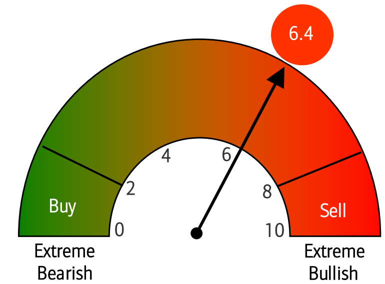
Chart 2: The Fed & the Quitters
Fed Funds rate vs US quits rate



Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

Chart 1: BofA Bull & Bear Indicator
Stays at 6.4



Source: BofA Global Investment Strategy The indicator identified above as the BofA Bull & Bear Indicator is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

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More on page 2...

Click The Flow Show for full report including important disclosures.

US Economic Weekly

Household net worth surges

Weekly viewpoint: Household net worth surges

Household net worth jumped by $4.8tn in 4Q 23 and is up a staggering $39.3tn (140% of GDP) since the pandemic. In addition, although households have drawn down on excess saving, there is still room to run. Whether through rising asset prices or excess saving, we find good reason to think household spending can remain resilient.

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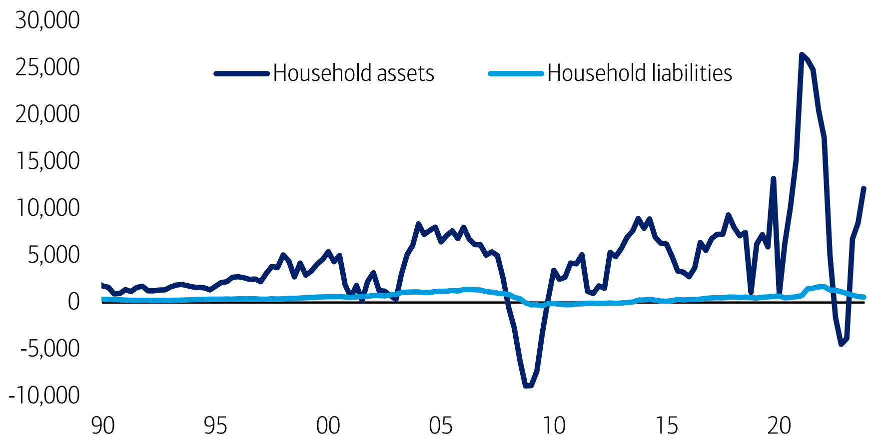
Week Ahead

Next week, the focus will be on the February Consumer Price Index (CPI) report (Mar 12). It should confirm that inflation is on a downward trend, but services inflation remains sticky. We look for headline and core CPI to rise by 0.42% m/m and 0.31%, respectively. This would bring the y/y change for headline and core to 3.1% and 3.7%. The latter would be down two-tenths from January. The Fed's blackout period starts this weekend.

Exhibit 1: Four-quarter change in household assets and liabilities, $bn
Household assets rebounded sharply in 4Q 2023



Source: Federal Reserve, Haver Analytics, BofA Global Research

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08 March 2024

Economics
United States

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

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

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

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

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

US Economics
BofAS

See Team Page for List of Analysts

GDP: Gross Domestic Product

CPI: Consumer Price Index

PPI: Producer Price Index

Click US Economic Weekly for full report including important disclosures.

ESG Matters - Global

The Great Wealth Transfer: healthi-HER and wealthi-HER

Thematic Investing

Wealth is tilting female, and industries need to adapt

$84 trillion in US wealth is expected to be transferred to younger generations over the next two decades – compare that to *2022 global GDP* of $101tn. Some $30tn will be inherited by women in the next decade alone. But that isn't the whole story. Women now outnumber men in university enrollment globally. They are entering the workforce at higher levels, with greater career aspirations. Women are delaying childbearing and having fewer children. How should industry react to women with more spending power, fewer children, and greater confidence? In a word – quickly.

Women's wealth is rising globally; Asia overtakes Europe

Women's wealth was expected to reach $93tn by end-2023 – up $16tn since 2020. About half of this is in the US, although it is growing rapidly in Asia. Asian women have overtaken European women in wealth. Drivers globally include improving wage equality, entrepreneurship, rising political empowerment, and better access to leadership positions. But the Great Wealth Transfer will not be a boon for all. Money will remain concentrated in wealthy countries. Over 40 countries still lack gender-equal inheritance laws; almost two-thirds of these are lower-middle and lower-income countries.

Sisters are doin' it for themselves: house, car, wealth mgr.

Younger, well-educated women with higher disposable income are increasingly taking charge of financial decisions traditionally made by men or spouses, such as purchasing property or engaging wealth managers. Our analysis reveals a higher percentage of Gen Z women involved in financial decision-making compared to their male counterparts, marking a shift from previous generations. Bank of America data indicates a narrowing gap in 401(k) balances between men and women over the past three years. Globally, even in less affluent nations, more women are accessing banking services, with 81% of countries reporting increased financial participation among women from 2018 to 2022.

You're fired: women and investment strategy

Women typically earn less, and they live longer. We also find a lower self-reported risk tolerance among women vs men as they tend to prioritize capital protection. Two-thirds of women who already invest reported trying to identify and invest in companies that reflect their own values. But still, less than 30% of US women feel comfortable making investment decisions, while 70% change their financial advisor within a year of being widowed. *Bottom line: Women's distinctive approach to investing spells opportunity.*

What women want – your attention, please

Marketing to women used to amount to 'shrink it and pink it.' But women over 50 now have $15tn in spending power, and young women can delay diapers, bottles and car seats in favor of fine jewelry. We look at how various industries could be impacted by greater female purchasing power. See stock screens for companies that are enabling the wealth transfer, e.g., through offering parental benefits, financial education, etc.

Click ESG Matters - Global for full report including important disclosures.

