## Milliam Blair

Equity Research
Economics

February 9, 2024
Richard de Chazal, CFA


Inventory cycles play an important role in accelerating the momentum of economic growth, inflation, and corporate profitability. Companies generally build stock during the expansion phase, when consumption is expected to continue. Conversely, they liquidate stock when they are either caught out by a faster-than-expected slowing in that demand (having resulted in involuntary inventory accumulation) or when they anticipate growth weakness ahead (voluntary liquidation). In this Economics Weekly, we assess where we are in the current inventory cycle, what companies are telling us about expected future nearterm growth, and some of the deciding factors around what could be a structural change in inventory levels.

## How Did We Get Here?

Companies spent much of 2023 destocking their inventory, following a period of heightened inventory rampup through 2021 and 2022. Real final sales of domestic product (i.e., GDP less-inventories) increased by $5.7 \%$ from 2020 to 2022, while aggregate GDP increased by $6.1 \%$. Some of this strength was associated with a bullwhip effect following previous supply chain disruptions. This in turn played a role in the subsequent inventory drag of 2023, when real final sales rose by $3.4 \%$, against a $3.1 \%$ increase in real GDP. The inventory drawdown was also the result of widely held expectations for an economic recession last year, which does not yet seem to have materialized.

Importantly, one area that did not experience destocking was autos (which account for almost $25 \%$ of the total value of retail inventories). Exhibit 1 shows the aggregate retail inventory-to-sales (I/S) ratio, as well as the aggregate less autos. Exhibit 2 shows the continued steady increase in the auto dealers' I/S ratio. Both are notably still lower than pre-pandemic levels.



Furthermore, the most recent Beige Book reported that auto dealers have been facing rising supply due to weaker demand and supply chains now clearing-particularly for the supply of those previously missing microprocessors:

> Contacts noted that dealers maintained sound profitability but that margins have begun to erode because supply constraints have eased and inventories have risen. One contact reported that dealers were lowering margins to move product off their lots. Another observed that the higher overall price of new cars-especially given the rising mix of electric vehicles-is further bifurcating the new and used car market, with lower-income households unable to afford new cars.

For all other retail industries, I/S ratios were flat to down over the last year (see exhibits 9-13 on page 5 ), which is also the case for merchant wholesalers and manufacturers.

## Where Are We Now?

One of the best gauges of inventory sentiment comes from NFIB's small business surveys, given that small businesses are more often than not the hod carriers for the larger manufacturers and retailers. The latest survey suggests that companies are still not satisfied with current levels and expect to pare them back further in the coming months (exhibits 3, 4).

## William Blair



This sentiment is slightly at odds with the latest ISM readings on inventory sentiment. When asked whether customers' inventories were too high, too low, or about right, there was a sharp dip in the manufacturers' sentiment back into the too low territory (exhibit 5).


Sentiment around service sector inventories is reported as being too high when above 50\%, but current readings compared to the historical average would suggest they are likely still a little low (exhibit 6).


Meanwhile, the ISM Manufacturing New Orders Minus Inventory Index—historically a good leading indicator for capex investment (exhibit 7)—shows new orders expanding at a faster pace than inventories. This is also consistent with the "too low" manufacturing sentiment being driven more by optimism around future demand growth.


It is also possible that rising new orders and the too low inventory sentiment are due to companies' returning concerns about disrupted supply chains and more volatile pricing. The narrative from the recent share price performance of UPS and FedEx, as well as their recent mass layoff announcements, however, would not be consistent with expectations for stronger demand.

Further comments from the Beige Book as well as the ISM respondents would suggest that issues around the Suez and Panama canals are certainly one factor. These disruptions have significantly impacted both air and sea freight
rates, and in turn, the time it now takes for supplies to actually be received (exhibit 8).


In discussing the rising transportation costs, one construction company in the ISM survey, for example, responded:

> Transportation impacts of the Suez Canal, due to unrest in the Red Sea and the issues at the Panama Canal, are impacting both costs and schedules for the transport of global goods.

Another chemical company remarked:
The start of 2024 looks good. Sales are above expectations, and costs are mostly stable. A few commodities are up in cost due to supply shortages. Many previously short commodities market positions have corrected themselves. There is a real short-term increase in the cost of international freight.

While another transportation company noted:
The commercial vehicle market appears to be retracting a bit in 2024 compared to last year. Forecast sales have decreased slightly in most product segments, with only limited growth related to customers' competitive sourcing and moves to new technology. Most supply chains, including for semiconductors, have stabilized, with the only major escalation now being transit through the Red Sea.

The upshot seems to be that other than autos, companies are indicating that after a year of destocking, inventories are now much closer to desired levels-and possibly even a little low, based on increased concerns about supply disruptions and some cautious optimism around a soft landing.

## Structurally Higher Levels of Inventories?

Following the pandemic, many in the corporate sector believed that they were likely to maintain higher levels of inventory going forward. Supply chains proved themselves as having been overly stretched and excessively fragile. As was widely noted, just-in-time became just-in-case. So far, however, there is only very tentative evidence that they are attempting to follow through on this.

The other factors helping to reinforce this just-in-case sentiment include rising geopolitical tensions, the increased volatility of inflation (wholesale commodity prices have notably bottomed and started to push a little higher following the Suez and Panama Canal issues), and the continuation of more extreme weather events (droughts, flooding, fires, etc.), which are again disrupting supply lines.

Nevertheless, it is important to note that other factors are also helping keep inventories lower. These include faster computing power, the emergence of AI, big data, and digitization, which are allowing companies to better predict demand trends and thus to keep inventory levels lean. Meanwhile, it is also quite possible that the proliferation of 3D printing will similarly necessitate holding lower levels of inventory.

