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TRIVARIATE RESEARCH

2025 YEAR-AHEAD OUTLOOK

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OUTLINE

EXECUTIVE SUMMARY – TOP TEN POINTS

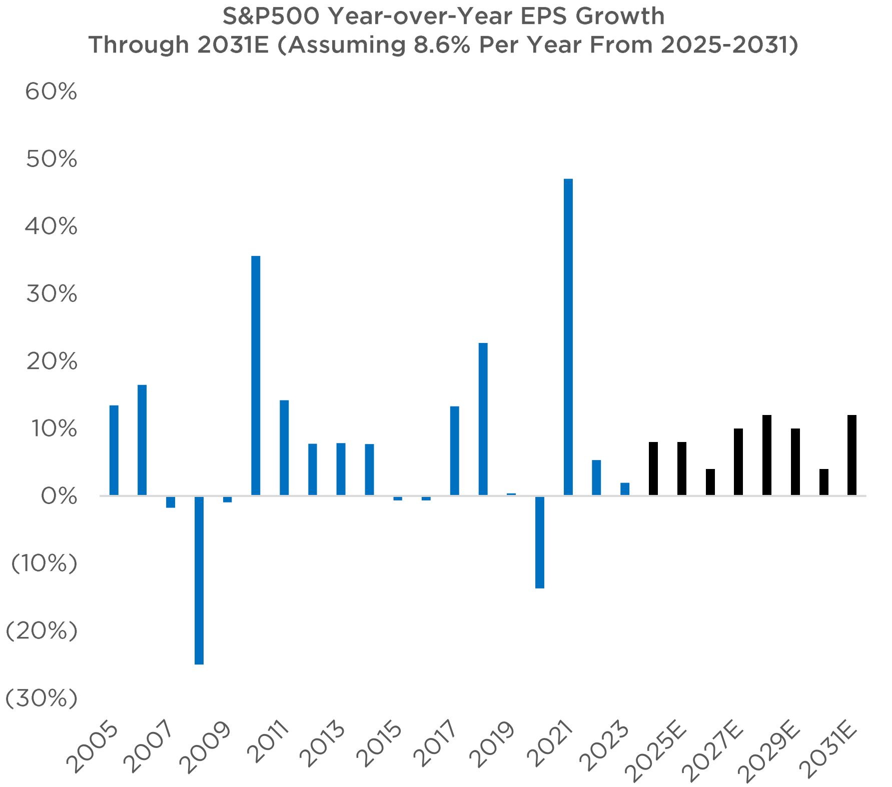
1) **2025:** We see the US equity market as increasingly risky, and potentially down in the first half of 2025; but up in the second half of the year. We think we end 2025 at new highs.
2) **Long-term:** We see the S&P500 nearing 10000 by 2030, driven by 8.6%/ year EPS growth.
3) **Transitioning from gross margins to revenue growth:** We think revenue acceleration will matter more than gross margin growth in 2025 for stock selection.
4) **Low beta strongly outperforms high beta** unless the market goes up more than 12%.
5) **High-quality, low-beta, low forecasted growth outperforms among growth stocks.**
6) Value has lagged Growth by 1.3% per month for 50 years. **Focus on low capital spending and high free cash flow among value stocks.**
7) **Small caps are not cheap** once you adjust for style and substance. They don't work in a down tape. You need a recession recovery, and we haven't had a recession yet.
8) **We recommend Healthcare and Industrials**, which we think will outperform **Consumer Discretionary and Communication Services,** which we disfavor.
9) **There are six Growth baskets we are tracking** – AI Semis, AI Software, Electrification Industrials, Housing / Building Product, Power / Utilities, and Healthcare Services.
10) **Management decision-making matters:** We prefer **Accelerated Share Repurchases** to buybacks and think there will be more IPOs and spin-cos in 2025. IPOs that are profitable outperform. Spins into different industries where the remain-cos are not high quality are best. Avoid high capital-intensity and rising inventory-to-sales companies.

PART 1 OUTLINE: 2025 AND 2030 EQUITY MARKET OUTLOOK

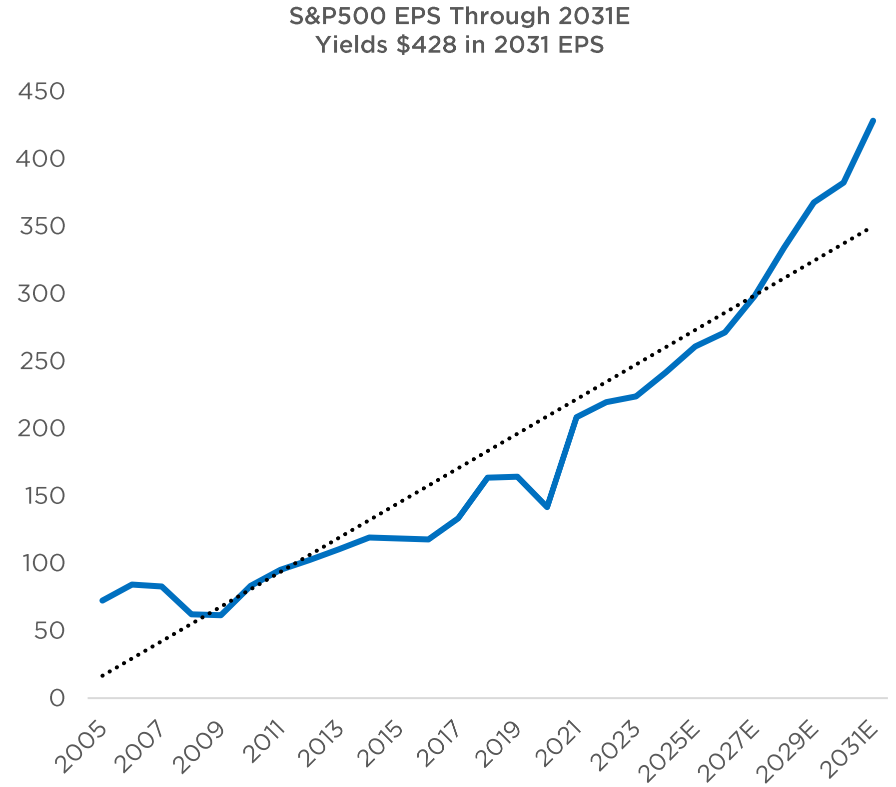
- We forecast a lower amplitude of earnings cycles in the future than the past, owing to uncoordinated Central Banks and dyssynchronous business cycles – like Housing and Auto.
- We forecast 8.6% long-term EPS growth for the S&P500, yielding $428 in 2031. For 2025, we forecast $261 in earnings below the bottom-up consensus of $273.
- The consensus sees earnings level in Q2 and Q3 2023 and then accelerating in Q4 2025 – that's a potential reason to be cautious on the first half, as equity prices often lead earnings growth by 3-6 months.
- While gross margins are likely to continue to expand for the median stock, revenue acceleration may prove to be a more critical driver of returns in 2025.