06 March 2024

Equity and Quant Strategy
Global
Environmental, Social and Governance

View Transcript

Dimple Gosai, CFA
Rsch Analyst & ESG Strategist
BofAS
+1 646 855 3491
dimple.gosai@bofa.com

Kay Hope
Research Analyst
MLI (UK)
+44 20 7995 9301
kay.hope@bofa.com

Megan Mantaro
US ESG Strategist
BofAS
megan.mantaro@bofa.com

Rupert Xu
Research Analyst
MLI (UK)
rupert.xu@bofa.com

See Team Page for List of Analysts

ESG Matters - Global: Fighting for DEI while battling inflation 03 March 2023

ESG Matters - Global: The Great Wealth Transfer: healthi-HER and wealthi-HER 06 March 2024

Exchanges

5 key topics to monitor @ FIA Boca Conference next week

Industry Overview

Attending the 49th Annual FIA Boca Conference next week

Next week, we will be meeting with dozens of exchange executives, industry experts and securities practitioners at the Futures Industry Association's 49th annual conference in Boca Raton, Florida. FIA Boca is one of the largest annual gatherings of trading executives and features presentations on the hottest topics in the market structure universe. In this report, we highlight five items worth monitoring next week. While not a top 5 topic, we also note that the SEC's equity market structure proposals are still looming in the background, and we could get a rulemaking over the next 60 days.

1) The applications of artificial intelligence in trading

Given OpenAI's rapid progress toward artificial general intelligence in the past year, we will learn more about the emerging use cases of AI in trading. Additionally, we expect to hear how AI is driving demand for exchanges' large data businesses and facilitating electronification in more illiquid asset classes.

2) 0DTE drivers and remaining runway

0DTE is now 50% of all SPX volume. We will hear exchange, broker and market maker perspectives on who is driving volumes and where 0DTE goes from here (more geographies, more symbols and more series). Additionally, we will learn more about the opportunity for other exchanges (aside from CBOE) to capitalize on the 0DTE popularity.

3) Electronic market makers dive into credit

New protocols, tighter spreads and rapid electronification have opened up the US Credit market to electronic market makers. Jane Street was a top-5 market maker on MKTX last year. Meanwhile, Virtu and Citadel Securities debuted their corporate credit businesses in 2022 and 2023, respectively. We expect to hear from Virtu's CEO and Citadel Securities' founder on these endeavors as well as the CEOs of the two major US fixed income e-trading platforms (TW, MKTX).

4) New competition in the interest rate futures market

Despite numerous attempts from credible exchanges (including NDAQ, NYSE, and Eurex) to break into the market over the years, CME has maintained an iron grip on US interest rate futures. With virtually 100% market share, it generates well over $1B/year in net revenue on its rates suite. Having obtained CFTC approval in January and secured a cross-margining arrangement with LCH, BGC Group will likely again attempt to break CME's hold on the market. We will hear from both BGC CEO Howard Lutnick on his plan to take share and from several CME executives on their defensive strategy.

5) The thawing of the crypto winter

After two years of declining volumes, spot crypto activity has finally inflected upward with volumes increasing 90% q/q in 4Q23. Additionally, the new spot Bitcoin ETFs have raced to $10B in assets in under a month while CME's crypto futures suite is pushing a multi-year high in open interest. We expect significant discussion on the sustainability of this resurgence and how Trad-Fi firms are responding.

Click Exchanges for full report including important disclosures.

07 March 2024

Equity
United States
Exchanges

Craig Siegenthaler, CFA
Research Analyst
BofAS
+1 646 855 5004
craig.siegenthaler@bofa.com

Eli Abboud
Research Analyst
BofAS
+1 646 855 5791
eli.abboud@bofa.com

Mark McLaughlin, CFA
Research Analyst
BofAS
+1 646 855 4234
mark.mclaughlin@bofa.com

Maggie Cao
Research Analyst
BofAS
+1 646 855 5034
maggie.cao@bofa.com

Rodrigo Ferreira
Research Analyst
BofAS
+1 646 556 1811
rferreira@bofa.com

SEC: Securities and Exchange Commission
CFTC: Commodity Futures Trading Commission
SPX: S&P 500 Index
CME: CME Group
NDAQ: Nasdaq
CBOE: Cboe Global Markets
NYSE: New York Stock Exchange
TW: Tradeweb
MKTX: MarketAxess
0DTE: Zero days till expiration
ETF: Exchange-traded funds
EMM: Electronic market makers

Homebuilders

4Q23 quarterly market share tracker: Public builder share near new highs

Industry Overview

05 March 2024

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

Victoria Piskarev
Research Analyst
BofAS
+1 646 855 0657
victoria.piskarev@bofa.com

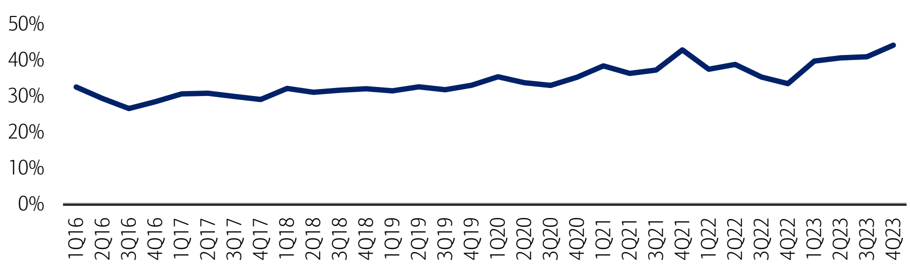
BofA US Home Sales Indicators: New home recovery poised to continue; Existing homes rebounding from trough 02 February 2024

SF: Single Family

Public builders share gain accelerated in 4Q23

In 4Q23, major public homebuilders' net orders (in units) increased approximately 44% YoY compared to a 9.2% YoY increase in non-seasonally adjusted new home sales (NHS). Aggregate public builders' net orders in 4Q23 accounted for 41.8% of the 143K new home sales (up from 33.5% in 4Q22 and slightly above 41.0% in 3Q23). Public builder market share has increased since 2015 when the public builders held around 30% of share. We expect public builders to continue to outperform private builders in a higher rate environment given: 1) public (equity and debt) homebuilders have lower financing cost on work-in-progress and interest carry for land, and 2) public homebuilders have been able to use mortgage rate buydowns more effectively. In addition, The National Association of Home Builders (NAHB) survey indicates credit for Acquisition, Development & Construction Loans remained tight (although improved sequentially). Average contract interest rate for loans increased from 7.78% to 8.12% for land development and fell 8.66% to 8.41% for spec SF construction in 4Q23.