## Conclusion

After much of 2021 and 2022 was spent ramping up inventories, 2023 was the year of destocking. It seems that current levels are now roughly around desired levels, with some companies increasingly concerned about shortages. The sharp drop in the ISM inventory index into "too low" territory would seem to be consistent with greater concerns about renewed supply chain disruptions related to the problems in the Red Sea and the Panama Canal, as opposed to optimism about accelerating demand. It is difficult to know to what extent companies are willing and able to follow through on their previously expressed desire to increase supply chain redundancies and carry high levels of inventories. Slightly faster inflation and the elevated threat of further disruptions would be consistent with such sentiment, though advances in technology also suggest such a buildup may not be necessary.

## William Blair



Exhibit 11
Retail Trade Inventory-to-Sale Ratio - Food and Beverage Stores


$\qquad$
Exhibit 13
Retail Trade Inventory-to-Sale Ratio - General Merchandise Stores


William Blair

Highlights in the Week Ahead

| Date | Time <br> (ET) |  | Indicator | Last | Consensus |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | WB <br> Estimate | Actual |  |  |
| 13 Feb | $8: 30$ a.m. | Consumer Price Index (Jan) | $0.3 \%$ | $0.2 \%$ | $0.2 \%$ |
|  |  | CPI Less-food \& energy | $0.3 \%$ | $0.3 \%$ | $0.3 \%$ |
| 15 Feb | $8: 30$ a.m. | Advance Retail Sales (Jan) | $0.6 \%$ | $0.1 \%$ | $-0.1 \%$ |
|  |  | Sales Less-autos | $0.4 \%$ | $0.3 \%$ | $0.2 \%$ |
| 15 Feb | 9:15 a.m. | Industrial Production (Jan) | $0.1 \%$ | $0.4 \%$ | $-0.2 \%$ |
|  |  | Capacity Utililzation | $78.6 \%$ | $79.0 \%$ | $78.6 \%$ |
| 16 Feb | $8: 30$ a.m. | Producer Price Index (Jan) | $-0.1 \%$ | $0.1 \%$ | $0.1 \%$ |
|  |  | PPI Less-food \& energy | $0.0 \%$ | $0.1 \%$ | $0.2 \%$ |
| 16 Feb | $8: 30$ a.m. | Housing Starts (Jan) | $-4.3 \%$ | $0.5 \%$ | $-0.5 \%$ |
|  |  | Building Permits | $1.8 \%$ | $1.5 \%$ | $1.0 \%$ |

Sources: Bloomberg, William Blair Equity Research

## Indicator of the Week: Consumer Price Index

## CPI Index Excluding Food \& Energy

12-Month, 6-Month \& 3-Month Annualized Changes, \%


Sources: Bureau of Labor Statistics, William Blair Equity Research

Economic Scorecard

Rolling monthly heat map, \% Change on Year Ago (unless otherwise noted)

Growth US Coincident Indicators US Lagging Indicators
$\begin{array}{llllllllllllllllllllllll}\text { Aug-22 } & \text { Sep-22 } & \text { Oct-22 } & \text { Nov-22 } & \text { Dec-22 } & \text { Jan-23 } & \text { Feb-23 } & \text { Mar-23 } & \text { Apr-23 } & \text { May-23 } & \text { Jun-23 } & \text { Jul-23 } & \text { Aug-23 } & \text { Sep-23 } & \text { Oct-23 } & \text { Nov-23 } & \text { Dec-23 } & \text { Jan-24 } & \text { Feb-24 }\end{array}$

Consumer
Total Retail Sales
Personal Income
Real Disposable Personal Income
Real Personal Consumption
Personal Saving Rate (\%)
Consumer Confidence (Conference Board)**

| 10.1 | 9 | 8.9 | 6.2 | 5.8 | 7.4 | 5.3 | 2.2 | 1.3 | 2.1 | 1.5 | 2.8 | 2.8 | 4 | 2.2 | 4.0 | 5.6 |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 3.9 | 5.1 | 4.9 | 4.6 | 4.5 | 5.8 | 5.7 | 5.8 | 5.7 | 5.6 | 5.4 | 4.8 | 4.8 | 4.6 | 4.3 | 4.6 | 4.7 |  |
| -3.8 | -2.3 | -2 | -1.6 | -0.9 | 3.2 | 3.5 | 4.4 | 4.5 | 5 | 5.3 | 4.3 | 4 | 3.8 | 3.9 | 4.4 | 4.2 |  |
| 1.8 | 1.9 | 1.4 | 0.9 | 1.3 | 2.3 | 2.3 | 1.7 | 1.6 | 1.8 | 2.1 | 2.5 | 2 | 2.1 | 1.9 | 2.7 | 3.2 |  |
| 3.2 | 3 | 3 | 3.3 | 3.4 | 4.4 | 4.7 | 5.2 | 5.2 | 5.3 | 4.8 | 4.4 | 4.4 | 3.8 | 4.1 | 4.1 | 3.7 |  |
| 103.6 | 107.8 | 102.2 | 101.4 | 109 | 106 | 103.4 | 104 | 103.7 | 102.5 | 110.1 | 114 | 108.7 | 104.3 | 99.1 | 101 | 108 | 114.8 |