WE FORECAST EPS OF $261 IN 2025 AND $428 IN 2031

We built lower amplitude earnings cycles into our long-term outlook, embedding, however, the same long-term EPS growth for the S&P500 we have seen in the past (left). This 8.6% per annum EPS outlook yields $428 in S&P500 earnings by 2031 (right). **We forecast $261 in 2025 EPS**. We think it is likely we will see AI-fueled margin improvement by the end of this decade.



Source: Trivariate Research

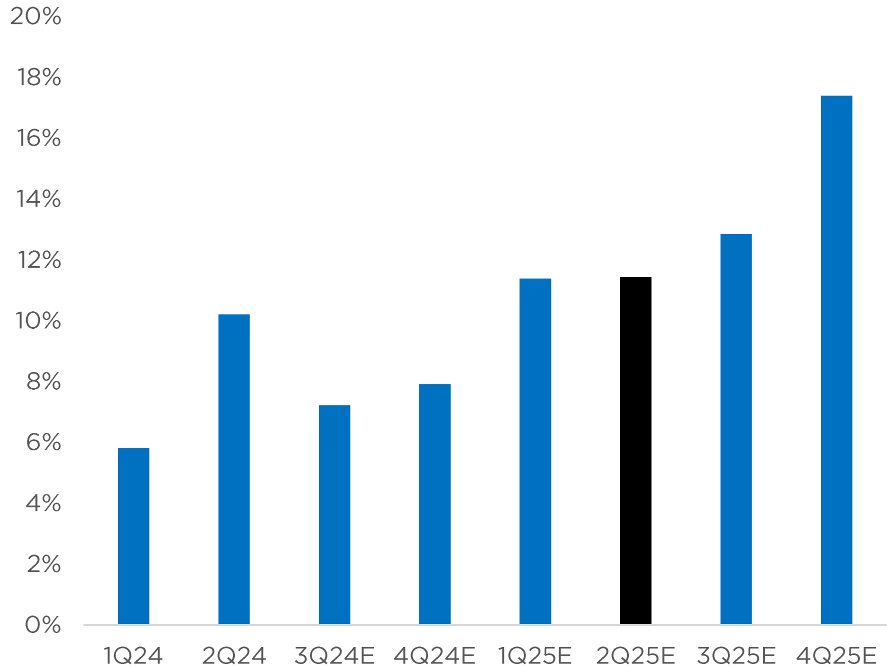


Source: Trivariate Research

FORECASTED EARNINGS FLATTEN IN Q2 2025, THEN ACCELERATE

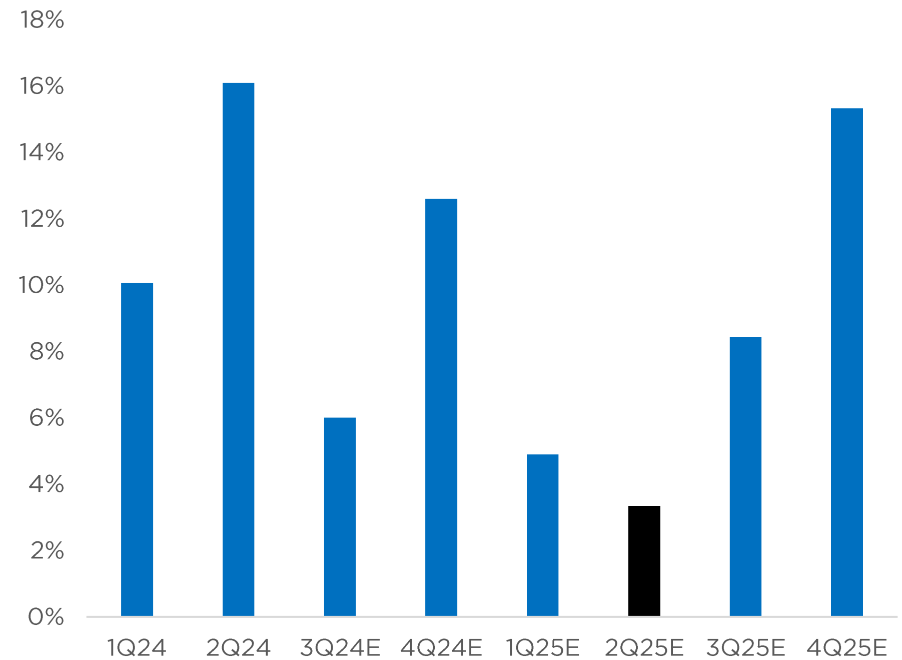
The bottom-up consensus expectation from the median analyst forecast for each stock shows that year-over-year quarterly EPS growth for the S&P500 is forecasted to be strong in Q1, plateau for two quarters then accelerate to 17.4% year-over-year growth by Q4 of 2025 (left). We believe these numbers are too optimistic, with the potential for downward revisions beginning with January guidance. Interestingly, there are some sectors that meaningfully deviate from the market level forecasts. The bottom-up expectations for Financials trough in Q2, and then accelerate through the year. We think that is the likely shape of earnings for the broader market, meaning Q2 is the trough (right).

