

## Quick RIC

## Ten surprises for 2024

## Not so fast

After the fastest easing of financial conditions in history (Exhibit 2), investors should consider whether: 1. the bond market is right to be more dovish than the Fed; and 2. whether Fed cuts this year might stoke structural inflationary forces. We update our barometer of the economic sectors proving impervious so far to rate hikes (Exhibit 3).

We favor credit > equities > bonds in case of a more volatile, range-bound year. Don't get shaken out of inflation hedges.

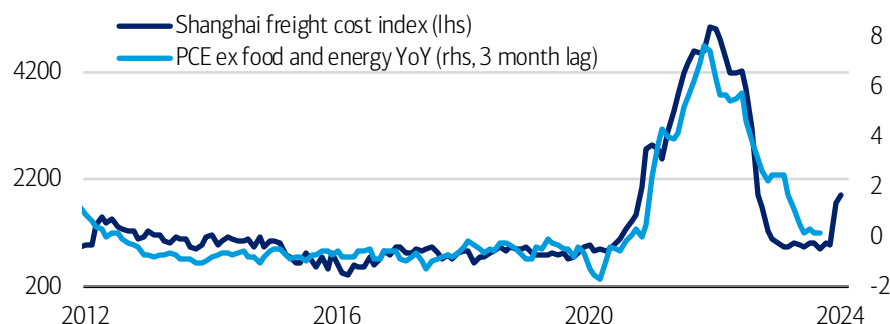
## Ten surprises

This month, we offer some plausible surprises that could affect markets in 2024:

1. High bond taxes push investors back to stocks
2. Companies survive 5% rates without a surge in bankruptcies
3. IPOs come roaring back
4. The worst developed market of the past 40 years is this year's best
5. Suddenly, geopolitical risk is factored into the Magnificent Seven
6. Biotech & pharma push to record highs
7. Investors get pragmatic about energy
8. One path to 2% inflation, one hundred paths to 5% (Exhibit 1)
9. Government debt buyers demand a premium
10. Investors fall in love again with free markets

## Exhibit 1: Supply chain inflation spikes as Red Sea attacks escalate

Shanghai container freight costs and US CPI inflation



Source: BofA Global Research, Bloomberg

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09 January 2024

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Timestamp: 09 January 2024 03:36PM EST

# The RIC Outlook

In our [2024 year ahead report](#), we suggested that longer term investors should consider whether Fed rate cuts this year might reignite structural inflationary forces.

We note many parts of the economy that, so far, have proven robust or even impervious to rate hikes: record government deficits; high household savings, rising wages & record home prices; corporates cushioned by private credit and cash.

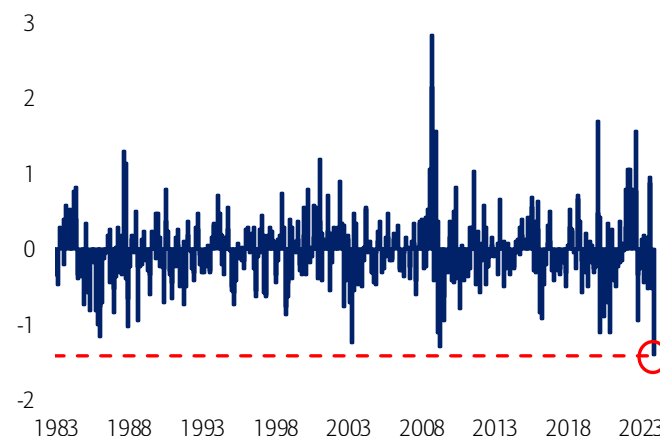
The barometer at Exhibit 3 shows that these measures are 1-2 standard deviations above long-term averages.

In recent weeks, investors have taken the opposite view, pricing in >5 rate cuts and a maximally sunny outlook on inflation. In fact, the easing in financial conditions over the past two months was the fastest in history (Exhibit 2).

We suspect that this year any large moves in markets may be self-limiting. Big drops in stocks could prompt Fed cuts; big rallies further ease financial conditions and rekindle the very inflation that the Fed thought it had smothered. It's a recipe for a range-bound, if volatile year, at least in the US. That's why we favor credit > equities > bonds for asset allocation in 2024.

## Exhibit 2: The fastest easing of financial conditions in history

GS US Financial Conditions Index, 2 month change

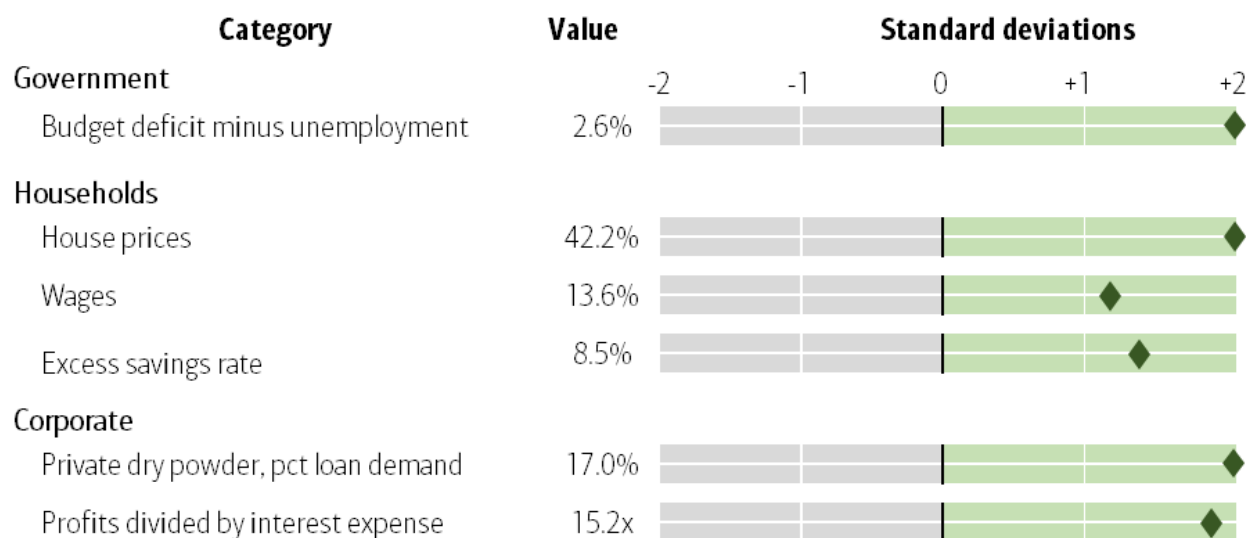


Source: BofA Global Research, Bloomberg

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## Exhibit 3: The lack of slack

Many economic variables are still much stronger & more inflationary than normal, despite Fed hikes



Source: BofA Global Research; Budget deficit minus unemployment rate measures the spread between the US budget deficit and US unemployment rate (Bloomberg, start date = Jan. 1969); House price = 3-year change in FHFA US House Price Index NSA (Bloomberg, start date = Mar. 1975); Wages = 3 year change in Employment Cost Index (ECI, Bloomberg, start date = Mar. 1982); Savings rate = 4 year annualized savings rate, % disposable income (Bloomberg, start date = Jan 1993); Private credit dry powder (Prequin) divided by total commercial and industrial loans outstanding (Federal Reserve, start state = 200); Profits divided by interest expense (Haver, start date = Jan. 1948)

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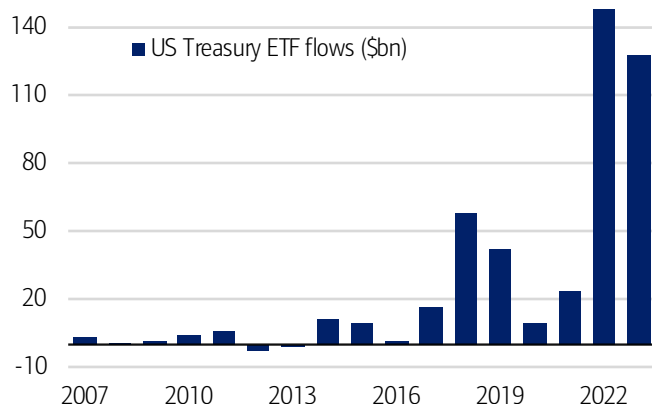
# Ten surprises for 2024

Byron Wien, who passed away in 2023, famously made a list each year of ten surprises. It's a worthwhile exercise to think of scenarios that some investors may have not considered, or have assigned a very low probability. This month, we offer some plausible surprises that could affect markets this year.