Exhibit 2: Major public homebuilder net orders as a % of new home sales
Public homebuilders share in 4Q23 was 10% higher than in 4Q22



Source: Company Data, US Census Bureau
Homebuilders include: DHI, LEN, TOL, PHM, NVR, KBH, MTH, MDC, TMHC, CCS, LGIH, DFH
Note: New home sales are reported on a gross basis, while public builders report orders on a net basis, so in periods of high cancellations (similar to 3Q22/4Q22) our analysis understates the public builder market share relative to the industry.
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Homebuilder orders slightly lower than normal seasonality

In 4Q23, major public homebuilders net orders were roughly 63K compared to 44K in 4Q22 and +24.0% from 51K pre-COVID (4Q19). Sequentially, public homebuilder orders decreased roughly (7.7%) QoQ (vs. 14.4% decrease in new home sales) in 4Q23 compared to pre-COVID seasonality of (6.5%). New home sales were weak as mortgage rates peaked in October but rebounded as mortgage rates fell in at the end of 2023.

The big getting bigger; DHI, LEN, PHM, NVR all gain share

D.R. Horton passed Lennar as the largest builder by orders (units) while PulteGroup and NVR remained #3 and #4, respectively. On a trailing twelve-month basis, D.R. Horton (DHI), Lennar (LEN), PulteGroup (PHM), and NVR (NVR) had the largest market share gains in 4Q23 while KB Home (KBH) and Dream Finders Homes (DFH) market share stayed flat YoY.

Click Homebuilders for full report including important disclosures.

Transportation

2024 Rail Equipment Finance Conf: Orders coming off a bottom; cars rangebound

Industry Overview

08 March 2024

Equity
United States
Rail Transport/Railroads

Ken Hoexter
Research Analyst
BofAS
+1 646 855 1498
ken.hoexter@bofa.com

Adam Roszkowski, CFA
Research Analyst
BofAS
+1 646 855 5498
adam.roszkowski@bofa.com

Nathan Ho, CFA
Research Analyst
BofAS
+1 646 855 3599
nathan.m.ho@bofa.com

WAB: Wabtec

CNI: Canadian National

CPKC: Canadian Pacific Kansas City

CP: Canadian Pacific

KSU: Kansas City Southern Industries

Production up from bottom yet demand still uncertain

We attended the 2024 Rail Equipment Finance Conference in La Quinta, CA (March 3-6). Equipment deliveries have begun to increase from Freight Recession lows, reflecting an improving rail volume backdrop. However, outlooks remained variable among carriers, shippers, manufacturers, and lessors. In 2023, the North American railcar build was 44,754, returning to annual replacement levels of 42,000-50,000/year. Presenter outlooks mostly target deliveries to remain rangebound (or slightly lower) in 2024, while lessor GATX sees a path to a new ramp in builds. New North American locomotive builds and modernizations were about 125/year in '22/'23, most of which were mods, as WAB appeared to build ~60 new units in 2023 (half of a 110-unit order by BNSF and 10 Tier IV units for CNI), after a few years at near zero builds. This remains well below the 500 units/year annual replacement level. Rail velocity increased 4% on average in 2023, outpacing the 1% decline in volumes, suggesting an uncertain equip demand backdrop.

Railcar deliveries back at replacement after 3 years below

There were 1.637 million railcars in the North American fleet at year-end 2023 (570k covered hoppers, 439k tank cars, 208k flatbeds, 195k gondolas, 111k hoppers, and 104k boxcars), up from 1.625 million in 2022, the 2nd consecutive growth year after two down years. There were 44,754 new railcars built/delivered in 2023, up from 40,735 railcars in 2022, returning to the annual equipment replacement level of 42,000-50,000/year (on a useful asset life of 40-50 years). This follows a three-year period of deliveries below replacement as lessors and carriers pulled back on newbuilds given muted demand. The average age of the North America railcar fleet was 20.2 years in 2023 (median age was 18.1 years), up slightly from a 20.1 year average in '22, its highest in 10 years.

Locomotive fleet falling w/ newbuilds below replacement

There were 37,600 locomotives in the North American fleet at year-end 2023, down from 37,700 in 2022 and the 2017 peak of 39,500. New unit adds and modernizations were less than 200 units combined in 2023, well below the 500 units/yr avg replacement as rail demand for power units remains soft as carriers sit on parked capacity. Average age of the North American loco fleet is 27.4 years, up from 26.5, the oldest average fleet age in recorded history. Carriers continue to shift to AC powered units from DC as the fleet is now split 39% AC and 61% DC (from 26% AC, 74% DC in 2009). Carriers prefer modernization programs to refresh equipment at half the cost of a newbuild.

Class I capital spending ticks up 9% from 2023

Class I rail capex was $17.4 billion in 2023, up 9% year-year, yet below 2015's peak of $19.1 billion. The increase was led by +18% at CPKC (against a combined CP-KSU base) as it invests in its integrated network post-acquisition. Total capex ticked up for the second consecutive year yet demand for new equipment remains muted given loco mod programs, a shift in asset ownership to lessors/shippers from carriers, and accelerating service gains outpacing volume growth. Alternative fueling options remain a focus, with reversibility back to diesel a key focus (see Wabtec Report) as carriers seek flexibility. Wabtec remains a key contributor and our top pick in the sector. Railcar manufacturer The Greenbrier Companies is refining its costs and moving to improve returns.