S&P500 Forecasted Bottom-Up Consensus YoY Quarterly EPS Growth Through Q4 2025 As of January 3rd, 2025



Source: Trivariate Research

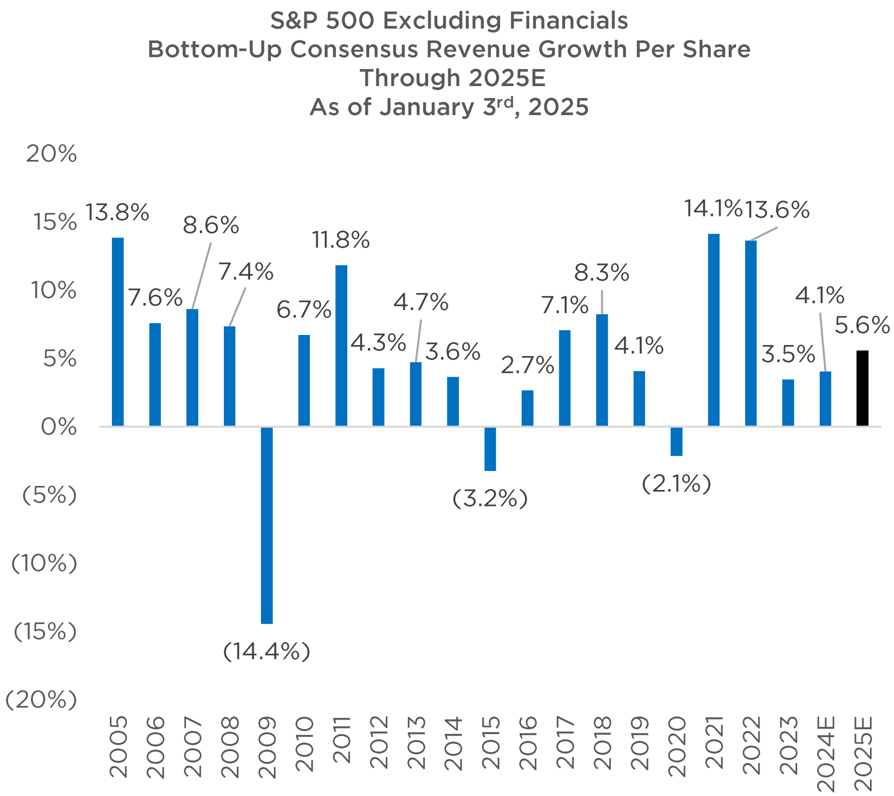
Financials Forecasted Bottom-Up Consensus YoY Quarterly EPS Growth Through Q4 2025 As of January 3rd, 2025



Source: Trivariate Research

EXPECTATIONS ARE FOR 5.6% REVENUE PER SHARE GROWTH IN 2025

The long-term (20-year) average revenue growth for the S&P500 (excluding Financials) is 5.3%, a touch below the consensus 2025 forecast of 5.6% (left). After decelerating the last three years, analysts expect revenue growth to accelerate to that same 5.6% level for the Consumer Discretionary sector, a level we think is likely too high (right).