## 1. High bond taxes push investors back to stocks

### Exhibit 4: Relentless love for Treasuries & T-bills...now pay the tax bill

Annual cumulative Treasury security ETF flows, \$bn



Source: BofA Global Research, EPFR

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The lure of yields above 5% for T-bills and bonds drew \$3.7 trillion into Treasury securities in the first three quarters of '23.

As tax bills come due this year, we suspect some investors may come to appreciate the merits of equities, especially the lower tax rate of 20% on stocks held for at least one year. Treasury coupon payments are taxed at ordinary income rates – 37% for top earners.

All of the 2023 returns from Treasury bonds came from coupons. The S&P 500 saw a 24% price gain with just 1.9% paid as dividends last year. Municipal bonds could also benefit from investors seeking to keep more of their returns.

*Bullish for: stocks and municipal bond flows*

## 2. Companies survive 5% rates without a surge in bankruptcies

Higher interest rates are intended to slow the economy, in part, by making it more expensive for companies to borrow capital for expansion and investment.

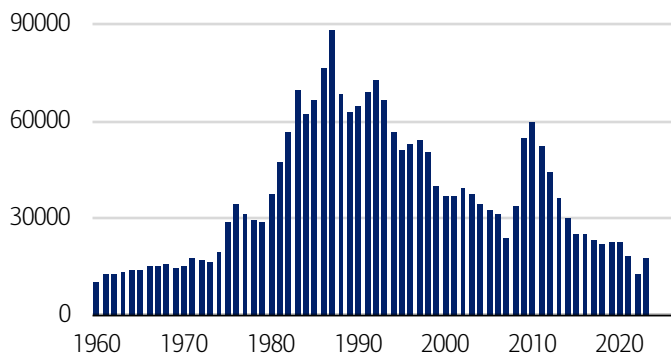
But after one of the fast and most aggressive rate hiking cycles in history, the number of firms declaring bankruptcy was the 2<sup>nd</sup> lowest in modern history (Exhibit 6). Note that corporate interest expenses are just 7% of profits, the most favorable level since 1957.

Our credit strategists do expect default rates to inch higher this year, and they have been effective at noting tactical entry and exit points. From a longer term view, termed-out corporate debt burdens, high cash & profit buffers, and \$500bn in private credit dry powder make a big default and bankruptcy cycle seem unlikely.

*Bullish for: "Prudent Yield" assets like fallen angel corporate bonds and senior loans*

### Exhibit 5: Bankruptcies near record lows despite 525bps of rate hikes

Annual US bankruptcies



Source: BofA Global Research, Haver

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### Exhibit 6: Interest expense = just 7% of profits

Corporate interest expense as a percentage of corporate profits



Source: BofA Global Research, Haver

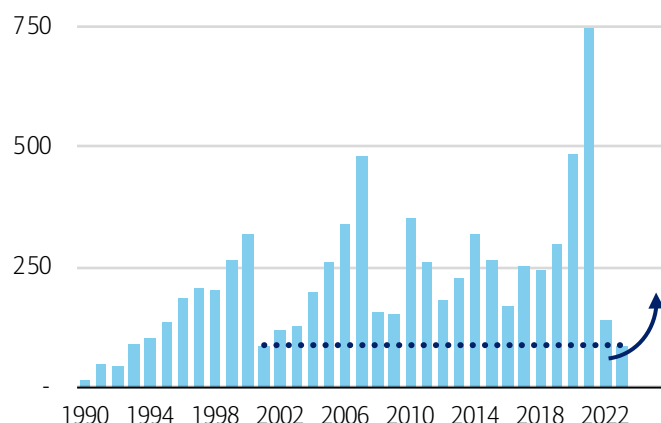
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### 3. IPOs come roaring back

#### Exhibit 7: Fed cuts could bring the IPO market roaring back

Value of global initial public offerings by date announced, \$bn



Source: BofA Global Research, Bloomberg

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2023 was the slowest year of IPO activity since the bursting of the dot-com bubble in 2001. Just \$87bn of deals came to the market from first-time issuers.

If ideal macro conditions do permit substantial rate cuts this year, smaller growth stocks could become much more attractive, drawing private companies into public markets.

In technology, venture capital funds are seeking exits after two unfriendly years; high-burn companies need cash and may see IPOs as preferable to raising capital at a lower valuation.

In biotech and pharma, our analysts expect an IPO and M&A resurgence (see below).

In consumer discretionary, several high-profile brands and retail chains have already filed initial paperwork.

*Bullish for: large banks (KBE) and exchanges*

### 4. The worst developed market of the past 40 years is this year's best: Japan

Less than 24 hours after a 7.5 magnitude earthquake, bullet-train lines were running again in the same region. The Japanese economy is resilient, undervalued, and becoming more productive. Strategist Masashi Akutsu sees 13% upside and expects recent corporate governance reforms & restructuring to bear fruit in the form of higher ROE, management buyouts, and share buybacks. He likes the TOPIX trading at 13x earnings given stronger EPS revisions. We note the attractive valuation vs. US equities (Exhibit 9).

*Bullish for: Japanese equities (DXJ) & EWJ)*

#### Exhibit 8: BofA bullish Japan view = break above 1989 highs

Nikkei 225 index in \$USD

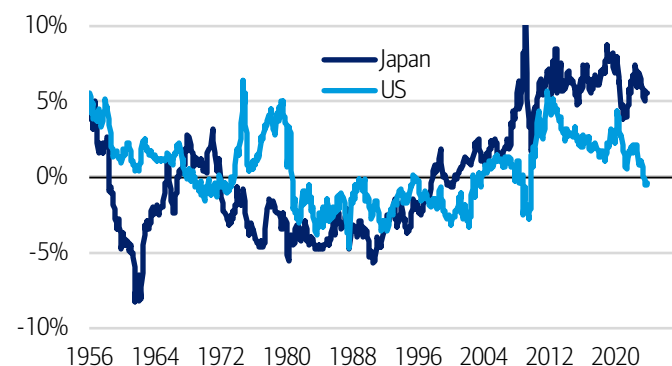


Source: BofA Global Research, Bloomberg

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#### Exhibit 9: Japan remains deeply undervalued

Equity earnings yield minus government bond yield



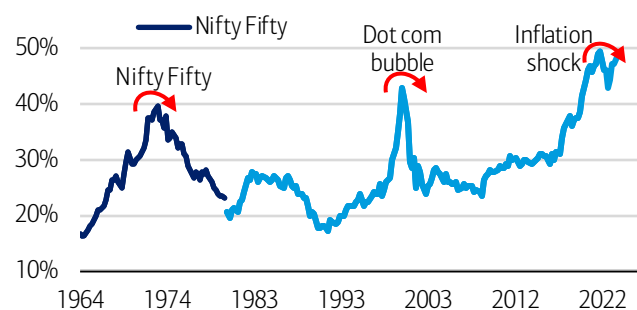
Source: BofA Global Research, Global Financial Data

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## 5. Geopolitical risk is factored into the Mag Seven