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

Transportation - Trucking

Survey Says: Demand view ticks up, equals prior freight recession avgs; base builds

Industry Overview

08 March 2024

Equity
Americas
Road Transport/Trucking

BofA
Data
Analytics

Ken Hoexter
Research Analyst
BofAS
+1 646 855 1498
ken.hoexter@bofa.com

Adam Roszkowski, CFA
Research Analyst
BofAS
+1 646 855 5498
adam.roszkowski@bofa.com

Nathan Ho, CFA
Research Analyst
BofAS
+1 646 855 3599
nathan.m.ho@bofa.com

Truck Shipper Survey #304, week of March 7th, 2024

This week, our proprietary bi-weekly **BofA Truckload Demand Indicator** for shippers' 0- to 3-month freight demand outlook **increased to 54.2** from 54.1 last survey**,** its 2nd highest level in 80 weeks (40 surveys). The Demand Indicator has been at- or above-50 for 6 consecutive issues and 12x over the past 17. This positive stretch follows a period at or below 50 for 21 of the prior 25 issues (since Feb 2023). The Indicator matches the 54.2 avg during the '12, '15, '19 Freight Recession periods, highlighting an improving but not a breakout backdrop. The Demand Indicator was up 16% year-year, its 13th yr-yr uptick in the past 14 issues. Rail carloads rose 2.9% year-year this week, its 5th week of upticks. Dry van spot rates ex-fuel were $1.32/mile, down from $1.36/mile last week. Of the respondents, 26% had a positive short-term demand outlook, in line with last survey; neutral outlooks were 64%, up from 60% last survey, and negative outlooks were 9%, down from 14% last survey. In the week of March 7th, we surveyed 53 shippers for views on truckload demand, supply, pricing, and inventory.

Capacity ticks higher; Rates and Inventory views up

The Rate Indicator, or shippers' view on truck rates, **increased to 50.9** from 50.0 last issue, up 1% seq. **The Inventory Indicator increased to 58.5** from 54.7 last issue, up 7% sequentially, as inventories remain above the 49 historical average. **Truck Capacity Indicator**, which gauges shippers' views of available truck capacity, **increased to 58.5** from 58.1 last survey, yet was the 2nd lowest level in 13 surveys as capacity continues to tighten. With respect to rates, 15% of shippers expect rates to fall, up from 12% last issue, 68% expect pricing to be flat, down from 77% last issue, and 17% expect rates to rise, from 12% last issue. On capacity, 30% expect capacity to rise vs 28% last issue, 57% expect capacity to stay flat, from 60% last issue, 13% expect capacity to be lower, up from 12% last issue. **SHIPPER COMMENTS:** A Consumer Shipper noted its April contract rates will be implemented slightly below 2023 levels. A Forest Products shipper sees high customer inventories weighing on deliveries. *(Shipper commentary cont'd p.5)*

Spot rates decline; Wait for imports to hit mid-March

Dry-van spot rates ex-fuel fell to $1.32/mile this week from $1.36/mile last week, down 11% from 2024's peak of $1.49/mile and down 6% YTD. After an unseasonably tight Jan. due to severe weather, which followed a normalized '23 holiday peak, the momentum in rates moderated into the post-Chinese New Year demand lull. The dry van load to truck ratio fell to 1.0x from 3.0x in Jan. Tender rejection rates fell to 3.7% last week, down from 5.0% at YTD peak, yet still up from 2023's trough of 2.5% (vs 14.0% in post-COVID tightness). The continued softness in demand appears to also be weighing on early bid season. J.B. Hunt (JBHT) noted bid season has been competitive in Dedicated and Intermodal with 20% of its contract renewals completed. Werner noted increased competition in its One-Way (irregular route) bid process, and contractual renewal pressure in its Dedicated fleet. Nevertheless, we expect an improving truck supply-demand balance as capacity continues to exit (72+ weeks of net carrier deactivations since Oct. '22) and look for demand to seasonally improve, aided by the return of West Coast imports and an early produce season. We remain focused on Truckload/related carriers Knight-Swift and JBHT, and Less-than-Truckload (LTL) carriers XPO and SAIA.

Click Transportation - Trucking for full report including important disclosures.

Chart 1: DEMAND INDICATOR

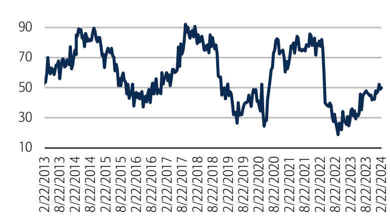
Shipper's view of demand next 0-3 months; Demand Indicator at 54.2

Source: BofA Global Research.

BofA GLOBAL RESEARCH

Chart 2: RATE INDICATOR

Shipper's rates view; Rate Indicator at 50.9



Source: BofA Global Research.

BofA GLOBAL RESEARCH

Server & Enterprise Software

Where Are We Trading Now: Aren't software earnings over yet?

Industry Overview

04 March 2024

Equity
Americas
Server & Enterprise Software

What clients are talking about

Software coverage +0.3% w/w (vs Nasdaq +1.9%) with small caps outperforming. Last week, client conversations focused on: **1)** enterprise spending on AI – could it crowd out other projects, **2)** was Snowflake's disappointing FY25 outlook idiosyncratic (e.g. competitive pressure) or due to continued constrained enterprise spending, and **3)** what can go wrong in the current AI euphoria – will use cases be more expensive than expected due to higher computing and energy costs.

Collaboration saw the largest multiple expansion w/w

Infrastructure +13% YTD remains the best performing software subsector led by Confluent, Everbridge, and Palantir while Communication -14% YTD continues to lag. On an EV/NTM Sales basis, the Collaboration software group saw the largest multiple expansion w/w (+6.1%) led by Monday.com, with the Design software group seeing the largest expansion relative to the 5-year median (+7.8%). On an EV/NTM FCF basis, the Collaboration software group saw the largest multiple expansion w/w (+6%) with the Design software group seeing the largest expansion relative to the 5-year median (+4.1%).

Exhibit 1: Collaboration software saw the largest EV/NTM Sales expansion w/w, led by MNDY
Software multiple expansion/contraction by category

	EV/NTM Sales				EV/NTM FCF			
	Multiple		% Change		Multiple		% Change	
Category	Current	5-yr median	1 wk	5-yr median	Current	5-yr median	1 wk	5-yr median
Collaboration	5.8x	7.2x	6.1%	-19.2%	27.1x	20.2x	6.0%	NA
Communication	2.3x	7.7x	3.5%	-69.9%	19.1x	27.6x	-7.0%	-30.6%
CRM	5.1x	8.6x	1.7%	-40.7%	36.3x	42.3x	-3.2%	-14.3%
Design	10.6x	9.8x	1.5%	7.8%	37.4x	35.9x	-2.9%	4.1%
ERP & Back Office	5.4x	7.7x	1.7%	-29.4%	38.5x	42.2x	2.9%	-8.7%
HCM	6.4x	9.8x	-3.9%	-34.9%	46.9x	45.1x	-0.6%	4.0%
Infrastructure	8.3x	10.6x	1.1%	-21.9%	40.0x	39.8x	-3.9%	0.5%
Security	8.1x	8.9x	-0.1%	-10.0%	32.1x	32.4x	-2.4%	-0.9%
Vertical	6.1x	7.9x	0.4%	-21.8%	40.2x	39.9x	-2.8%	0.6%

Source: BofA Global Research estimates for companies under coverage, Bloomberg consensus for companies not under coverage. Stocks included may not be under BofA software coverage. See appendix.