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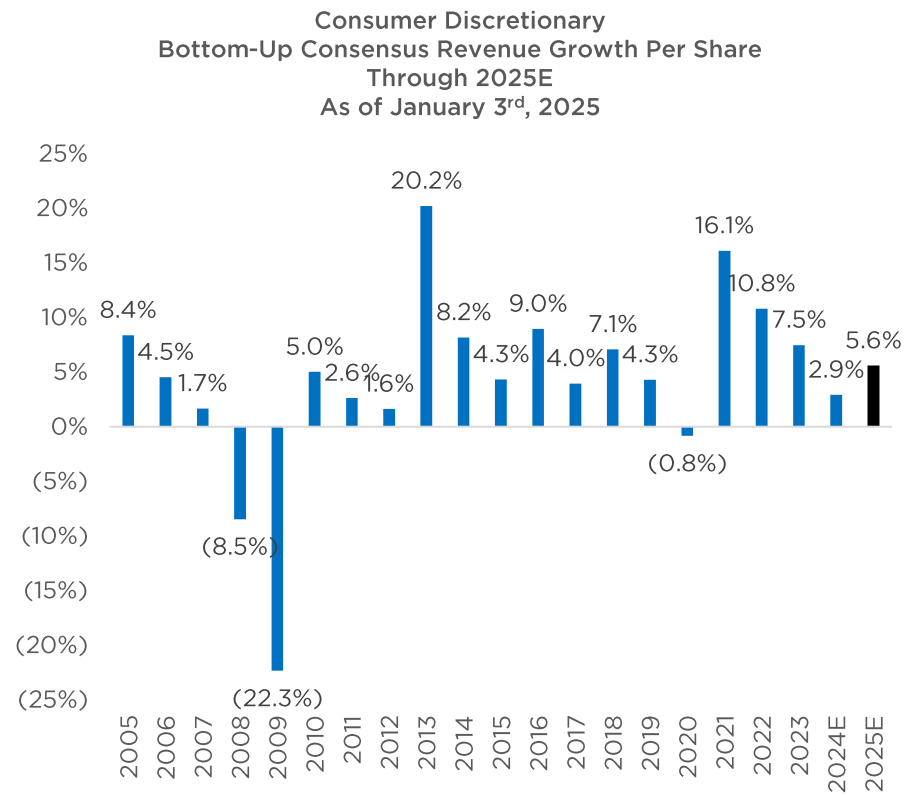
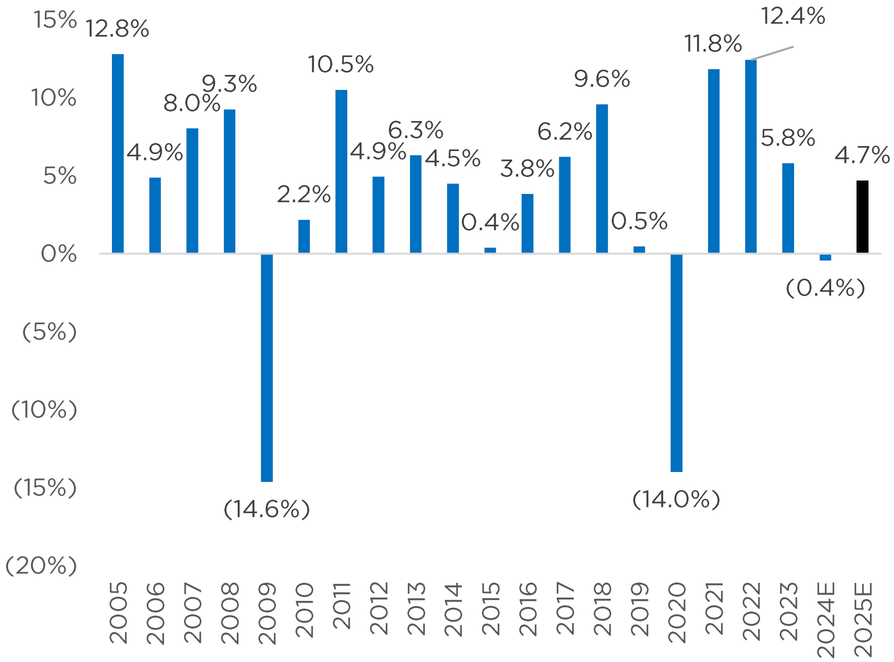


Source: Trivariate Research

REVENUE FORECASTS: REASONABLE IN INDUSTRIALS, HIGH IN TECH.

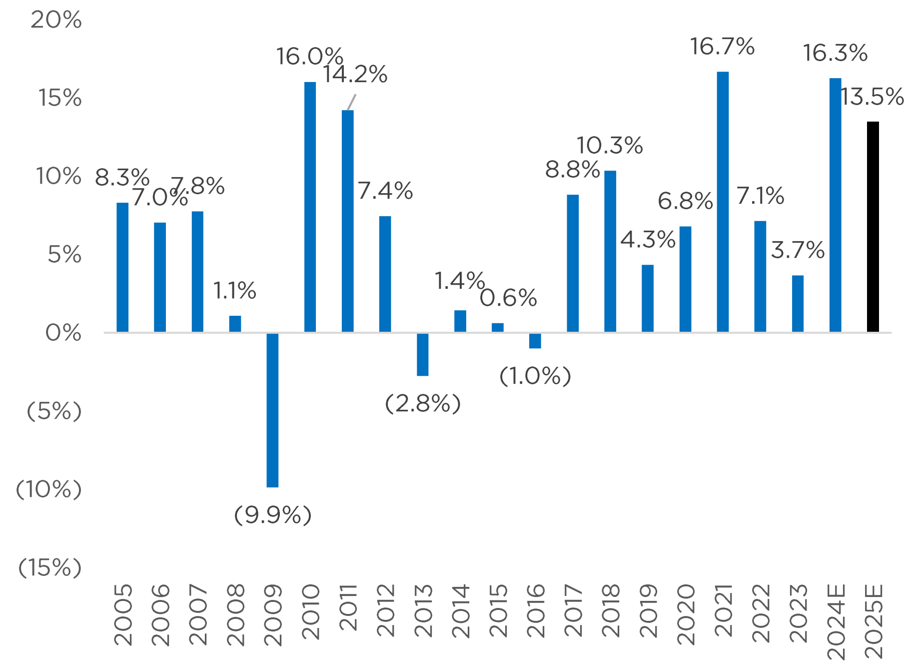
After just the third revenue decline in 20 years (Financial Crisis and COVID the previous two), Industrials are forecasted to have a revenue recovery of 4.7% growth in 2025 (left). We think this is reasonable given that our proprietary Industrial Activity Gauge has bottomed and is now increasing. On the contrary, there are high expectations, 13.5% revenue growth per share, for the Technology Sector, the highest two-year growth combination since 2010-2011 (right). We think that is possible, but probably too optimistic.

Industrials
Bottom-Up Consensus Revenue Growth Per Share
Through 2025E
As of January 3rd, 2025



Source: Trivariate Research

Information Technology
Bottom-Up Consensus Revenue Growth Per Share
Through 2025E
As of January 3rd, 2025



Source: Trivariate Research

WHAT WILL HAPPEN FIRST, S&P500 AT 10000 OR THE YEAR 2030?