### Exhibit 10: Higher tech concentration = higher geopolitical risk

S&P 500 concentration over different market regimes



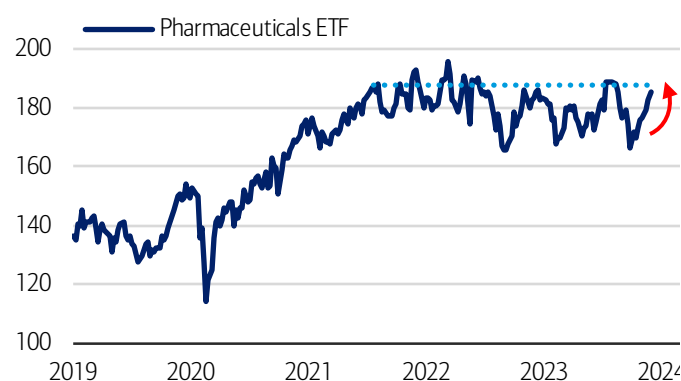
Source: BofA Global Research, Global Financial Data, Standard and Poor's, Bloomberg. "New" economy = Tech + Communication Services + Consumer Discretionary

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## 6. Biotech & pharma push to record highs

### Exhibit 11: Secular catalysts to drive biotech higher, lower rates or not

IHE US Equity price history since 2019



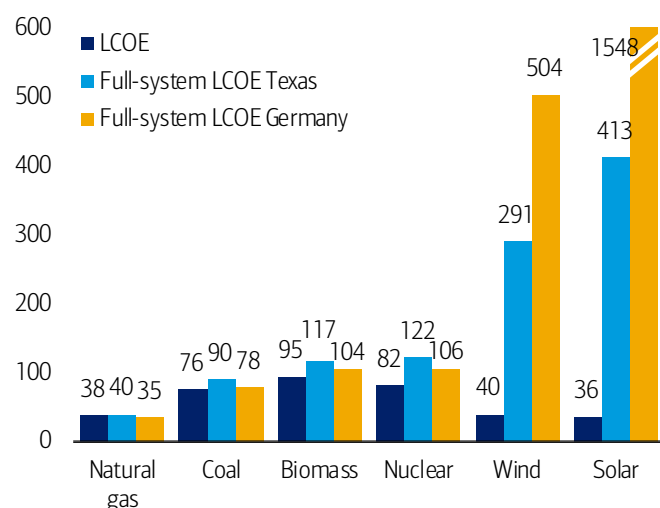
Source: BofA Global Research, Bloomberg

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## 7. Investors get pragmatic about energy

### Exhibit 12: Counting all the costs, conventional > alternative energy

Levelized full system cost of electricity by energy source; \$ per MWh



Source: Research Investment Committee; Robert Idel, *Energy* 259 (2022)

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According to CSIS, the "Magnificent Seven" companies like Apple, Amazon, Google, and NVIDIA use Taiwanese manufacturers for over 90% of their chips. Growing dependence has sent their correlation to Taiwan Semiconductor (TSMC) to a record-high 66%.

As those same companies comprise a record-high share of the S&P 500 Index, the whole US stock market is more sensitive than ever to any geopolitical escalation that disrupts the supply of semiconductors.

Tensions continue to mount in the region and we suspect the risks will be priced into megacap growth stocks in 2024.

*Bullish for: equal-weighted equity indexes, "ex-tech" baskets*

Out of 29 industry groups, the "pharma, biotech & life sciences" group was one of the worst performers in 2023, essentially unchanged vs. the S&P 500 +26%.

But the [BofA Health Care group](#) sees greater catalysts for '24. Valuation is attractive in pharma (18x PE) and biotech (14x). and Geoff Meacham and Tazeen Ahmad are bullish on prospects for more M&A activity.

If '23 was the year of diabetes and obesity drugs, '24 could be all about Alzheimer's, with seven vaccines in trials and tests in progress on diabetes drugs as treatments for Alzheimer's.

Drug discovery via molecular simulation remains one of the most plausible uses for artificial intelligence.

IHE has substantial exposure to the team's [top picks](#) like LLY and MRK.

*Bullish for: pharma stocks (IHE)*

In 2024 we expect investors to become more pragmatic about the need for reliable, affordable power. Wind & solar stocks have been punished as project economics proved unworkable (Orsted -72% from peak; SolarEdge -77%; Sunrun -82%). On an all-in basis including storage & transmission, the average cost per megawatt-hour for natural gas is \$38; nuclear \$114; wind \$291-504; for solar \$413-1,548.

Supply is tight & fragile after years of underinvestment in reliable baseload resources. In 2023 the NERC added "energy policy" as a key grid stability risk: in its view, the push for wind & solar has made the grid more fragile to extreme events.

Demand is high and rising. Aggressive electrification efforts draw more power but have failed to match EVs with grid capacity. The 1.5mn AI units NVIDIA is expected to ship in the future would consume 85 terawatt-hours of power per year, almost a third of the annual consumption of the UK.

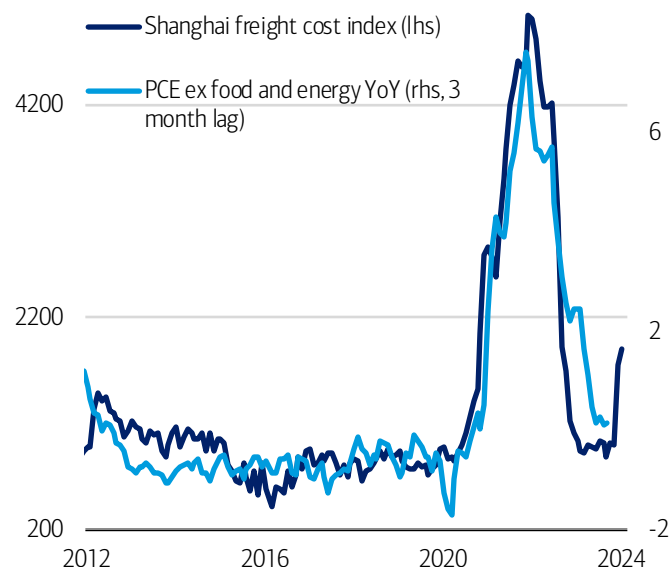
Investor pragmatism on a “physics > politics” view of energy policy could mean multiple expansion and reward natural resource companies. Oil & gas stocks trade at just 10x earnings today; mining firms at 13x. Compare the S&P 500 and “clean energy” ETFs at 21-22x.

*Bullish for: hydrocarbons & nuclear*

## 8. One path to 2% inflation, one hundred paths to 5%

### Exhibit 13: Supply chain inflation spikes as Red Sea attacks escalate

Shanghai freight container costs and US CPI inflation



Source: BofA Global Research, Bloomberg

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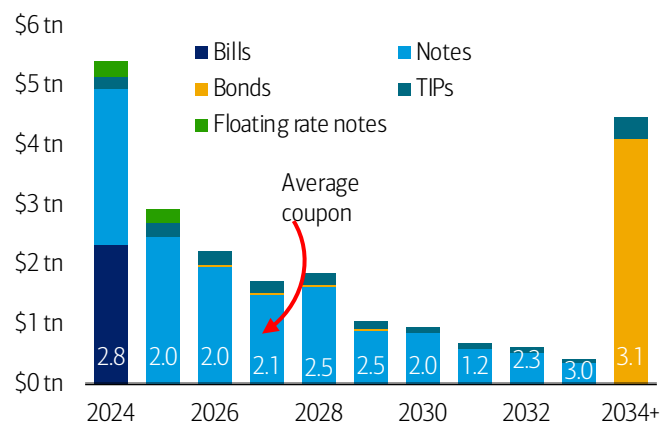
The consensus priced now into markets assumes a steady decline in inflation, which could be disrupted by any number of “imperfect endings” to the story:

- The US-led coalition has been ineffective so far in stopping Houthi attacks on cargo ships in the Red Sea. 28% of world container trade passes through the Suez Canal. Container prices have spiked 90% in recent weeks (Exhibit 13).
- Escalation of the Israel/Hamas war could cause oil prices to [spike to \\$150/bbl](#) according to Francisco Blanch; recent drone strikes and attacks have raised concerns the conflict could expand into Lebanon.
- CPI core services less housing (the Fed’s “supercore” measure) remains at 3.9% and has been steady around that level since June 2023; still almost double the 2% Fed target.
- In an executive order signed just before Christmas, the White House raised wages for government employees by 5.2% for 2024.
- The rate of housing starts rose by 255k homes in the past three months, the fastest pace since July 2020.
- El Nino, Black Sea grain deals & geopolitics risk higher food prices (see [“Don’t take disinflation for granted”](#)).