BofA GLOBAL RESEARCH

Within the report:

- Historical software valuation trends (Exhibit 2 – Exhibit 6)
- Software stock performance overview (Exhibit 7)
- Software coverage comp sheet (Exhibit 8 – Exhibit 12)
- Software valuation by category (Exhibit 14 – Exhibit 15)
- See the Appendix for a mapping of software companies by category, as well as the stock performance of individual companies

Click Server & Enterprise Software for full report including important disclosures.

Alkesh Shah
Research Analyst
BofAS
+1 646 855 1556
alkesh.shah@bofa.com

Brad Sills
Research Analyst
BofAS
+1 415 436 1400
brad.sills@bofa.com

Koji Ikeda, CFA
Research Analyst
BofAS
+1 415 913 2106
koji.ikeda@bofa.com

Michael J. Funk
Research Analyst
BofAS
+1 646 855 5664
michael.j.funk@bofa.com

Tal Liani
Research Analyst
BofAS
+1 646 855 5107
tal.liani@bofa.com

Carly Liu
Research Analyst
BofAS
+1 415 298 7319
carly.liu@bofa.com

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

Andrew Moss
Research Analyst
BofAS
+1 646 743 2178
andrew.moss@bofa.com

Matt Bullock
Research Analyst
BofAS
+1 646 556 2903
matthew.bullock2@bofa.com

Natalie Howe
Research Analyst
BofAS
+1 415 436 1103
natalie.howe@bofa.com

George McGreehan
Research Analyst
BofAS
+1 415 913 4315
george.mcgreehan@bofa.com

Christopher Nolan
Research Analyst
BofAS
+1 917 864 1441
cnolan2@bofa.com

Broadcom Inc

Buy for 2H acceleration, AI, VMWare strength

Reiterate Rating: BUY | PO: 1,680.00 USD | Price: 1,407.01 USD

07 March 2024

Equity

FY24 unchanged, raise FY25, raise PO to $1680

As expected, AVGO maintained its FY24 sales outlook of $50bn, though with mix shifting more towards AI (now >$10bn vs $7.5bn prior), with traditional enterprise (server storage) and telco segments experiencing the same inventory digestion as indicated by peer MRVL and others. VMWare is also off to a strong start, with overall AVGO software bookings to nearly double QoQ to $3bn in Q2 and with VMWare sales expected to grow 10% QoQ every quarter. Legacy segments are shoing signs of increased bookings, suggesting a potential 1H trough. All-in, we keep FY24E steady, but raise FY25E (end Oct) by 3% to $57.82, implying CY25/26E raised by 3%/4% to $59.69/$66.16. L-t we see earnings power in the $70-$75/yr range as sales grow double digits and EBIT margins get back to historical 60-65% levels. Raise PO to $1680 from $1500 on higher 28x CY25E PE vs 24x currently, but within historical 7x-28x range justified by improving AI mix.

Bears could push back on Q1 semis miss, legacy weakness

AVGO's 51% run in the past 3 months (vs. SOX up 38%) makes it vulnerable to short-term stock volatility. Bears could push back on higher valuation given 1) full year FY24 numbers did not get revised up, 2) Q1 semi sales of $7.4bn were below cons at $7.7bn with Q1 sales beat largely from one-off software sales, 3) semi GM continues to fall as mix shifts to custom chips (semi GM in Q1 declined -190 bps YoY to 67%), 4) non-AI semi segments are at a $5bn quarterly run-rate vs the ~$6bn trough suggested by AVGO a few qtrs ago, 5) potential for ASIC competition (refuted by AVGO), and 5) premium valuation with stock now at 28x NTM PE vs. 15x historical median (though stock still at its historical 6-7 turn discount to SOX index that now trades at 34x NTM PE).

But we focus on 2H growth reaccel., solid AI pipeline

We believe 1H could mark the trough for AVGO's non-AI semi sales (esp. broadband), with semi sales accelerating to double digit growth exiting Q4 and into FY25. Meanwhile, we think AI sales (now over 30% of semis) could secularly grow at a 20-25% CAGR with more contribution from high-speed switches. VMWare looks to exit this year close to ~$4bn, suggesting >10% YoY growth trajectory into FY25. We see Meta as an important additional ASIC customer for AVGO, in addition to existing strong position at Google.

Estimates (Oct) (US$)	**2022A**	**2023A**	**2024E**	**2025E**	**2026E**
EPS	37.60	42.25	46.70	57.82	64.39
GAAP EPS	26.86	32.94	14.97	31.29	38.66
EPS Change (YoY)	34.3%	12.4%	10.5%	23.8%	11.4%
Consensus EPS (Bloomberg)			46.88	56.50	62.68
DPS	16.40	18.40	21.00	23.10	25.41
Valuation (Oct)					
P/E	37.4x	33.3x	30.1x	24.3x	21.9x
GAAP P/E	52.4x	42.7x	94.0x	45.0x	36.4x
Dividend Yield	1.2%	1.3%	1.5%	1.6%	1.8%
EV / EBITDA*	33.1x	30.5x	23.5x	19.4x	17.3x
Free Cash Flow Yield*	2.4%	2.6%	3.1%	4.1%	4.8%

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

Key Changes

(US$)	**Previous**	**Current**
Price Obj.	1,500.00	1,680.00
2024E Rev (m)	50,000.3	50,210.9
2025E Rev (m)	55,251.2	56,967.6
2026E Rev (m)	59,461.4	61,310.8
2024E EPS	46.72	46.70
2025E EPS	56.37	57.82
2026E EPS	62.27	64.39