Below we show a range of price-to-forward earnings multiples (from 15x to 25x) on the y-axis and a range of per year earnings growth assumptions (from 5% to 15%) from now through 2031 on the x-axis. The cells that populate the table are the year-end 2030 S&P500 price, depending on the earnings growth and valuation assumptions. The black cells show assumptions that justify the S&P500 around 10000 by 2030. For instance, paying 23x a market that grows 9% per year, or 19x a market that grows 12% per year would both yield a 10000 S&P500 by the end of the decade.

Annual EPS Growth Assumptions

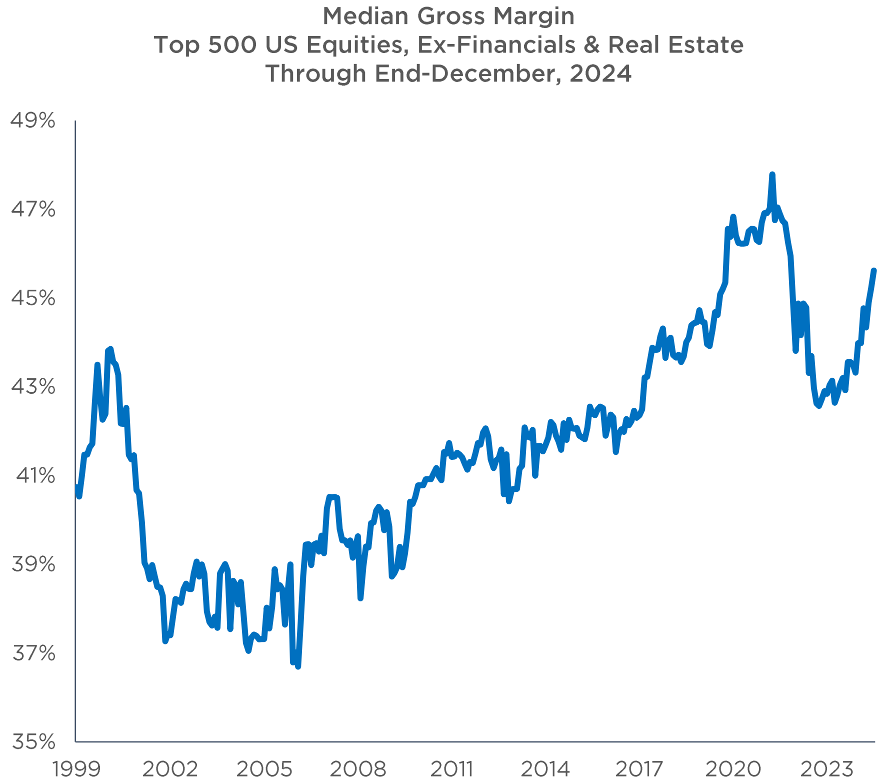
Year-End Price Targets Based on Multiples Applied to 2031 Earnings on Various Growth Assumptions

Price-to-Earnings	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
15x	5099	5449	5819	6211	6625	7062	7524	8012	8526	9068	9640
16x	5439	5812	6207	6625	7066	7533	8026	8546	9094	9673	10283
17x	5779	6176	6595	7039	7508	8004	8527	9080	9663	10277	10925
18x	6119	6539	6983	7453	7950	8475	9029	9614	10231	10882	11568
19x	6459	6902	7371	7867	8391	8945	9530	10148	10799	11486	12211
20x	6799	7266	7759	8281	8833	9416	10032	10682	11368	12091	12853
21x	7139	7629	8147	8695	9275	9887	10534	11216	11936	12696	13496
22x	7479	7992	8535	9109	9716	10358	11035	11750	12505	13300	14139
23x	7819	8355	8923	9523	10158	10829	11537	12284	13073	13905	14781
24x	8159	8719	9311	9937	10600	11299	12038	12818	13641	14509	15424
25x	8499	9082	9699	10351	11041	11770	12540	13353	14210	15114	16067