## 9. Government debt buyers demand a premium

### Exhibit 14: Higher interest rates could collapse the US maturity wall

Outstanding marketable Treasury securities by maturity year; simple average coupon rate



Source: BofA Global Research, US Treasury

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Investors may demand higher yields to own longer term US government debt as prospects for a sustainable budget fade.

The Treasury department has more than \$5tn of securities maturing next year for which buyers will need to be found.

An economy slow enough to prompt Fed rate cuts may also be slow enough to depress tax receipts and raise unemployment payments, making the US budget deficit even worse. We find that, on average, federal tax receipts rise or fall by about 1.6x the change in GDP. A decline in nominal GDP from 6% to 3% would imply a drop of \$230bn in receipts from 2023 levels.

The highest-polling major party Presidential candidates have both promised policies that would further expand public debt.

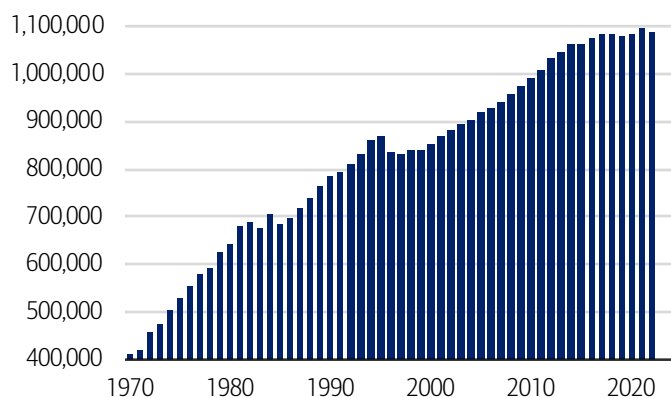
For more, see [The probable path to impossible debts](#).

*Bearish for: US government bonds*

## 10. Investors fall in love again with free markets

### Exhibit 15: Deregulation could unlock US productivity

Number of regulatory restrictions in the Code of Federal Regulations



Source: Research Investment Committee, Mercatus Center at George Mason University.

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There are nearly 1.1 million regulatory restrictions in the US Code of Federal Regulations, a number that almost never declines.

One study estimates that the cumulative costs of regulation has been 0.8ppt of GDP per year, and that if regulation had been held steady at 1980 levels, by 2012 the US economy would have been 25 per cent larger (+\$4 trillion).<sup>1</sup>

As the US election approaches, prospects for a friendlier business environment could raise investor expectations for higher profits and productivity, stoking animal spirits and prompting a greater allocation to equities.

<sup>1</sup> Coffey, McLaughlin & Peretto, "The Cumulative Cost of Regulations," *Review of Economic Dynamics* 38 (October 2020).

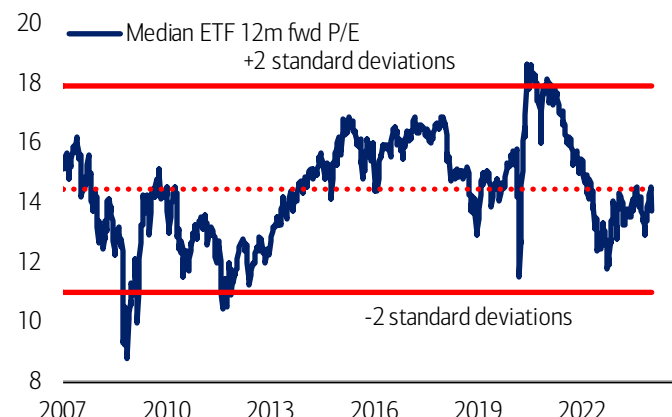
# ETF Valuation

## December median ETF P/E in line with average

- The median equity ETF in our coverage ended December at 14.5x forward earnings, exactly in line with average (Exhibit 16).
- Mid cap and small cap ETFs trade at below average valuations. Market cap weighted large cap ETFs continue to diverge from other size factors.
- Financials ETFs continue to become more expensive relative to history on increased soft-landing sentiment. On an absolute P/E basis, they are the second cheapest sector.
- Japan ETFs had a sustained rally since October 2023, but sold off to start 2024. The average Japan ETF now trades slightly below historical averages.

## Exhibit 16: Equity ETF valuations approaching historical norms

Median 12 month forward P/E ratio across BofA equity ETF coverage



Source: BofA ETF Research, Factset. Note: Median calculated using 12m fwd P/E ratios for all equity ETFs in our coverage.

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## Exhibit 17: Equity ETF valuations by category

ETF valuation ratios and composite score (lower is better)