Vivek Arya
Research Analyst
BofAS
vivek.arya@bofa.com

Blake Friedman
Research Analyst
BofAS
blake.friedman@bofa.com

Duksan Jang
Research Analyst
BofAS
duksan.jang@bofa.com

Lauren Guy
Research Analyst
BofAS
lauren.guy2@bofa.com

Stock Data

Price	1,407.01 USD
Price Objective	1,680.00 USD
Date Established	7-Mar-2024
Investment Opinion	B-1-7
52-Week Range	601.29 USD - 1,438.17 USD
Mrkt Val (mn) / Shares Out (mn)	672,551 USD / 478.0
Free Float	98.0%
Average Daily Value (mn)	3775.47 USD
BofA Ticker / Exchange	AVGO / NAS
Bloomberg / Reuters	AVGO US / AVGO.OQ
ROE (2024E)	44.7%
Net Dbt to Eqty (Oct-2023A)	104.4%
ESGMeter™	Medium

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".

Glossary

See page 5

Marvell Technology Group Ltd.

Buy on rising AI momentum and potential legacy 1H trough

Reiterate Rating: BUY | PO: 95.00 USD | Price: 85.09 USD

08 March 2024

Equity

Legacy under pressure but AI well on track, reiterate Buy

FQ4 was inline, while the FQ1 outlook was -16% below on sharp non-AI, legacy declines. Specifically, FQ1 sales excl. Data Center was guided to -44% QoQ or -58% YoY on weak telco (Carrier), Cisco (Enterprise), and industrial trends. However, the all-important Data Center remains solidly on track and should grow nearly 80% YoY in the quarter, driven by a strong AI electro-optics ramp and initial shipments of custom AI ASICs. In fact, Marvell's AI revenue made up more than 10% of total sales in FY24, up from just 3% in FY23 and should reach nearly 30% in FY25/CY24E (expect more on April 11 AI day in NYC), the second highest in our coverage. While lower volume and unfavorable product mix (lower Carrier/Enterprise and ramping custom ASICs) point to n-t GM headwind, we now believe FY25/CY24 estimates are fully de-risked, with healthy cyclical recoveries expected in F2H25 and beyond. Overall, we lower FY26/27E sales by -3%/-2% and pf-EPS by -8%/-7%. We raise our PO to $95 from $80, now on 41x CY25E P/E (still within 17x-43x range) vs. 32x prior on upcoming strong sales growth and increasing AI exposure. Reit Buy.

Likes: 30-35% AI exposure by FY26E, highest after NVDA

MRVL's electro-optics data center business reached a $1bn+ run-rate in FY24, with the AI-specific portion representing at least ~$550mn (>$200mn in FQ4 alone). MRVL enjoys an overall DSP share of >65-70%, and we expect AI contribution to grow to nearly $1bn by FY25 and $1.2bn by FY26 on the back of strong Nvidia and non-Nvidia AI accelerator sales. On the other hand, custom AI silicon should start ramping strongly this year (FY25) with a FQ4 exit rate of >$200mn (closer to $300mn) and reach $1bn+ by FY26. Combined, we see MRVL's AI sales of $2.3bn by FY26E and $2.7bn by FY27E, or 30-35% of total sales, the second highest in our semis coverage after Nvidia (~80% AI exposure).

Risks: one more EPS cut, though now near cyclical trough

AI upside generally offset by sharp near-term slowdowns in non-AI businesses (FQ1 Carrier guided down -70% YoY, Enterprise -56% YoY, Consumer -70% YoY). However, we see FQ1 as near the cyclical trough and expect F2H recoveries to come through. Coupled with the strong growth in Data Center, we see impact to FY26/CY25 sales as more limited (only down -3% vs. prior). Meanwhile, the ramp of custom ASICs presents modest headwind to GMs in F2H24/FY25E, though OpM fall-through should be better.

Estimates (Jan) (US$)	2023A	2024A	2025E	2026E	2027E
EPS	2.12	1.51	1.34	2.30	2.96
GAAP EPS	(0.19)	(1.08)	(0.41)	0.40	0.95
EPS Change (YoY)	35.0%	-28.8%	-11.3%	71.6%	28.7%
Consensus EPS (Bloomberg)			2.02	2.78	NA
DPS	0.24	0.24	0.24	0.24	0.24
Valuation (Jan)					
P/E	40.1x	56.4x	63.5x	37.0x	28.7x
GAAP P/E	NM	NM	NM	212.7x	89.6x
Dividend Yield	0.3%	0.3%	0.3%	0.3%	0.3%
EV / EBITDA*	29.8x	37.7x	41.6x	26.8x	21.6x
Free Cash Flow Yield*	1.5%	1.4%	1.5%	2.3%	3.0%

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

Key Changes

(US$)	Previous	Current
Price Obj.	80.00	95.00
2025E Rev (m)	5,982.9	5,313.3
2026E Rev (m)	7,157.0	6,964.9
2027E Rev (m)	NA	8,031.2
2025E EPS	1.87	1.34
2026E EPS	2.50	2.30
2027E EPS	NA	2.96

Vivek Arya
Research Analyst
BofAS
vivek.arya@bofa.com

Blake Friedman
Research Analyst
BofAS
blake.friedman@bofa.com

Duksan Jang
Research Analyst
BofAS
duksan.jang@bofa.com

Lauren Guy
Research Analyst
BofAS
lauren.guy2@bofa.com

Stock Data

Price	85.09 USD
Price Objective	95.00 USD
Date Established	8-Mar-2024
Investment Opinion	C-1-7
52-Week Range	36.64 USD - 85.76 USD
Mrkt Val (mn) / Shares Out (mn)	74,360 USD / 873.9
Free Float	99.5%
Average Daily Value (mn)	1125.15 USD
BofA Ticker / Exchange	MRVL / NAS
Bloomberg / Reuters	MRVL US / MRVL.OQ
ROE (2025E)	7.8%
Net Dbt to Eqty (Jan-2024A)	21.7%
ESGMeter™	High

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

See page 3 for acronym definitions.