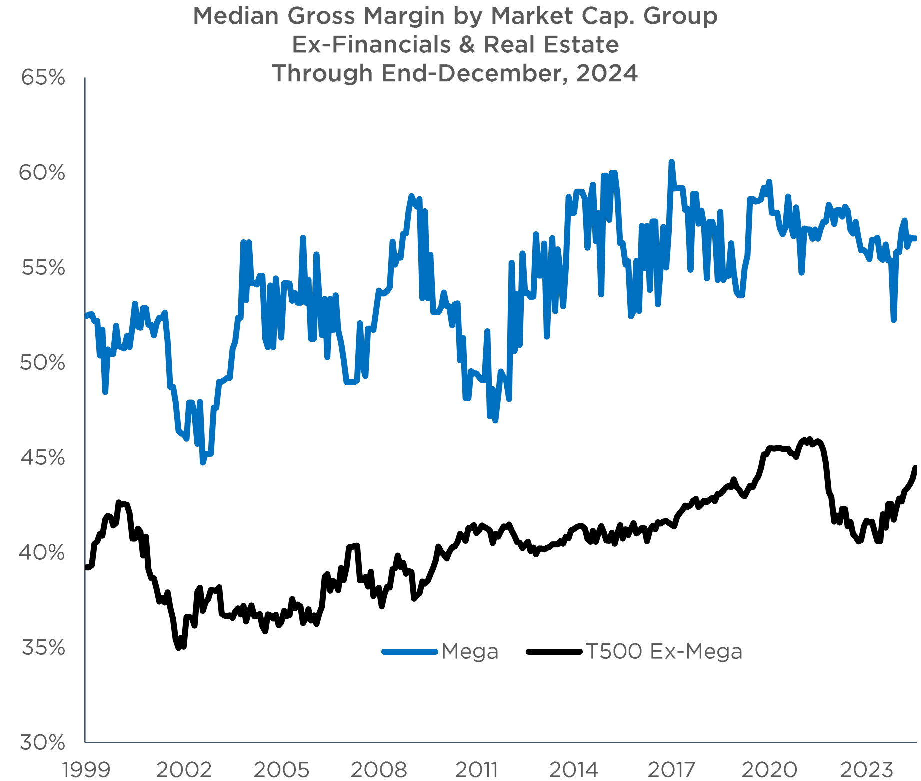
Source: Trivariate Research

THE MEDIAN COMPANY'S GROSS MARGINS CONTINUE TO RECOVER

Gross margins for the median stock sharply declined beginning in September of 2021, as inflation grew (left), though the absolute level clearly bottomed in July of 2023, and has now risen to 45.6%. Mega cap margins (56.5%) are higher than the rest of the market ex-mega cap (44.4%). The rest of the non-mega companies have seen steadier margin expansion (right), which partially explains the breadth and dispersion of returns we saw in 2024.