Employment
Employment Growth
ASA Temporary Staffing Index
ISM Employment Index Manufacturing*
ISM Employment Index Services*
Unemployment Rate, \%
Average Hourly Earnings
Initial Jobless Claims (avg. wkly. chg. '000s)
Jop Openings
Layoff Announcements

| 4.1 | 4.0 | 3.6 | 3.3 | 3.0 | 3.2 | 2.8 | 2.5 | 2.5 | 2.5 | 2.4 | 2.1 | 2.1 | 2.0 | 1.9 | 1.9 | 2.0 | 1.9 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 9.3 | 5.4 | 1.1 | 0.2 | 1.0 | -2.1 | -6.1 | -6.5 | -6.8 | -5.9 | -6.6 | -4.7 | -4.8 | -5.5 | -7.5 | -7.6 | -5.5 | -12.2 |
| 54.4 | 49 | 50.2 | 49.3 | 50.2 | 50 | 48.8 | 47.8 | 49.4 | 50.3 | 49.1 | 45 | 48.6 | 50.9 | 47.1 | 46.1 | 47.5 | 47.1 |
| 4.7 | 51.4 | 49.5 | 50.4 | 49.8 | 50.4 | 53.6 | 51.1 | 51.2 | 49.7 | 52.9 | 50.9 | 54.1 | 52.5 | 50.4 | 50.6 | 43.8 | 50.5 |
| 3.6 | 3.5 | 3.6 | 3.6 | 3.5 | 3.4 | 3.6 | 3.5 | 3.4 | 3.7 | 3.6 | 3.5 | 3.8 | 3.8 | 3.8 | 3.7 | 3.7 | 3.7 |
| 5.4 | 5.1 | 5 | 5.1 | 4.9 | 4.6 | 4.7 | 4.6 | 4.7 | 4.6 | 4.7 | 4.7 | 4.5 | 4.5 | 4.3 | 4.3 | 4.3 | 4.5 |
| 210 | 191 | 202 | 213 | 209 | 200 | 219 | 238 | 239 | 230 | 254 | 228 | 238 | 209 | 211 | 220 | 208 | 209 |
| -7.0 | -0.3 | -7.9 | -4.3 | -5.0 | -8.0 | -14.0 | -19.0 | -12.2 | -16.0 | -16.4 | -21.6 | -6.9 | -13.9 | -15.5 | -16.9 | -19.7 | -14.6 |
| 30.3 | 67.6 | 48.3 | 416.5 | 129.1 | 440 | 410.1 | 319.4 | 175.9 | 286.7 | 25.2 | -8.2 | 266.9 | 58.2 | 8.8 | -40.8 | -20.2 | -20 |

Housing Market
Housing Starts
New Home Sales
Existing Home Sales
Median House Price (Existing Homes)
Existing Homes Inventory (Mths' supply)
New Homes Inventory (Mths' supply)
NAHB Homebuilder Sentiment

| -1.5 | -2.1 | -3.6 | -5.1 | -6.4 | -6.1 | -7.0 | -8.0 | -8.3 | -8.2 | -8.1 | -7.8 | -7.9 | -8.1 | -8.1 | -7.7 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1.9 | 2.0 | 1.4 | 0.8 | 0.8 | 1.5 | 1.4 | 1.4 | 1.4 | 1.7 | 1.8 | 1.7 | 1.4 | 1.3 | 1.4 | 1.7 |
| 7.4 | 7.6 | 7.3 | 7.4 | 7.4 | 6.3 | 6.1 | 5.5 | 4.9 | 3.7 | 2.9 | 2.3 | 1.8 | 1.0 | 1.1 | 1.3 |

## nflation

Consumer Price Index
CPI Less-food \& energy
Producer Price Index
PPI Less-food \& energy
PCE Price Index
PCE Prices Less-food \& energy
Business Activity - US
Industrial Production
New Cap Gds Orders less-aircraft \& parts
Business Inventories
ISM Manufacturing PMI*
Markit US Manufacturing PMI*
ISM Services Index*
Markit US Services PMI*

| -4.5 | -6.2 | -8.9 | -16.6 | -24.1 | -19.7 | -18.9 | -19.4 | -25.2 | 2.6 | -9.2 | 5.8 | -13.3 | -7.3 | -3.9 | 6.9 | 7.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -7.5 | -23.6 | -15.1 | -24.6 | -23.4 | -19.9 | -19.1 | -9.5 | 11.1 | 11.6 | 21.3 | 34.1 | 2.5 | 23.1 | 17.2 | 5.7 | 4.4 |
| -20.2 | -24.0 | -28.2 | -35.2 | -34.0 | -36.9 | -23.1 | -22.1 | -23.0 | -20.4 | -18.9 | -16.6 | -15.3 | -15.6 | -14.6 | -7.3 | -6.2 |
| 8.9 | 15.6 | 16.3 | 7.4 | 17 | 0.4 | 1.4 | 0.7 | -8.9 | -6.5 | -3.5 | -8.9 | 0.1 | -10.8 | -16.5 | -7.9 | -13.8 |
| 3 | 3 | 3.2 | 3.4 | 3.5 | 3.4 | 2.9 | 2.8 | 2.8 | 2.8 | 2.8 | 2.9 | 3 | 3.3 | 3.5 | 3.7 | 3.7 |
| 8.7 | 9.7 | 9.7 | 9.4 | 8.5 | 8.1 | 8.4 | 8.1 | 7.6 | 7.2 | 7.5 | 7.1 | 7.9 | 7.5 | 7.8 | 8.8 | 8.2 |
| 49 | 46 | 38 | 33 | 31 | 35 | 42 | 44 | 45 | 50 | 55 | 56 | 50 | 44 | 40 | 34 | 37 |