Nordstrom

Encouraging progress at Rack, but continued challenges elsewhere

Reiterate Rating: UNDERPERFORM | PO: 15.00 USD | Price: 20.90 USD

06 March 2024

Equity

Outlook includes lower credit, margins

We reiterate Underperform as we see continued risk to sales and profitability given structural challenges within the department store sector. JWN reported 4Q EPS of $0.96, above our/VA cons of $0.75/$0.88 on better sales and GM. Sales increased 2% y/y (incl 460bp benefit from 53rd week and 250bp negative impact from the wind-down of Canada). Management introduced F24 guidance for revenues down 2% to +1% (incl 135bp unfavorable impact from 53rd week lap), EBIT margin 3.5-4% (down 25bp yy at midpoint), and EPS of $1.65-2.05 (down 13% y/y; cons $1.99). We are lowering our F24E EPS by 4% to $1.74 as lower credit is partly offset by higher Rack openings. We are raising our PO to $15 (from $13), now 4x EV/EBITDA (was 3.5x) on peer multiple expansion.

Credit revenue down in F24

Credit card revenue comprised 3.3% of net sales in F23 and mgmt expects this will decline 11% to 3% of sales in F24. The company has incorporated an impact from the recent CFPB ruling on late fees into F24 guidance. Mgmt noted that the average credit quality of the portfolio is higher than peers so late fees are a smaller piece of the revenue stream. The 11% decline is in line with our estimate (see our March 5 note), with higher delinquencies offsetting the partial year of impact from reduced late fees.

Making progress on Rack; Banner remains weak

Rack sales grew 15% in the quarter (incl 580bp from 53rd wk) and comps were up HSD as customers responded to the assortment and value. The company plans to open 22 Rack stores in F24 (+8% sqft growth), and we model total Rack sales +6%. Banner sales in 4Q declined 3% (incl 410bp for the 53rd week) and we expect continued pressure in the channel through F24; we model sales -4%.

1Q EBIT breakeven to slightly down

The company switched from retail to cost accounting in early 2024, which will pressure 1Q GM due to the timing of accounting for markdowns. Mgmt guided 1Q EBIT to be near breakeven to a slight loss, and 2Q to account for one-third of the year's earnings. The Anniversary sale will shift one week earlier, out of 3Q and into 2Q (last year 3Q had +300bp impact from Anniversary sale timing).

Estimates (Jan) (US$)	2023A	2024A	2025E	2026E	2027E
EPS	1.69	2.12	1.74	1.63	1.62
GAAP EPS	1.84	0.95	1.74	1.63	1.62
EPS Change (YoY)	12.7%	25.4%	-17.9%	-6.3%	-0.6%
Consensus EPS (Bloomberg)			1.99	2.21	NA
DPS	0.74	0.77	0.76	0.76	0.76
Valuation (Jan)					
P/E	12.4x	9.9x	12.0x	12.8x	12.9x
GAAP P/E	11.4x	22.0x	12.0x	12.8x	12.9x
Dividend Yield	3.6%	3.7%	3.6%	3.6%	3.6%
EV / EBITDA*	5.3x	5.1x	5.4x	5.4x	5.4x
Free Cash Flow Yield*	14.1%	1.6%	10.0%	10.1%	9.7%

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

Key Changes

(US$)	Previous	Current
Price Obj.	13.00	15.00
2025E Rev (m)	14,342.7	14,167.1
2026E Rev (m)	14,724.9	14,162.2
2027E Rev (m)	NA	14,004.1
2025E EPS	1.81	1.74
2026E EPS	1.95	1.63
2027E EPS	NA	1.62

Lorraine Hutchinson, CFA
Research Analyst
BofAS
+1 646 855 0951
lorraine.hutchinson@bofa.com

Melanie Nuñez
Research Analyst
BofAS
+1 646 855 2279
melanie.nunez@bofa.com

Stock Data

Price	20.90 USD
Price Objective	15.00 USD
Date Established	6-Mar-2024
Investment Opinion	C-3-9
52-Week Range	12.88 USD - 23.53 USD
Mrkt Val (mn) / Shares Out (mn)	3,346 USD / 160.1
Free Float	60.2%
Average Daily Value (mn)	84.66 USD
BofA Ticker / Exchange	JWN / NYS
Bloomberg / Reuters	JWN US / JWN.N
ROE (2025E)	30.0%
Net Dbt to Eqty (Jan-2024A)	263.4%
ESGMeter™	High

CFPB: Consumer Financial Protection Bureau

GM: gross margin

HSD: high single digit

MongoDB Inc

Solid Q4; Solid Growth Trajectory Largely Unchanged Following FY25 Outlook

Reiterate Rating: BUY | PO: 500.00 USD | Price: 412.01 USD

Excluding tough credit compare, Atlas maintains solid pace

MongoDB reported solid Q4 results, though the outlook was impacted by some one-time tough comparisons. Q4 total revenue of $458 million exceeded our estimate by 6%, largely in line with recent beats (6% to 8%), highlighted by solid 34% Atlas growth. Excluding a tough comparison from unused credits, Atlas growth of 36% kept pace with the strong Q3 level. New workloads sustained strong momentum.

Outlook suggests 30%+ growth possible, ex tough comps

The outlook for FY25 revenue growth of 14% was well below expectations for 19% to 20% (and our admittedly high 22%). However, excluding the impact from one-time items (unused credits of $40 million and multi-year upfront Enterprise Advanced agreements of an added $40 million), the normalized outlook is 19%. Management cited no change to guidance philosophy, suggesting that growth is likely to well exceed 30% on a normalized basis. We note that MongoDB exceeded the initial 16% growth outlook for FY24 by 15% points.

New products, improving consumption could drive upside

A few items could provide meaningful sources of upside as we move through FY25. First, the vector search offering was only launched in June 2023 and pipeline is healthy for a number of AI use cases across technology heavy verticals such as Financials, Teleco and Retail. Second, the stream processing offering is currently in public preview, and scheduled to be in general availability in the spring. Finally, an improving macro and purchasing environment could provide an added source of upside as we move through the year (consistent with green shoots seen in H2 of FY24).