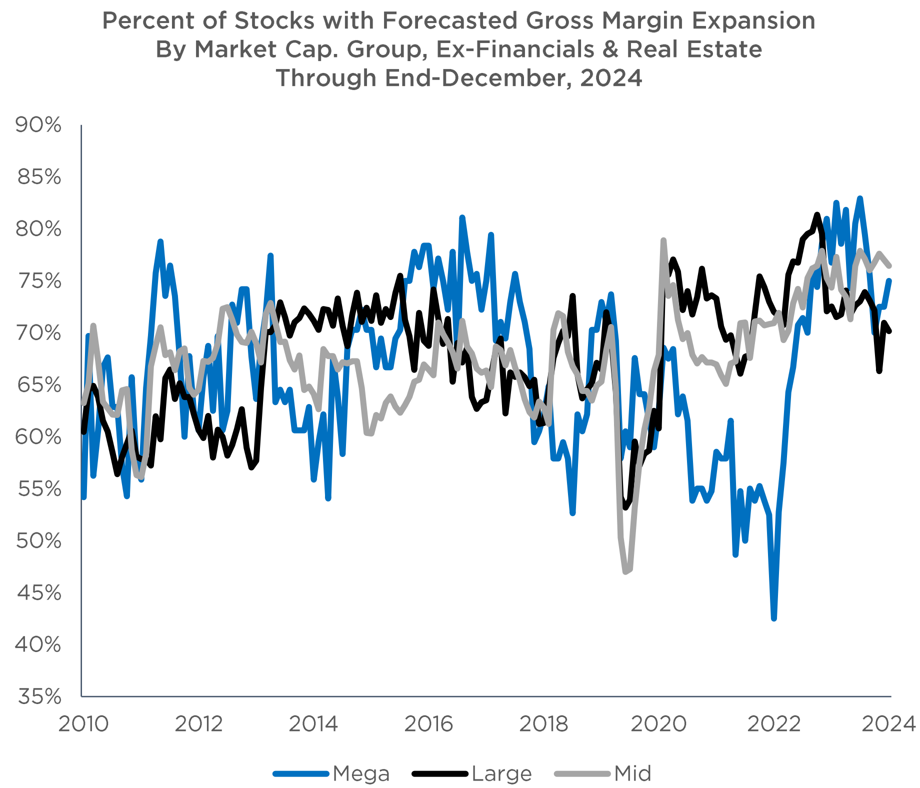
Source: Trivariate Research



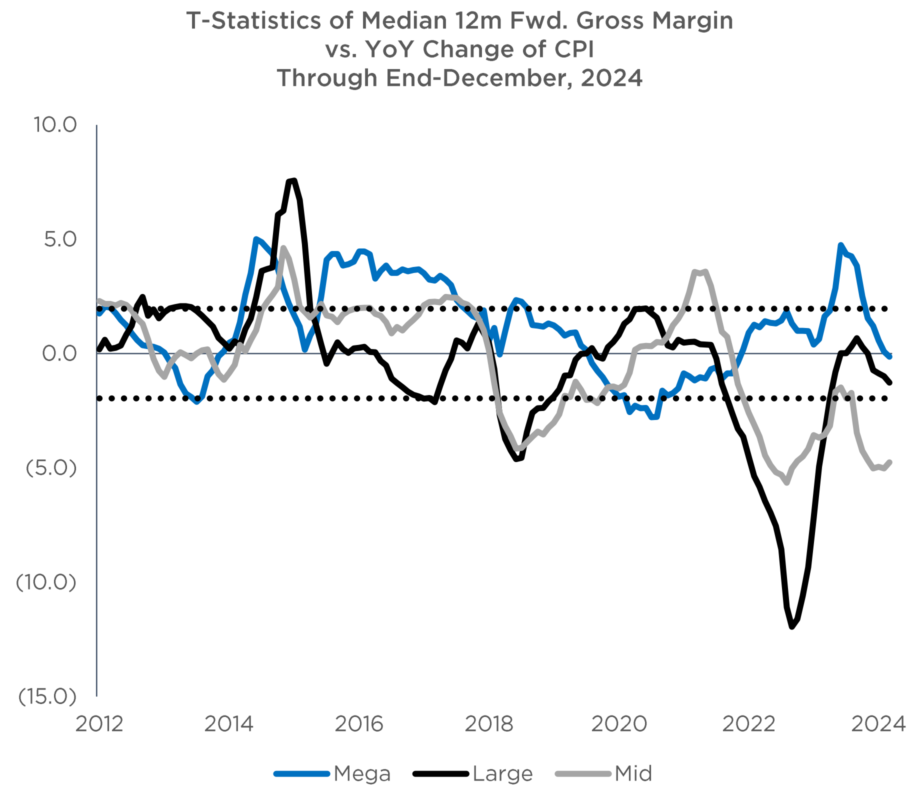
Source: Trivariate Research

GROSS MARGIN FORECASTS INDICATE IMPROVEMENT IS LIKELY

While analysts often are poor forecasters, our prior work shows they are right nearly 75% of the time regarding whether margins are up or down in absolute terms. Mid-cap margin expectations are quite high vs. history (left). Is there a statistically significant relationship between CPI and 12-month forward gross margins? The higher the CPI, the worse it is for margins for most stocks, except mega caps (right) where it appears lower CPI hurt margins. Hence, the biggest risk to mid-cap stocks is the lofty margin expectations prove to be too optimistic if CPI inflects higher in the second half of 2025. We think there's a meaningful chance CPI rises in the second half of 2025.



Source: Trivariate Research



Source: Trivariate Research

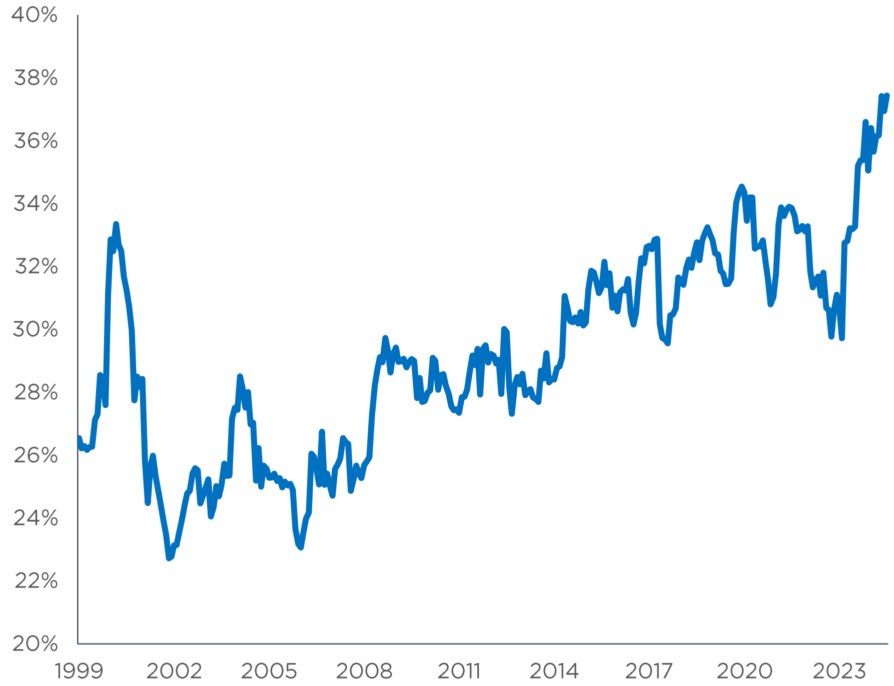
37% OF THE MARKET CAP HAS GREATER THAN 60% GROSS MARGINS

Among the top 3000 US equities, 25.4% have greater than 60% gross margins (left), and that represents the highest percentage (37.4%) of market capitalization ever (right). That is a major reason why the US stock market is more expensive now than it was during much of its history, and why multiples are likely to oscillate at higher levels in the future than in the past. **If you are referencing Schiller PE, or CAPE to inform your analysis, you need to look at these charts and explain why gross margins will revert to long-term averages.**

Percent of Top 3000 US Equities with Gross Margin >60%
Ex-Financials & Real Estate
Through End-December, 2024

Source: Trivariate Research

Percent of Market Cap. With >60% Gross Margins
Top 3000 US Equities, Ex-Financials & Real Estate
Through End-December, 2024