Business Activity - International
Germany Manufacturing PMI Markit/BME*
Japan Manufacturing PMI Jibun Bank*
Caixin China Manufacturing PMI*
China Manufacturing $\mathrm{PMI}^{\star}$
UK Manufacturing PMI Markit/CIPS*
France Manufacturing PMI Markit*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 8.3 | 8.2 | 7.7 | 7.1 | 6.5 | 6.4 | 6 | 5 | 4.9 | 4 | 3 | 3.2 | 3.7 | 3.7 | 3.2 | 3.1 | 3.4 |
| 6.3 | 6.6 | 6.3 | 6 | 5.7 | 5.6 | 5.5 | 5.6 | 5.5 | 5.3 | 4.8 | 4.7 | 4.3 | 4.1 | 4 | 4 | 3.9 |
| 8.7 | 8.5 | 8.2 | 7.4 | 6.4 | 5.7 | 4.7 | 2.7 | 2.3 | 1.1 | 0.3 | 1.1 | 1.9 | 2 | 1.2 | 0.8 | 1 |
| 7.2 | 7.2 | 6.9 | 6.3 | 5.7 | 5 | 4.6 | 3.3 | 3.1 | 2.8 | 2.5 | 2.7 | 2.5 | 2.6 | 2.3 | 2 | 1.8 |
| 6.5 | 6.6 | 6.3 | 5.9 | 5.4 | 5.5 | 5.2 | 4.4 | 4.4 | 4 | 3.2 | 3.3 | 3.3 | 3.4 | 2.9 | 2.6 | 2.6 |
| 5.2 | 5.5 | 5.3 | 5.1 | 4.9 | 4.9 | 4.8 | 4.8 | 4.8 | 4.7 | 4.3 | 4.2 | 3.7 | 3.6 | 3.4 | 3.2 | 2.9 |

Currencies***
Euro (EUR/USD)
Renmimbi (USD/CNY)
Yen (USD/Yen)
Sterling (GBP/USD)
Canadian \$ (USD/CAD)
Mexican Peso (USD/MXN)

| 3.1 | 4.5 | 3.1 | 1.9 | 0.6 | 1.5 | 0.9 | 0.2 | 0.4 | 0.1 | -0.4 | 0.1 | 0.0 | -0.2 | -0.9 | -0.6 | 1.0 |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 8.2 | 5.6 | 5 | 3.2 | 1 | 5.6 | 2.7 | 1.9 | 1 | 3.2 | 1.4 | 0.4 | 0.6 | 0.5 | 0.8 | 1.4 | 0.9 |  |
| 19.8 | 19.5 | 18.3 | 16.9 | 15.2 | 12.6 | 10.7 | 8.8 | 6.2 | 5.2 | 3.3 | 1.8 | 1.4 | 1 | 1 | 0.7 | 0.4 |  |
| 52.8 | 50.8 | 50 | 48.9 | 48.1 | 47.4 | 47.7 | 46.5 | 47 | 46.6 | 46.4 | 46.5 | 47.6 | 48.6 | 46.9 | 46.6 | 47.1 | 49.1 |
| 51.5 | 52 | 50.4 | 47.7 | 46.2 | 46.9 | 47.3 | 49.2 | 50.2 | 48.4 | 46.3 | 49 | 47.9 | 49.8 | 50 | 49.4 | 47.9 | 50.7 |
| 55.9 | 55.7 | 54.7 | 55.2 | 49 | 54.7 | 55 | 51.2 | 52.3 | 51 | 53.6 | 52.8 | 54.1 | 53.4 | 51.9 | 52.5 | 50.5 | 53.4 |
| 43.7 | 49.3 | 47.8 | 46.2 | 44.7 | 46.8 | 50.6 | 52.6 | 53.6 | 54.9 | 54.4 | 52.3 | 50.5 | 50.1 | 50.6 | 50.8 | 51.4 | 52.5 |


| 49.1 | 47.8 | 45.1 | 46.2 | 47.1 | 47.3 | 46.3 | 44.7 | 44.5 | 43.2 | 40.6 | 38.8 | 39.1 | 39.6 | 40.8 | 42.6 | 43.3 | 45.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 51.5 | 50.8 | 50.7 | 49 | 48.9 | 48.9 | 47.7 | 49.2 | 49.5 | 50.6 | 49.8 | 49.6 | 49.6 | 48.5 | 48.7 | 48.3 | 47.9 | 48 |
| 49.5 | 48.1 | 49.2 | 49.4 | 49 | 49.2 | 51.6 | 50 | 49.5 | 50.9 | 50.5 | 49.2 | 51 | 50.6 | 49.5 | 50.7 | 50.8 | 50.8 |
| 49.4 | 50.1 | 49.2 | 48 | 47 | 50.1 | 52.6 | 51.9 | 49.2 | 48.8 | 49 | 49.3 | 49.7 | 50.2 | 49.5 | 49.4 | 49 | 49.2 |
| 47.3 | 48.4 | 46.2 | 46.5 | 45.3 | 47 | 49.3 | 47.9 | 47.8 | 47.1 | 46.5 | 45.3 | 43 | 44.3 | 44.8 | 47.2 | 46.2 | 47 |
| 50.6 | 47.7 | 47.2 | 48.3 | 49.2 | 50.5 | 47.4 | 47.3 | 45.6 | 45.7 | 46 | 45.1 | 46 | 44.2 | 42.8 | 42.9 | 42.1 | 43. |