| Sub-category     | Composite Valuation (stdev)    | 12m fwd P/E | 12m fwd P/B | 12m fwd EV/EBITDA | 12m fwd P/FCF | Top-rated fund | Bottom-rated fund | Link   |
|------------------|--------------------------------|-------------|-------------|-------------------|---------------|----------------|-------------------|--|
| US Equity Sector | Communication Services         | -0.75       | 16.28       | 2.52              | 8.64          | 15.21          | XLC IYZ           | <a href="#">Getting so defensive</a>                                     |
|                  | Real Estate                    | -0.59       | 14.36       | 2.40              | 15.78         | 19.36          | XLRE SCHH         | <a href="#">Getting so defensive</a>                                     |
|                  | Energy                         | -0.01       | 10.79       | 1.92              | 5.88          | 11.30          | XLE PXI           | <a href="#">ETFs for the cyclical extremes</a>                           |
|                  | Utilities                      | 0.12        | 15.60       | 1.76              | 10.81         | n.a.           | XLU RSPU          | <a href="#">Getting so defensive</a>                                     |
|                  | Consumer Staples               | 0.39        | 18.20       | 4.81              | 12.58         | 20.55          | IYK RSPS          | <a href="#">Getting so defensive</a>                                     |
|                  | Consumer Discretionary         | 0.60        | 21.50       | 6.20              | 12.60         | 22.32          | VCR IYC           | <a href="#">ETFs for the cyclical extremes</a>                           |
|                  | Financials                     | 0.68        | 13.94       | 1.73              | na            | na             | XLF FXO           | <a href="#">ETFs for the cyclical extremes</a>                           |
|                  | Industrials                    | 0.97        | 18.56       | 4.57              | 12.44         | 20.90          | XLI FXR           | <a href="#">ETFs for the cyclical extremes</a>                           |
|                  | Health Care                    | 1.11        | 17.87       | 4.06              | 13.84         | 18.87          | XLV PTH           | <a href="#">Getting so defensive</a>                                     |
|                  | Materials                      | 1.18        | 17.83       | 2.54              | 10.33         | 24.42          | FXZ IYM           | <a href="#">ETFs for the cyclical extremes</a>                           |
|                  | Information Technology         | 1.39        | 23.51       | 6.24              | 16.35         | 27.13          | XLK QTEC          | <a href="#">ETFs for the cyclical extremes</a>                           |
| Single Factor    | International Dividend         | -0.91       | 9.78        | 1.29              | 7.23          | 14.30          | WYMI PID          | <a href="#">Going global: markets to rent &amp; markets to own</a>       |
|                  | Dividend                       | -0.48       | 12.41       | 2.47              | 9.28          | 16.00          | SPYD AIVL         | <a href="#">Follow the money with Dividend &amp; Buyback ETFs</a>        |
|                  | Buybacks                       | -0.34       | 12.54       | 2.51              | 8.60          | 12.77          | DIVB IPKW         | <a href="#">Follow the money with Dividend &amp; Buyback ETFs</a>        |
|                  | Value                          | 0.18        | 13.20       | 2.15              | 9.60          | 17.10          | VTV RPV           | <a href="#">Initiating coverage of value ETFs</a>                        |
|                  | Quality                        | 0.87        | 17.60       | 4.82              | 12.12         | 19.46          | COWZ QLC          | <a href="#">One factor to rule them all</a>                              |
|                  | Growth                         | 1.28        | 24.61       | 7.75              | 16.20         | 27.19          | SCHG IWW          | <a href="#">Growth for contrarians</a>                                   |
| US Size          | Small Cap Equity               | -0.46       | 17.14       | 1.61              | 9.33          | 20.34          | CALF FYX          | <a href="#">Shopping small</a>   |
|                  | Mid Cap                        | -0.25       | 14.47       | 2.21              | 10.18         | 17.90          | SCHM FNX          | <a href="#">The Sweet Middle</a>   |
|                  | Large Cap Non Market Cap       | 0.45        | 16.58       | 3.32              | 11.74         | 19.22          | FNDX LRGF         | <a href="#">The Sweet Middle</a>   |
|                  | Large Cap Market Cap           | 1.30        | 21.79       | 4.04              | 13.05         | 22.27          | IVV OEF           | <a href="#">The Sweet Middle</a>   |
| Thematic         | AI                             | 0.18        | 23.37       | 3.22              | 14.13         | 38.00          | AIQ DTEC          | <a href="#">Some AI ETFs are smarter than others</a>                     |
|                  | ESG Broad                      | 0.29        | 16.93       | 3.23              | 12.09         | 21.51          | VOTE ESGE         | <a href="#">ESG ETFs get a better model and a VOTE</a>                   |
|                  | Clean Energy                   | 0.79        | 387.50      | 1.91              | 15.57         | -18.14         | ICLN PBW          | <a href="#">Valuations up, catalysts down: Neutral clean energy ETFs</a> |
| Int'l Equity     | China                          | -0.99       | 8.19        | 0.96              | 7.42          | 14.59          | KBA EWH           | <a href="#">Going global: markets to rent &amp; markets to own</a>       |
|                  | Latin America                  | -0.96       | 8.45        | 1.43              | 5.10          | 12.08          | EWL ECH           | <a href="#">All the global growth you don't own</a>                      |
|                  | Emerging Markets               | -0.75       | 10.24       | 1.35              | 7.14          | 17.85          | EMXC DBEM         | <a href="#">All the global growth you don't own</a>                      |
|                  | Developed Markets ex-US        | -0.68       | 11.61       | 1.40              | 8.02          | 17.58          | HEFA RODM         | <a href="#">Going global: markets to rent &amp; markets to own</a>       |
|                  | Global ex-US                   | -0.62       | 11.13       | 1.38              | 7.80          | 17.61          | VEU ACWX          | <a href="#">Going global: markets to rent &amp; markets to own</a>       |
|                  | Canada                         | -0.60       | 12.55       | 1.63              | 8.83          | 19.14          | FLCA EWC          | <a href="#">Going global: markets to rent &amp; markets to own</a>       |
|                  | Single-country Emerging Market | -0.55       | 9.83        | 1.12              | 6.37          | 16.87          | KSA VNM           | <a href="#">Going global: markets to rent &amp; markets to own</a>       |
|                  | Europe                         | -0.34       | 11.21       | 1.55              | 7.91          | 16.87          | FEZ FDD           | <a href="#">Going global: markets to rent &amp; markets to own</a>       |
|                  | Japan                          | -0.23       | 12.69       | 1.20              | 8.82          | 20.99          | DXJ JPNX          | <a href="#">Going global: markets to rent &amp; markets to own</a>       |
|                  | India                          | 0.79        | 18.35       | 2.94              | 12.39         | 31.15          | EPI SMIN          | <a href="#">Going global: markets to rent &amp; markets to own</a>       |

Source: BofA ETF Research, Factset. Note: All valuation metrics are based on next twelve month (NTM) I/B/E/S estimates. "Composite Valuation" is the market-cap weighted average standard deviation of each fund's P/E, P/B, EV/EBITDA, and P/FCF ratios. A higher number indicates that funds are more expensive relative to history while lower numbers suggest that funds are inexpensive.

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# RIC Themes Watch

## Prudent Yield: Fully invested into the New Year

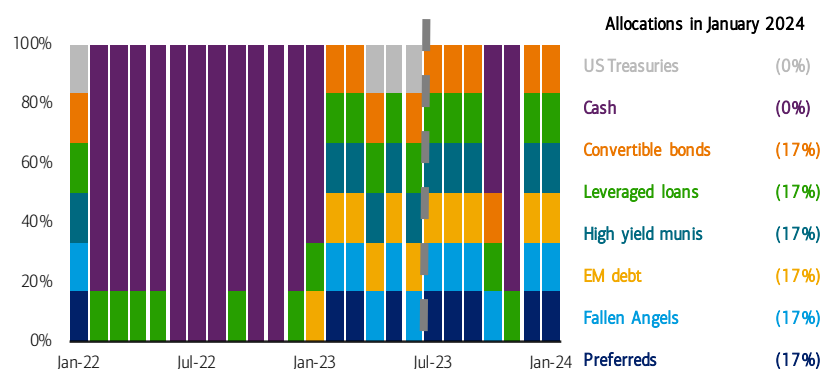
The BofA Dynamic Prudent Yield strategy remains fully invested, with no changes for January. In December, most bond sectors continued to rally on a dovish Fed pause and hopes for material cuts in 2024. In December, TLT 2023 returns flipped positive after being down over -14% this year.

For details on the Dynamic Prudent Yield Strategy including the full Appendix see: [The RIC Report: A new bond strategy for the end of 60/40](#).

Monthly updates can be received via email immediately after publishing by subscribing to "The ETF Angle". Full ETF coverage can be found on our ETF Research Library.

### Exhibit 18: Dynamic Prudent Yield remains fully invested

Historical allocation of backtested Dynamic Prudent Yield Strategy, 2022-2023



**Source:** BofA ETF Research, Bloomberg, ICE Data Services, LLC. Note: weights rounded from 16.7%. This performance is backtested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. See appendix for more details

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## Updates to Efficient Growth and Intangible Value

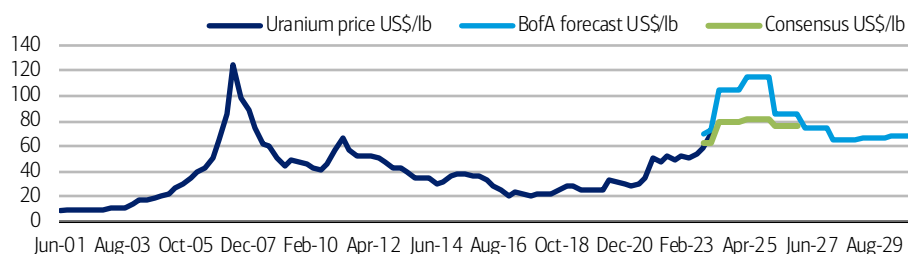
In the appendix of this report, we update the constituents of our Efficient Growth and Intangible Value screens. Since September 2020, we have updated these screens quarterly. Detailed screening methodology can be found on page 18.

## Uranium's third bull market set up for a promising 2024

BofA's metals and mining team sees continued tightness in [Uranium](#) markets well into 2025. They recently increased their uranium spot price forecasts to \$105/lb (+34%) in 2024 and \$115/lb (+53%) in 2025. Near term catalysts include: 1. Higher electricity prices make higher uranium prices more absorbable; 2. Investment fund volumes continue to increase 3. Inventories are lower than previously thought while production slippages also remain a risk.