View MongoDB as the database for AI in the enterprise

In summary, the solid growth trajectory is largely unchanged. We see potential for upside from new products, early adoption of AI-related workloads and an improving consumption backdrop. We continue to view MongoDB as the emerging data platform to support growing AI initiatives in the large enterprise. We reiterate our Buy rating though we are lowering our PO to $500 from $555 for the lower outlook. Our new PO is 17x C25e sales (18x prior) or 0.7x adjusted for 26% growth, a premium to the large cap software group 0.6x 17% growth. We view the premium as justified given the higher growth trajectory. See Exhibit 2 for explanation of our estimate revisions.

Estimates (Jan) (US$)	**2023A**	**2024A**	**2025E**	**2026E**	**2027E**
EPS	0.85	3.30	2.37	3.26	4.50
GAAP EPS	(5.03)	(2.48)	(5.99)	(6.59)	(7.07)
EPS Change (YoY)	NM	288.2%	-28.2%	37.6%	38.0%
Consensus EPS (Bloomberg)			3.53	4.38	NA
DPS	0	0	0	0	0
Valuation (Jan)					
P/E	484.7x	124.9x	173.8x	126.4x	91.6x
EV / EBITDA*	383.0x	103.4x	138.8x	90.1x	60.0x
Free Cash Flow Yield*	-0.1%	0.4%	0.8%	1.3%	1.8%

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

07 March 2024

Equity

Key Changes

(US$)	**Previous**	**Current**
Price Obj.	555.00	500.00
2025E Rev (m)	2,024.9	1,915.8
2026E Rev (m)	2,553.6	2,409.2
2027E Rev (m)	NA	3,041.8
2025E EPS	3.23	2.37
2026E EPS	4.69	3.26
2027E EPS	NA	4.50

Brad Sills
Research Analyst
BofAS
+1 415 436 1400
brad.sills@bofa.com

Carly Liu
Research Analyst
BofAS
+1 415 298 7319
carly.liu@bofa.com

Stock Data

Price	412.01 USD
Price Objective	500.00 USD
Date Established	7-Mar-2024
Investment Opinion	C-1-9
52-Week Range	189.59 USD - 509.62 USD
Mrkt Val (mn) / Shares Out (mn)	29,738 USD / 72.2
Free Float	96.5%
Average Daily Value (mn)	520.42 USD
BofA Ticker / Exchange	MDB / NAS
Bloomberg / Reuters	MDB US / MDB.OQ
ROE (2025E)	17.2%
Net Dbt to Eqty (Jan-2024A)	-75.1%
ESGMeter™	Medium

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Price objective basis & risk

Broadcom Inc (AVGO)
Our $1680 price objective for Broadcom is based on 28x CY25E P/E, the upper end of its 7x-28x historical range, though justified given double-digit EPS growth and best-in-semis profitability, FCF generation, and returns.

Downside risks to our price objective are: 1) semiconductor cycle risks, including sensitivity to US/China trade relations, 2) high exposure to Apple and Google with potential design out risks, 3) competitive risks in networking, smartphone, storage, enterprise software markets, 4) frequent acquirer of assets, which increases financial and integration risks, and 5) recent strategy towards moving into non-core software businesses creates execution risks.

Marvell Technology Group Ltd. (MRVL)
Our $95 PO is based on a 41x FY26E/CY25E pf-EPS, which is well-supported by the 20%-30%+ longer-term compounded annual EPS growth potential, and within the normal 1x-2x range for high growth semi peers.

Downside risks: 1) Integration risks in recent deals, 2) Financial risks related to going to net debt from net cash position, and in achieving expected cost synergies in a timely manner, and 3) Cyclical industry risks including potential slowdown in legacy hard disk drive, infrastructure spending, and storage assets, 4) Competitive risks against larger well resourced rivals.

MongoDB Inc (MDB)
Our PO of $500 is based on EV/sales of 17x our CY25e, or 0.7x our C25 revenue growth rate of 26%, a premium to the large-cap peers at 0.6x (17% growth) for higher growth trajectory.

Downside risks to our PO are: 1) MongoDB trades at a significant premium to its software large-cap peer group on an EV/Sales basis. In the event of changes to market sentiment stemming from global macro uncertainty, or potentially disappointing quarterly revenue results, there could be risk of a potential pullback. 2) The company recognizes a large majority of its revenue based on actual consumption which implies more revenue volatility than a traditional subscription model. 3) MongoDB serves in a highly competitive market, which consists of deep-pocketed next-gen NoSQL database, public cloud vendors and legacy database vendors. An inability to execute on a product roadmap for added capabilities could result in slowing share gains or even share losses.

Nordstrom (JWN)
Our $15 price objective is based on 4x EV/EBITDA for F2024E, which is in line with the peer group. This multiple reflects the company's weak sales and limited margin expansion potential.

Upside risks: high-end consumer spending grows more rapidly than our expectations, Rack execution improves faster than planned
Downside risks: severe spending cuts by high-end consumers, poor execution of store expansion initiatives, credit income dropping more significantly

Wabtec Corp. (WAB)
Our $156 PO is based on an 23.5x target P/E multiple on our 2024e EPS, above its 9-year historical 15x-21x range on forward earnings (which was normalized, and historically on cash EPS, though before its Feb 2019 GE-T acquisition would have been fairly similar) as we assign a premium to its target multiple given increased confidence on its actualization of backlog and International sale growth.

Downside risks to our PO are a quicker decline in rail volumes/economic activity, delayed replacement capex from the railroads, shrinking government budgets for Transit projects or increasing austerity measures, increased warranty claims on its equipment, and improved parts that delays replacement of equipment.

Upside risks to our PO are larger than expected synergy gains from its GE-T merger, a rapid rebound in rail carloadings, and accelerated rail capex spend on technology and upgrade investments from positive train control. Additionally, increased government expenditures for eco-friendly rail projects could provide upside potential.

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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%

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Research Analysts

Investment Strategy

Derek Harris
Portfolio Strategist
BofAS
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

Julia Saravalle, CFA
Portfolio Strategist
BofAS
julia.saravalle@bofa.com

Shadab Shahzad Ali
Portfolio Strategist
BofAS
shadab.ali@bofa.com

Honorat Guidi
Portfolio Strategist
BofAS
honorat.guidi@bofa.com