## US Equities

S\&P 500
S\&P 400 Midcap
S\&P 600 Smallcap
Russell 2000

| -14.9 | -15.4 | -14.5 | -8.2 | -5.8 | -3.3 | -5.7 | -2.1 | 4.5 | -0.4 | 4.1 | 7.6 | 7.8 | 7.9 | 7.0 | 4.6 | 3.1 | -0.4 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6.7 | 10.4 | 14.0 | 11.4 | 8.5 | 6.2 | 9.9 | 8.4 | 4.7 | 6.5 | 8.3 | 5.9 | 5.3 | 2.6 | 0.2 | 0.6 | 2.9 | 6.1 |
| 26.3 | 30.1 | 30.5 | 22.0 | 13.9 | 13.0 | 18.4 | 9.2 | 5.1 | 8.3 | 6.3 | 6.8 | 4.7 | 3.2 | 2.0 | 7.3 | 7.6 | 12.9 |
| -15.5 | -17.1 | -16.2 | -9.3 | -10.7 | -8.4 | -10.4 | -6.1 | -0.1 | -1.3 | 4.3 | 5.5 | 9.0 | 9.2 | 6.0 | 4.7 | 5.4 | 3.0 |
| 4.1 | 9.1 | 10.0 | 5.0 | 7.3 | 4.7 | 7.7 | 8.1 | 5.5 | 7.3 | 2.9 | 3.1 | 2.9 | -1.8 | 1.8 | 1.1 | -2.3 | 1.0 |
| 0.3 | -2.4 | -3.7 | -10.2 | -5.0 | -8.7 | -10.6 | -9.2 | -11.9 | -10.0 | -14.9 | -17.8 | -15.4 | -13.5 | -8.9 | -9.8 | -13.0 | -8.6 |


|  | -12.6 | -16.8 | -15.9 | -10.7 | -19.4 | -9.7 | -9.2 | -9.3 | 0.9 | 1.2 | 17.6 | 11.1 | 14.0 | 19.6 | 8.3 | 12.0 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| -11.7 | -16.6 | -12.9 | -4.8 | -14.5 | 0.7 | -2.3 | -6.7 | -0.4 | -4.3 | 15.6 | 8.6 | 8.8 | 13.6 | -2.7 | -0.5 | 14.4 |
| -13.4 | -20.0 | -13.1 | -7.4 | -17.4 | -2.5 | -5.1 | -10.4 | -5.5 | -8.9 | 7.8 | 3.4 | 3.6 | 8.1 | -9.3 | -5.9 | 13.9 |
| -18.9 | -24.5 | -19.6 | -14.2 | -21.6 | -4.8 | -7.4 | -12.9 | -5.1 | -6.1 | 10.6 | 6.3 | 3.0 | 7.2 | -10.0 | -4.1 | 15.1 |

Difusion Index, $1985=100, \ldots$ Currencies - green/red $=$ strengthening/weakening foreign currency vs dollar
Source: ISM, Federal Reserve, Census Bureau, Bureau of Labor Statistics, Conference Board, Bloomberg, William Blair

William Blair

## Other Economic Indicators




William Blair

Initial Jobless Claims
('000s, Seasonally Adjusted)


Progression of S\&P 500 Bottom-Up EPS Estimates (2023-2024, \$/Shr)