### Exhibit 19: Uranium price US\$/lb

Spot uranium is currently trading at US\$92/lb U3O8 (+87% YTD 2023) with the market expected to remain in deficit until year-end 2024.



**Source:** BofA Global Research estimates

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**Exhibit 30: ETFs mentioned**

Ticker, name, rating, price

| <b>Ticker Name</b>   | <b>Rating</b> | <b>Price</b> |
|--|---------------|--------------|
| XLC Communication Services Select Sector SPDR Fund                                   | 1-UF          | 72.04        |
| XLRE Real Estate Select Sector SPDR Fund   | 1-NV          | 39.29        |
| XLE Energy Select Sector SPDR Fund   | 1-FV          | 84.68        |
| XLU Utilities Select Sector SPDR Fund  | 1-NV          | 64.53        |
| IYK iShares U.S. Consumer Staples ETF  | 1-FV          | 192.96       |
| VCR Vanguard Consumer Discretionary ETF  | 1-UF          | 293.38       |
| XLF Financial Select Sector SPDR Fund  | 1-FV          | 37.75        |
| XLI Industrial Select Sector SPDR Fund   | 1-NV          | 111.43       |
| XLV Health Care Select Sector SPDR Fund  | 1-FV          | 139.12       |
| FXZ First Trust Materials AlphaDEX Fund  | 1-NV          | 67.56        |
| XLK Technology Select Sector SPDR Fund   | 1-UF          | 184.12       |
| WMI Vanguard International High Dividend Yield ETF                                   | 1-FV          | 66.28        |
| SPY  |               |              |
| D SPDR Portfolio S&P 500 High Dividend ETF   | 1-FV          | 39.46        |
| DIVB iShares Core Dividend ETF   | 1-FV          | 40.83        |
| VTI Vanguard Value ETF   | 1-FV          | 149.62       |
| COW  |               |              |
| Z Pacer US Cash Cows 100 ETF   | 1-FV          | 51.81        |
| SCH  |               |              |
| G Schwab U.S. Large-Cap Growth ETF   | 1-FV          | 80.68        |
| CALF Pacer US Small Cap Cash Cows 100 ETF  | 1-FV          | 46.73        |
| SCH  |               |              |
| M Schwab U.S. Mid-Cap ETF  | 1-FV          | 73.47        |
| FND  |               |              |
| X Schwab Fundamental U.S. Large Company Index ETF                                    | 1-NV          | 61.49        |
| IWV iShares Core S&P 500 ETF   | 1-NV          | 470.12       |
| AIQ Global X Artificial Intelligence & Technology ETF                                | 1-NV          | 29.87        |
| VOT  |               |              |
| E TCW Transform 500 ETF  | 1-NV          | 54.68        |
| ICLN iShares Global Clean Energy ETF   | 1-NV          | 14.8         |
| KBA KraneShares Bosera MSCI China A 50 Connect Index ETF                             | 1-UF          | 19.8         |
| EW   |               |              |
| W iShares MSCI Mexico ETF  | 1-FV          | 66.88        |
| EMX  |               |              |
| C iShares MSCI Emerging Markets ex China ETF   | 1-FV          | 54.54        |
| HEF  |               |              |
| A iShares Currency Hedged MSCI EAFE ETF  | 1-NV          | 31.43        |
| VEU Vanguard FTSE All-World ex-US ETF  | 1-NV          | 55.28        |
| FLCA Franklin FTSE Canada ETF  | 1-FV          | 33           |
| KSA iShares MSCI Saudi Arabia ETF  | 1-FV          | 42.99        |
| FEZ SPDR EURO STOXX 50 ETF   | 1-NV          | 46.61        |
| DXJ WisdomTree Japan Hedged Equity Fund  | 1-FV          | 90.35        |
| EPI WisdomTree India Earnings Fund   | 1-FV          | 41.45        |
| IYZ iShares U.S. Telecommunications ETF  | 3-UF          | 22.63        |
| SCH  |               |              |
| H Schwab U.S. REIT ETF   | 3-NV          | 20.38        |
| PXI Invesco Exchange-Traded Fund Trust Invesco Dorsey Wright Energy Momentum ETF     | 3-FV          | 44.54        |
| RSP  |               |              |
| U Invesco S&P 500 Equal Weight Utilities ETF   | 3-NV          | 55.46        |
| RSP  |               |              |
| S Invesco S&P 500 Equal Weight Consumer Staples ETF                                  | 3-FV          | 31.29        |
| IYC iShares U.S. Consumer Discretionary ETF  | 3-UF          | 73.55        |
| FXO First Trust Financial AlphaDEX Fund  | 2-FV          | 43.38        |
| FXR First Trust Industrials/Producer Durables AlphaDEX Fund                          | 3-NV          | 63.29        |
| PTH Invesco Exchange-Traded Fund Trust Invesco Dorsey Wright Healthcare Momentum ETF | 3-FV          | 38.25        |
| IYM iShares U.S. Basic Materials ETF   | 2-NV          | 135.74       |
| QTE  |               |              |
| C First Trust NASDAQ-100 Technology Index Fund                                       | 3-UF          | 167.03       |
| PID Invesco International Dividend Achievers ETF                                     | 3-FV          | 18.4251      |
| AIML WisdomTree US AI Enhanced Value   | 3-FV          | 95.5122      |
| IPK  |               |              |
| W Invesco International BuyBack Achievers ETF  | 3-FV          | 37.325       |
| RPV Invesco Exchange-Traded Fund Trust - Invesco S&P 500 Pure Value ETF              | 3-FV          | 82.69        |
| QLC FlexShares US Quality Large Cap Index Fund                                       | 3-FV          | 52.2627      |
| IWW iShares S&P 500 Growth ETF   | 3-FV          | 72.98        |
| FYX First Trust Small Cap Core AlphaDEX Fund   | 3-FV          | 88.1994      |

**Exhibit 30: ETFs mentioned**

Ticker, name, rating, price

| Ticker Name   | Rating | Price    |
|---|--------|----------|
| FNX First Trust Mid Cap Core AlphaDEX Fund                | 3-FV   | 101.5    |
| LRGF iShares U.S. Equity Factor ETF                       | 3-NV   | 47.49    |
| OEF iShares S&P 100 ETF                                   | 3-NV   | 220.07   |
| DTE   |        |          |
| C ALPS Disruptive Technologies ETF                        | 3-NV   | 39.53    |
| ESG   |        |          |
| E iShares ESG Aware MSCI EM ETF                           | 3-NV   | 31.33    |
| PBW Invesco WilderHill Clean Energy ETF                   | 3-NV   | 27.29    |
| EWI iShares MSCI Hong Kong ETF                            | 3-UF   | 16.67    |
| ECH iShares MSCI Chile ETF                                | 3-FV   | 27.04    |
| DBE   |        |          |
| M Xtrackers MSCI Emerging Markets Hedged Equity ETF       | 3-FV   | 22.7195  |
| ROD   |        |          |
| M Hartford Multifactor Developed Markets ex-US ETF        | 3-NV   | 27.27    |
| ACW   |        |          |
| X iShares MSCI ACWI ex U.S. ETF                           | 3-NV   | 50.21    |
| EWI iShares MSCI Canada ETF                               | 2-FV   | 36.37    |
| VNM VanEck Vietnam ETF                                    | 3-FV   | 13.115   |
| FDD First Trust STOXX European Select Dividend Index Fund | 3-NV   | 12.01    |
| JPXN iShares JPX-Nikkei 400 ETF /US                       | 3-FV   | 67.3011  |
| SMI   |        |          |
| N iShares MSCI India Small-Cap ETF                        | 2-FV   | 71.63    |
| EWJ iShares MSCI Japan ETF                                | 2-FV   | 63.53    |
| KBE SPDR S&P Bank ETF                                     | 1-NV   | 45.67    |
| IHE iShares U.S. Pharmaceuticals ETF                      | 1-FV   | 190.4765 |