[^0]Central Bank Target Short-term Interest Rates, \%


Sources: Bloomberg, William Blair Equity Research

Fed Funds Rate, Futures Market Expectations \& FOMC Projections, \%


William Blair

S\&P 500 Sector Performance

| Global Industry Classification System | Current Weight* 08-Feb-24 | Week Ago 01-Feb-24 | $\begin{aligned} & \text { Month Ago } \\ & \text { 08-Jan-24 } \end{aligned}$ | Qtr-to-Date 29-Dec-23 | $\begin{aligned} & \text { Year-to-Date } \\ & \text { 29-Dec-23 } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| S\&P 500 Index | 100.00 | 1.87 | 4.92 | 4.78 | 4.78 |
| S\&P400 MidCap Index |  | 0.72 | 1.45 | 0.21 | 0.21 |
| S\&P600 SmallCap Index |  | -0.45 | -1.35 | -3.36 | -3.36 |
| Dow Jones Industrials |  | 0.54 | 2.77 | 2.75 | 2.75 |
| Nasdaq Composite |  | 2.81 | 6.40 | 5.21 | 5.21 |
| Communication Services | 9.30 | 4.99 | 10.42 | 11.04 | 11.04 |
| Advertising | 0.07 | -3.82 | -2.86 | -1.00 | -1.00 |
| Broadcasting | 0.05 | -11.35 | -8.12 | -6.70 | -6.70 |
| Cable \& Satellite | 0.47 | -14.17 | -9.19 | -9.81 | -9.81 |
| Integrated Telecommunication Services | 0.66 | -6.37 | -1.50 | 3.44 | 3.44 |
| Interactive Home Entertainment | 0.15 | 1.24 | 3.99 | 3.17 | 3.17 |
| Interactive Media \& Services | 6.30 | 8.91 | 13.81 | 14.00 | 14.00 |
| Movies \& Entertainment | 1.12 | 4.14 | 15.10 | 15.39 | 15.39 |
| Publishing \& Printing | 0.03 | 4.50 | 4.84 | 5.20 | 5.20 |
| Wireless Telecommunication Svcs | 0.44 | -0.96 | -1.52 | 0.38 | 0.38 |
| Consumer Discretionary | 10.90 | 2.97 | 3.07 | 1.27 | 1.27 |
| Apparel Retail | 0.37 | 1.56 | 6.45 | 5.06 | 5.06 |
| Apparel \& Accessories \& Luxury Goods | 0.18 | 3.35 | -0.79 | -3.83 | -3.83 |
| Auto Parts \& Equipment | 0.07 | -4.19 | -5.51 | -10.09 | -10.09 |
| Automobile Manufacturers | 1.61 | 0.73 | -17.66 | -19.98 | -19.98 |
| Automobile Retail | 0.27 | -1.91 | 7.78 | 5.45 | 5.45 |
| Broadline Retail | 4.13 | 6.52 | 13.53 | 11.40 | 11.40 |
| Casinos \& Gaming | 0.18 | 4.80 | 2.47 | 6.04 | 6.04 |
| Computer \& Electronics Retail | 0.04 | 0.33 | -0.07 | -3.57 | -3.57 |
| Consumer Electronics | 0.05 | 1.08 | -0.57 | -4.84 | -4.84 |
| Distributors | 0.11 | 0.62 | 1.58 | 0.06 | 0.06 |
| Footwear | 0.29 | 1.98 | 0.14 | -4.42 | -4.42 |
| Home Furnishings | 0.02 | -0.37 | 3.65 | 5.91 | 5.91 |
| Home Improvement Retail | 1.12 | 0.77 | 3.73 | 3.35 | 3.35 |
| Homebuilding | 0.30 | -0.67 | -0.07 | 0.30 | 0.30 |
| Hotels, Resorts \& Cruise Lines | 0.92 | 3.13 | 6.94 | 5.69 | 5.69 |
| Household Appliances | 0.01 | -1.09 | -9.64 | -9.51 | -9.51 |
| Leisure Products | 0.02 | 1.47 | 1.64 | -0.74 | -0.74 |
| Restaurants | 1.07 | 0.86 | 3.36 | 1.61 | 1.61 |
| Other Specialty Retail | 0.14 | 1.05 | 4.09 | 6.17 | 6.17 |
| Consumer Staples | 6.56 | -0.73 | 1.86 | 2.62 | 2.62 |
| Agricultural Products | 0.10 | -6.29 | -22.24 | -23.52 | -23.52 |
| Brewers | 0.03 | -4.52 | -3.27 | -1.55 | -1.55 |
| Hypermarkets | 2.08 | 1.87 | 7.34 | 7.33 | 7.33 |
| Distillers \& Vintners | 0.14 | -3.07 | -1.77 | 0.36 | 0.36 |
| Drug Retail | 0.04 | -3.05 | -12.06 | -13.67 | -13.67 |
| Food Distributors | 0.09 | -3.69 | 4.91 | 8.46 | 8.46 |
| Food Retail | 0.08 | -2.72 | -1.15 | -0.59 | -0.59 |
| Household Products | 1.21 | -0.67 | 5.71 | 7.02 | 7.02 |
| Packaged Foods \& Meats | 0.77 | -2.40 | -0.55 | 0.68 | 0.68 |
| Personal Products | 0.16 | -1.90 | -5.12 | -7.13 | -7.13 |
| Soft Drinks | 1.38 | -0.29 | 0.74 | 1.18 | 1.18 |
| Tobacco | 0.48 | -4.36 | -6.49 | -3.82 | -3.82 |
| Energy | 3.70 | 1.51 | 0.97 | 0.91 | 0.91 |
| Integrated Oil \& Gas | 1.74 | 2.49 | 2.85 | 3.35 | 3.35 |
| Oil \& Gas Equipment \& Services | 0.36 | -1.07 | -5.08 | -8.48 | -8.48 |
| Oil \& Gas Exploration \& Production | 0.94 | 1.39 | -1.88 | -2.88 | -2.88 |
| Oil \& Gas Refining \& Marketing \& Transportation | 0.41 | 1.47 | 9.29 | 11.39 | 11.39 |
| Oil \& Gas Storage \& Transportation | 0.32 | -0.80 | -3.87 | -2.50 | -2.50 |

William Blair


| 12.37 | 0.31 | 2.36 | 3.31 | 3.31 |
| :---: | :---: | :---: | :---: | :---: |
| 0.86 | 0.97 | 0.53 | -1.40 | -1.40 |
| 0.57 | 2.65 | 5.96 | 7.32 | 7.32 |
| 2.78 | -0.42 | -1.40 | 0.25 | 0.25 |
| 1.12 | -1.59 | 2.69 | -0.08 | -0.08 |
| 0.60 | 2.75 | 4.64 | 6.01 | 6.01 |
| 0.92 | -0.14 | -5.22 | -5.22 | -5.22 |
| 0.38 | 3.06 | -1.99 | -0.07 | -0.07 |
| 0.13 | -0.01 | 1.04 | 1.39 | 1.39 |
| 1.20 | 2.86 | 7.96 | 11.44 | 11.44 |
| 0.94 | 1.15 | 8.62 | 11.45 | 11.45 |
| 0.29 | -1.32 | -6.57 | -4.73 | -4.73 |
| 0.04 | -6.30 | -4.82 | 0.27 | 0.27 |
| 2.56 | -1.19 | 4.78 | 5.37 | 5.37 |
| 12.70 | 1.37 | 2.56 | 5.57 | 5.57 |
| 1.96 | -1.84 | -0.40 | 4.39 | 4.39 |
| 0.33 | -1.98 | 3.73 | 6.65 | 6.65 |
| 2.45 | 0.50 | 5.25 | 6.32 | 6.32 |
| 0.21 | -2.62 | 7.99 | 11.87 | 11.87 |
| 0.54 | 3.80 | -1.52 | 1.44 | 1.44 |
| 0.11 | 1.80 | 2.03 | 1.62 | 1.62 |
| 1.41 | 0.39 | 2.78 | 2.64 | 2.64 |
| 1.63 | 2.13 | -2.93 | -1.03 | -1.03 |
| 4.06 | 3.82 | 5.24 | 10.39 | 10.39 |
| 8.59 | 1.71 | 4.13 | 2.48 | 2.48 |
| 1.54 | 0.28 | 0.42 | -2.22 | -2.22 |
| 0.25 | -1.99 | -3.05 | -3.51 | -3.51 |
| 0.45 | 2.47 | -5.77 | -5.33 | -5.33 |
| 0.48 | 1.08 | 4.24 | 2.99 | 2.99 |
| 0.07 | 3.75 | 1.07 | -3.72 | -3.72 |
| 0.64 | 4.00 | 9.15 | 8.05 | 8.05 |
| 0.05 | -1.30 | -0.50 | -3.28 | -3.28 |
| 0.26 | 1.56 | 6.55 | 3.12 | 3.12 |
| 0.61 | 4.65 | 7.12 | 5.55 | 5.55 |
| 0.40 | 1.25 | 5.92 | 4.54 | 4.54 |
| 0.41 | 1.41 | 4.21 | 4.72 | 4.72 |
| 0.76 | -0.02 | -0.90 | -2.13 | -2.13 |
| 0.84 | 1.33 | 5.74 | 3.73 | 3.73 |
| 0.16 | 3.16 | 1.34 | 4.64 | 4.64 |
| 0.65 | 0.36 | 5.69 | 3.93 | 3.93 |
| 0.23 | 1.73 | 5.61 | 4.64 | 4.64 |
| 0.30 | 0.79 | 14.67 | 11.48 | 11.48 |
| 29.70 | 3.02 | 10.09 | 8.53 | 8.53 |
| 2.60 | 2.00 | 9.49 | 6.62 | 6.62 |
| 0.84 | 0.82 | 3.21 | 3.91 | 3.91 |
| 0.21 | 1.38 | 6.44 | 5.33 | 5.33 |
| 0.17 | 2.03 | 0.46 | -2.60 | -2.60 |
| 0.14 | 1.40 | 6.59 | 3.17 | 3.17 |
| 0.09 | 1.32 | 5.14 | 2.30 | 2.30 |
| 1.16 | -0.88 | 9.40 | 6.80 | 6.80 |
| 0.86 | 4.10 | 11.77 | 6.25 | 6.25 |
| 8.02 | 6.59 | 18.73 | 19.26 | 19.26 |
| 8.61 | 2.63 | 11.14 | 10.68 | 10.68 |
| 0.08 | 6.04 | 11.80 | 7.32 | 7.32 |
| 6.93 | 0.75 | 1.40 | -2.16 | -2.16 |
| 2.20 | -0.81 | -2.13 | -3.13 | -3.13 |
| 0.16 | 0.54 | -2.01 | -1.11 | -1.11 |
| 0.15 | 2.70 | 6.11 | 5.17 | 5.17 |
| 0.13 | -5.13 | -9.67 | -10.45 | -10.45 |
| 0.16 | -3.05 | 1.42 | -0.06 | -0.06 |
| 0.09 | -6.37 | -17.12 | -19.45 | -19.45 |
| 0.57 | -2.43 | -3.48 | -3.99 | -3.99 |

William Blair

| Metal \& Glass Containers | 0.04 | -0.45 | 3.45 | 2.82 | 2.82 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Paper Packaging | 0.16 | 1.94 | -2.02 | -0.55 | -0.55 |
| Specialty Chemicals | 0.60 | 0.88 | -1.88 | -4.18 | -4.18 |
| Steel | 0.15 | 1.46 | 7.49 | 6.65 |  |
|  |  |  |  |  |  |
| Real Estate | $\mathbf{2 . 2 7}$ | $\mathbf{- 1 . 2 9}$ | -3.89 | -4.37 | -4.37 |
| Data Center REITs | 0.29 | 1.47 | 7.71 | 7.28 | -5.56 |
| Health Care REITs | 0.18 | -2.35 | -4.91 | -5.56 | 0.41 |
| Hotel \& Resort REITs | 0.03 | 0.67 | -4.12 | 0.41 | -1.23 |
| Industrial REITs | 0.28 | 0.93 | -1.14 | -1.23 | -6.16 |
| Multi-Family Residential REITs | 0.00 | -2.59 | -5.98 | -6.16 | -7.09 |
| Office REITs | 0.07 | -2.61 | -8.91 | -7.09 | -6.98 |
| Real Estate Service | 0.14 | -2.02 | -1.88 | -6.98 | -3.75 |
| Retail REITs | 0.29 | -0.71 | -4.31 | -3.75 | -8.21 |
| Self-Storage REITs | 0.18 | -1.05 | -7.21 | -8.21 | -8.21 |
| Single-Family Residential REITs | 0.18 | -1.05 | -7.21 | -8.21 | -9.98 |
| Telecom Tower REITs | 0.37 | -3.24 | -9.64 | -9.98 | -5.07 |
| Timber REITs | 0.06 | -1.32 | -3.05 | -5.07 |  |
| Utilities |  |  |  | -5.43 |  |
| Electric Utilities | 2.04 | -4.25 | -7.80 | -5.43 | -5.22 |
| Gas Utilities | 1.35 | -4.47 | -7.68 | -5.22 | -2.57 |
| Independent Power Producers \& Energy Traders | 0.02 | -2.47 | -4.98 | -2.57 | -15.84 |
| Water Utilities | 0.05 | -5.59 | -15.05 | -15.84 | -7.70 |
| Multi-Utilities | -2.72 | -8.43 | -7.70 | -5.38 |  |
| *Current Weight is market cap based, based on calculations by William | -3.93 | -7.89 | -5.38 |  |  |

William Blair

## IMPORTANT DISCLOSURES

This report is available in electronic form to registered users via $R^{*}$ Docs $^{\text {™ }}$ at https://williamblairlibrary.bluematrix.com or www.williamblair.com.