Source: BofA Global Research, Bloomberg

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**Table 1: Stocks mentioned**

Prices and ratings for stocks mentioned in this report

| BofA Ticker | Bloomberg ticker | Company name | Price       | Rating |
|-------------|------------------|--------------|-------------|--------|
| LLY         | LLY US           | Eli Lilly    | US\$ 625.65 | B-1-7  |
| MRK         | MRK US           | Merck & Co.  | US\$ 118.41 | A-1-7  |

Source: BofA Global Research

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**Price objective basis & risk****Eli Lilly and Company (LLY)**

Our \$700 price objective is based on a probability-adjusted net present value (NPV) analysis of franchise verticals including Endocrinology (\$393/share), Oncology (\$127/share), Cardiovascular (\$4/share), Neuroscience (\$12/share), Immunology (\$28/share), other pharmaceutical products and early pipeline assets (\$150/share), as well as approximately -\$15/share in net cash. We use a WACC ranging from 5% for approved products to 9% for pipeline products, depending on the stage of development. We apply terminal values ranging from -12% (cardiology) to 1% (endocrinology) based on projected sales decline following loss of exclusivity within each business vertical.

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

**Merck & Co. (MRK)**

Our \$130 price objective (PO) is based on the intrinsic value of Merck standalone. We use a 50/50 blended average of our P/E multiple applied to 2024E EPS (we think the



current 17x vs. 18x peer average makes sense to reflect continued strength of Merck's core growth franchises but broader Keytruda concentration risk concerns) and risk-adjusted DCF (7% WACC and -2% terminal growth rate).

Risks to our PO are 1) impressive competitor readouts results in key immuno-oncology (I/O) indications, 2) more rapid declines across the diabetes franchise than expected, 3) negative outcomes from the company's later-stage assets in ongoing development, and 4) pressures from headline risks facing the sector (including drug pricing reform).

## **Analyst Certification**

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

## US - Biopharmaceuticals Coverage Cluster

| Investment rating   | Company                         | BofA Ticker | Bloomberg symbol | Analyst            |
|---------------------|---------------------------------|-------------|------------------|--------------------|
| <b>BUY</b>          | 89bio, Inc                      | ETNB        | ETNB US          | Geoff Meacham      |
|                     | Acumen Pharma                   | ABOS        | ABOS US          | Geoff Meacham      |
|                     | Agios Pharmaceuticals           | AGIO        | AGIO US          | Greg Harrison, CFA |
|                     | Amylyx Pharmaceuticals          | AMLX        | AMLX US          | Geoff Meacham      |
|                     | BioMarin                        | BMRN        | BMRN US          | Geoff Meacham      |
|                     | BioXcel Therapeutics            | BTAI        | BTAI US          | Greg Harrison, CFA |
|                     | BridgeBio Pharma                | BBIO        | BBIO US          | Greg Harrison, CFA |
|                     | Caribou                         | CRBU        | CRBU US          | Geoff Meacham      |
|                     | CRISPR Therapeutics             | CRSP        | CRSP US          | Geoff Meacham      |
|                     | Eli Lilly and Company           | LLY         | LLY US           | Geoff Meacham      |
|                     | Gilead Sciences Inc.            | GILD        | GILD US          | Geoff Meacham      |
|                     | HUTCHMED                        | HCM         | HCM US           | Alec W. Stranahan  |
|                     | Immatics                        | IMTX        | IMTX US          | Alec W. Stranahan  |
|                     | Insmid Incorporated             | INSM        | INSM US          | Jason Zemansky     |
|                     | Intellia Therapeutics           | NTLA        | NTLA US          | Greg Harrison, CFA |
|                     | Janux Therapeutics              | JANX        | JANX US          | Geoff Meacham      |
|                     | Keros                           | KROS        | KROS US          | Greg Harrison, CFA |
|                     | Kiniksa Pharmaceuticals, Ltd.   | KNSA        | KNSA US          | Geoff Meacham      |
|                     | Krystal Biotech                 | KRYS        | KRYS US          | Alec W. Stranahan  |
|                     | Kura Oncology                   | KURA        | KURA US          | Jason Zemansky     |
|                     | Liquidia Corporation            | LQDA        | LQDA US          | Greg Harrison, CFA |
|                     | Lyell Immunopharma              | LYEL        | LYEL US          | Geoff Meacham      |
|                     | MeiraGTx                        | MGTX        | MGTX US          | Alec W. Stranahan  |
|                     | Merck & Co.                     | MRK         | MRK US           | Geoff Meacham      |
|                     | Mineralys Therapeutics          | MLYS        | MLYS US          | Greg Harrison, CFA |
|                     | Neumora Therapeutics            | NMRA        | NMRA US          | Geoff Meacham      |
|                     | Rani Therapeutics               | RANI        | RANI US          | Geoff Meacham      |
|                     | Regenxbio, Inc.                 | RGNX        | RGNX US          | Alec W. Stranahan  |
|                     | Revolution Medicines            | RVMD        | RVMD US          | Alec W. Stranahan  |
|                     | Rocket Pharmaceuticals, Inc.    | RCKT        | RCKT US          | Greg Harrison, CFA |
|                     | Royalty Pharma                  | RPRX        | RPRX US          | Geoff Meacham      |
|                     | Sana Biotechnology              | SANA        | SANA US          | Geoff Meacham      |
|                     | SpringWorks                     | SWTX        | SWTX US          | Alec W. Stranahan  |
|                     | Syndax Pharmaceuticals          | SNDX        | SNDX US          | Jason Zemansky     |
|                     | Traverse Therapeutics Inc       | TVTX        | TVTX US          | Greg Harrison, CFA |
|                     | Turnstone Biologics             | TSBX        | TSBX US          | Geoff Meacham      |
|                     | Vertex Pharmaceuticals Inc.     | VRTX        | VRTX US          | Geoff Meacham      |
|                     | Werewolf Therapeutics           | HOWL        | HOWL US          | Jason Zemansky     |
|                     | Xencor                          | XNCR        | XNCR US          | Alec W. Stranahan  |
| <b>NEUTRAL</b>      | AbbVie                          | ABBV        | ABBV US          | Geoff Meacham      |
|                     | Alector, Inc                    | ALEC        | ALEC US          | Greg Harrison, CFA |
|                     | Amgen Inc.                      | AMGN        | AMGN US          | Geoff Meacham      |
|                     | Arcus Biosciences               | RCUS        | RCUS US          | Jason Zemansky     |
|                     | Beam Therapeutics               | BEAM        | BEAM US          | Greg Harrison, CFA |
|                     | Biogen Inc.                     | BIIB        | BIIB US          | Geoff Meacham      |
|                     | Bristol-Myers Squibb            | BMJ         | BMJ US           | Geoff Meacham      |
|                     | Cytokinetics, Incorporated      | CYTK        | CYTK US          | Jason Zemansky     |
|                     | Editas Medicine                 | EDIT        | EDIT US          | Greg Harrison, CFA |
|                     | Erasca                          | ERAS        | ERAS US          | Alec W. Stranahan  |
|                     | Esperion                        | ESPR        | ESPR US          | Jason Zemansky     |
|                     | Exscientia                      | EXAI        | EXAI US          | Alec W. Stranahan  |
|                     | IGM Biosciences                 | IGMS        | IGMS US          | Greg Harrison, CFA |
|                     | Johnson & Johnson               | JNJ         | JNJ US           | Geoff Meacham      |
|                     | Kymira Therapeutics             | KYMR        | KYMR US          | Geoff Meacham      |
|                     | Moderna                         | MRNA        | MRNA US          | Geoff Meacham      |
|                     | Pfizer                          | PFE         | PFE US           | Geoff Meacham      |
|                     | Recursion Pharmaceuticals, Inc. | RXR         | RXR US           | Alec W. Stranahan  |
|                     | Tyra Biosciences                | TYRA        | TYRA US          | Greg Harrison, CFA |
|                     | Vir                             | VIR         | VIR US           | Geoff Meacham      |
|                     | Y-mAbs Therapeutics, Inc        | YMAB        | YMAB US          | Alec W. Stranahan  |
| <b>UNDERPERFORM</b> | AlloVir, Inc.                   | ALVR        | ALVR US          | Jason Zemansky     |