Please contact us at +18006210687 or consult https://www.williamblair.com/equity-research/coverage for all disclosures.
Richard de Chazal attests that 1) all of the views expressed in this research report accurately reflect his/her personal views about any and all of the securities and companies covered by this report, and 2) no part of his/her compensation was, is, or will be related, directly or indirectly, to the specific recommendations or views expressed by him/her in this report. We seek to update our research as appropriate. Other than certain periodical industry reports, the majority of reports are published at irregular intervals as deemed appropriate by the research analyst.

DOW JONES: 38726.30
S\&P 500: 4997.91
NASDAQ: 15793.70
Additional information is available upon request.
Current Rating Distribution (as of February 8, 2024):

| Coverage Universe | Percent | Inv. Banking Relationships* | Percent |
| :--- | :---: | :--- | :---: |
| Outperform (Buy) | 70 | Outperform (Buy) |  |
| Market Perform (Hold) | 30 | Market Perform (Hold) | 8 |
| Underperform (Sell) | 1 | Underperform (Sell) | 3 |

*Percentage of companies in each rating category that are investment banking clients, defined as companies for which William Blair has received compensation for investment banking services within the past 12 months.

The compensation of the research analyst is based on a variety of factors, including performance of his or her stock recommendations; contributions to all of the firm's departments, including asset management, corporate finance, institutional sales, and retail brokerage; firm profitability; and competitive factors.

## William Blair

## OTHER IMPORTANT DISCLOSURES

Stock ratings and valuation methodologies: William Blair \& Company, L.L.C. uses a three-point system to rate stocks. Individual ratings reflect the expected performance of the stock relative to the broader market (generally the S\&P 500, unless otherwise indicated) over the next 12 months. The assessment of expected performance is a function of near-, intermediate-, and long-term company fundamentals, industry outlook, confidence in earnings estimates, valuation (and our valuation methodology), and other factors. Outperform (0) - stock expected to outperform the broader market over the next 12 months; Market Perform (M) - stock expected to perform approximately in line with the broader market over the next 12 months; Underperform ( $U$ ) - stock expected to underperform the broader market over the next 12 months; not rated (NR) - the stock is not currently rated. The valuation methodologies include (but are not limited to) price-to-earnings multiple (P/E), relative P/E (compared with the relevant market), P/E-to-growth-rate (PEG) ratio, market capitalization/revenue multiple, enterprise value/EBITDA ratio, discounted cash flow, and others. Stock ratings and valuation methodologies should not be used or relied upon as investment advice. Past performance is not necessarily a guide to future performance.

The ratings and valuation methodologies reflect the opinion of the individual analyst and are subject to change at any time.
Our salespeople, traders, and other professionals may provide oral or written market commentary, short-term trade ideas, or trading strategies-to our clients, prospective clients, and our trading desks-that are contrary to opinions expressed in this research report. Certain outstanding research reports may contain discussions or investment opinions relating to securities, financial instruments and/or issuers that are no longer current. Always refer to the most recent report on a company or issuer. Our asset management and trading desks may make investment decisions that are inconsistent with recommendations or views expressed in this report. We will from time to time have long or short positions in, act as principal in, and buy or sell the securities referred to in this report. Our research is disseminated primarily electronically, and in some instances in printed form. Research is simultaneously available to all clients. This research report is for our clients only. No part of this material may be copied or duplicated in any form by any means or redistributed without the prior written consent of William Blair \& Company, L.L.C.

This is not in any sense an offer or solicitation for the purchase or sale of a security or financial instrument. The factual statements herein have been taken from sources we believe to be reliable, but such statements are made without any representation as to accuracy or completeness or otherwise, except with respect to any disclosures relative to William Blair or its research analysts. Opinions expressed are our own unless otherwise stated and are subject to change without notice. Prices shown are approximate.

If the recipient received this research report pursuant to terms of service for, or a contract with William Blair for, the provision of research services for a separate fee, and in connection with the delivery of such research services we may be deemed to be acting as an investment adviser, then such investment adviser status relates, if at all, only to the recipient with whom we have contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing). If such recipient uses these research services in connection with the sale or purchase of a security referred to herein, William Blair may act as principal for our own account or as riskless principal or agent for another party. William Blair 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.

This material is distributed in the United Kingdom and the European Economic Area (EEA) by William Blair International, Ltd., authorised and regulated by the Financial Conduct Authority (FCA). William Blair International, Limited is a limited liability company registered in England and Wales with company number 03619027. This material is only directed and issued to persons regarded as Professional investors or equivalent in their home jurisdiction, or persons falling within articles 19 (5), 38, 47, and 49 of the Financial Services and Markets Act of 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document must not be acted on or relied on by persons who are not "relevant persons."
"William Blair" and "R*Docs" are registered trademarks of William Blair \& Company, L.L.C. Copyright 2024, William Blair \& Company, L.L.C. All rights reserved.

William Blair \& Company, L.L.C. licenses and applies the SASB Materiality Map® and SICSTM in our work.


[^0]:    Sources: LSEG I/B/E/S, William Blair Equity Research