**US - Biopharmaceuticals Coverage Cluster**

| Investment rating | Company                         | BofA Ticker | Bloomberg symbol | Analyst            |
|-------------------|---------------------------------|-------------|------------------|--------------------|
|                   | CureVac                         | CVAC        | CVAC US          | Geoff Meacham      |
|                   | Day One Biopharmaceuticals      | DAWN        | DAWN US          | Alec W. Stranahan  |
|                   | LianBio                         | LIAN        | LIAN US          | Geoff Meacham      |
|                   | Novavax                         | NVAX        | NVAX US          | Alec W. Stranahan  |
|                   | Regeneron Pharmaceuticals Inc.  | REGN        | REGN US          | Geoff Meacham      |
|                   | Reneo Pharmaceuticals           | RPHM        | RPHM US          | Jason Zemansky     |
|                   | TG Therapeutics                 | TGTX        | TGTX US          | Alec W. Stranahan  |
|                   | United Therapeutics Corporation | UTHR        | UTHR US          | Greg Harrison, CFA |

# Disclosures

## Important Disclosures

**Equity Investment Rating Distribution: Health Care Group (as of 31 Dec 2023)**

| Coverage Universe | Count | Percent | Inv. Banking Relationships <sup>R1</sup> | Count | Percent |
|-------------------|-------|---------|--|-------|---------|
| Buy               | 234   | 60.94%  | Buy                                      | 115   | 49.15%  |
| Hold              | 80    | 20.83%  | Hold                                     | 36    | 45.00%  |
| Sell              | 70    | 18.23%  | Sell                                     | 29    | 41.43%  |

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

| Coverage Universe | Count | Percent | Inv. Banking Relationships <sup>R1</sup> | Count | Percent |
|-------------------|-------|---------|--|-------|---------|
| Buy               | 1895  | 53.62%  | Buy                                      | 1083  | 57.15%  |
| Hold              | 832   | 23.54%  | Hold                                     | 454   | 54.57%  |
| Sell              | 807   | 22.84%  | Sell                                     | 383   | 47.46%  |

<sup>R1</sup> Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

**Exchange-Traded Funds Investment Rating Distribution: Global Group (as of 31 Dec 2023)**

| Coverage Universe | Count | Percent | Inv. Banking Relationships <sup>R2</sup> | Count | Percent |
|-------------------|-------|---------|--|-------|---------|
| Buy               | 80    | 19.61%  | Buy                                      | 53    | 66.25%  |
| Hold              | 317   | 77.70%  | Hold                                     | 241   | 76.03%  |
| Sell              | 11    | 2.70%   | Sell                                     | 7     | 63.64%  |

<sup>R2</sup> Exchange-traded funds (ETFs), or the ETF providers, that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only ETFs. An ETF rated 1-FV is included as a Buy; an ETF rated 2-FV, 3-FV, 1-NV, 2-NV, 3-NV, 1-UF or 2-UF is included as a Hold; and an ETF rated 3-UF is included as a Sell.

**FUNDAMENTAL EQUITY OPINION KEY:** Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

| Investment rating | Total return expectation (within 12-month period of date of initial rating) | Ratings dispersion guidelines for coverage cluster <sup>R3</sup> |
|-------------------|---|--|
| Buy               | ≥ 10%   | ≤ 70%  |
| Neutral           | ≥ 0%  | ≤ 30%  |
| Underperform      | N/A   | ≥ 20%  |

<sup>R3</sup> Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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

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

Price Charts for the securities referenced in this research report are available on the [Price Charts website](#), or call 1-800-MERRILL to have them mailed.

BofA or one of its affiliates acts as a market maker for the equity securities recommended in the report: 1st Trust Financ ETF, 1st Trust Indus Fund, 1st Trust Mater ETF, 1st Trust MidCap ETF, 1st Trust Techn ETF, ALPS Disruptive Tech, Eli Lilly, Eng Transform500 ETF, FirstTrust SmCap ETF, FlexShares Qual LC, Franklin Canada ETF, FT STX EUROPE ETF, Global X AI & Tech, Hartford Dev Mkt ETF, Inv DWA Enrg Momentum, Invesco Cons ETF, Invesco DWA ETF, Invesco Intl Div, Invesco Intl Buyback, Invesco S&P EWU ETF, Invesco Wh Cln Ener, Invesco SP500 PureVal, iShares ACWI ex US, iShares Canada ETF, iShares Chile ETF, iShares Cons Srv ETF, iShares Core S&P ETF, iShares Currency ETF, iShares Div&Buyback, iShares Edg MSCI ETF, iShares EM ex China, iShares Global

Clean, iShares India SC ETF, iShares JPX-NIKK ETF, iShares Material ETF, iShares Mexico ETF, iShares MSCI HK ETF, iShares Pharma ETF, iShares S&P 100 ETF, iShares S&P 500 ETF, iShares Saudi Arabia, iShares US, iShares-DJ Telecom, iSharesESG MSCI EM, iShares-Japan ETF, KraneS CHINA ETF, Merck & Co., Pacer US S Cap C Cow, Pacer USCashCows ETF, Schwab L Cap Grw, Schwab US Large ETF, Schwab US MidCap ETF, Schwab US REIT ETF, SPDR Comm Serv ETF, SPDR Energy ETF, SPDR EuroStoxx50 ETF, SPDR Financ ETF, SPDR Healthca ETF, SPDR High Div ETF, SPDR Industr ETF, SPDR REIT ETF, SPDR S&P Bank ETF, SPDR Tech ETF, SPDR Utilities ETF, VanEck Vietnam ETF, Vanguard Cons ETF, Vanguard Intl Div, Vanguard Value ETF, Vanguard World ex US, WSDTRE JPN Hdg ETF, WT Ex-Val ETF, WTree India Earnings, Xtrackers EM Hdg ETF.

BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: BlackRock, Inc., Charles Schwab, Merck & Co., State Street.

The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: BlackRock, Inc., Charles Schwab, Deutsche Bank, Eli Lilly, Franklin Resources, Invesco, Merck & Co., Northern Trust Corp, SS&C Technologies Ho, State Street, The Hartford, WisdomTree.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: BlackRock, Inc., Charles Schwab, Deutsche Bank, Eli Lilly, Eng Transform500 ETF, Franklin Resources, Invesco, Krane Funds Advisors, Merck & Co., MiraeAsset Sec, Northern Trust Corp, Pacer Advisors, SS&C Technologies Ho, State Street, The Hartford, VanEck, Vanguard Group Inc, WisdomTree.

The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: BlackRock, Inc., Charles Schwab, Deutsche Bank, Eli Lilly, Franklin Resources, Invesco, Krane Funds Advisors, Merck & Co., MiraeAsset Sec, Northern Trust Corp, Pacer Advisors, SS&C Technologies Ho, State Street, The Hartford, VanEck, Vanguard Group Inc, WisdomTree.

BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: BlackRock, Inc., Charles Schwab, Eli Lilly, Franklin Resources, Invesco, Merck & Co., Northern Trust Corp, SS&C Technologies Ho, State Street, The Hartford, WisdomTree.

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