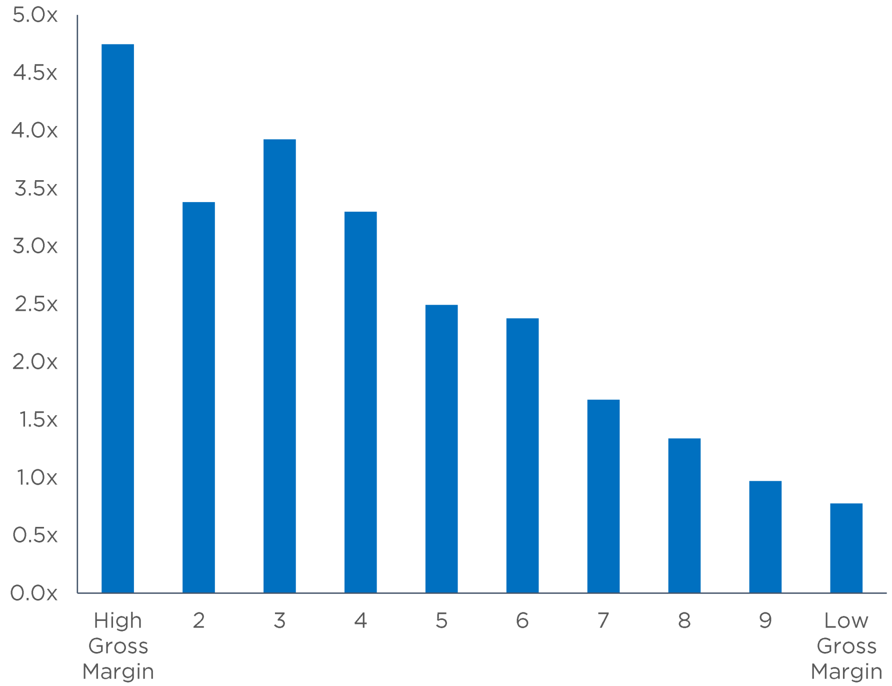


Source: Trivariate Research

EV-TO-SALES IS STRONGLY RELATED TO GROSS MARGIN LEVEL

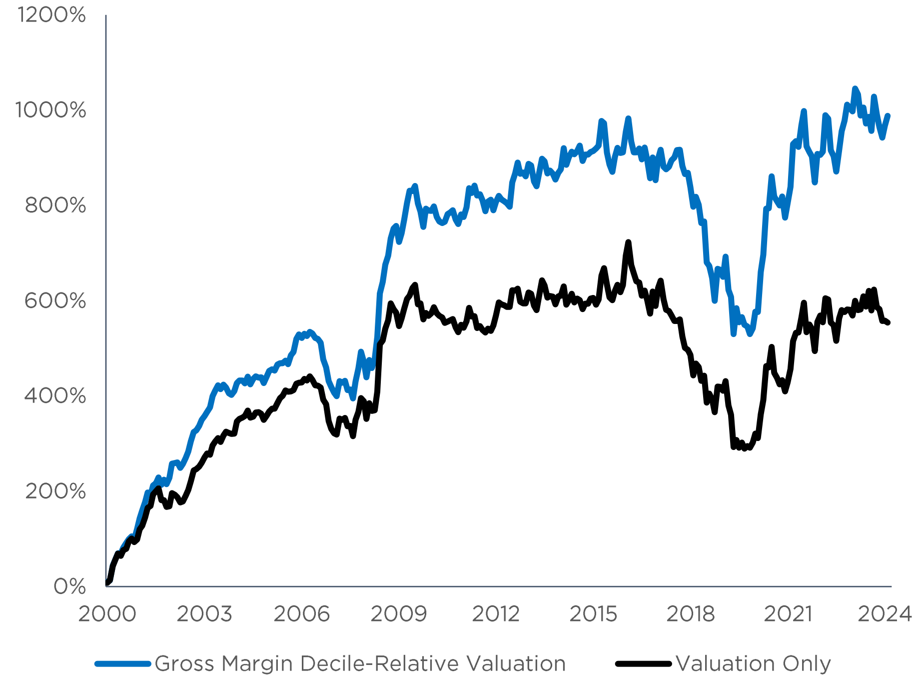
We have found that there is a strong relationship between gross margins and EV-to-forecasted sales (left). Therefore, if investors use valuation in their investment theses or make a Value-over-Growth macro call, it is important to adjust for the level of gross margins. It is far more effective at predicting winners from losers to adjust valuation for gross margin level (right).

Median EV-to-Forecast Sales by Gross Margin Decile
Top 3000 US Equities with Revenue >$100m
Through End-December, 2024



Source: Trivariate Research

EV-to-Forecast Sales Q1 vs. Q5 Beta-Adj. Returns Spread
By Adjustment of Gross Margin Level
Through End-December, 2024



Source: Trivariate Research

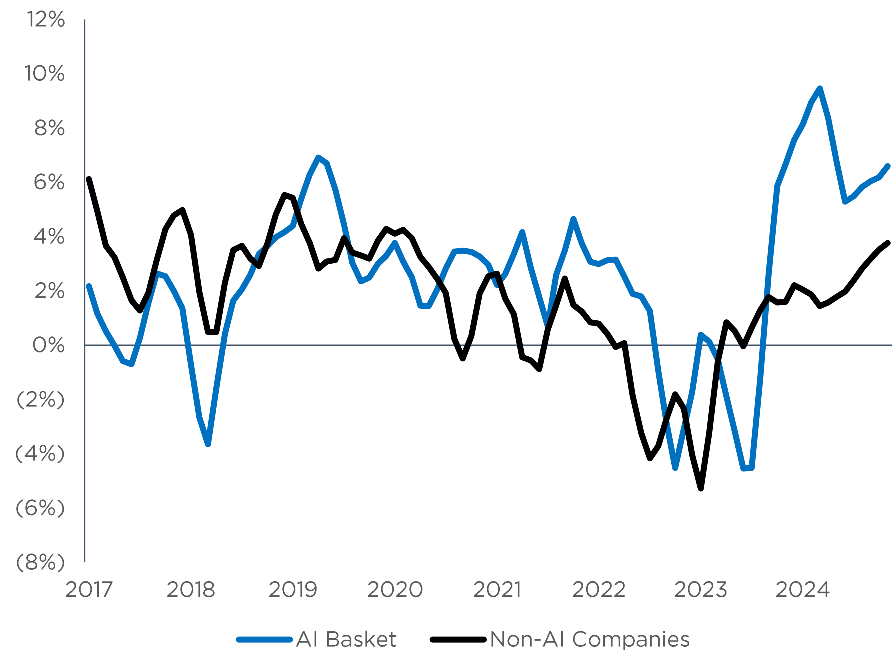
STOCKS DOING AI HAVE HIGHER MARGINS THAN THOSE THAT AREN'T

Since March of 2023, we have been tracking many AI-related references on transcripts – mentions of AI have peaked but mentions of GPUS are relatively constant. This has caused us to create a "GPU" basket, tweaking our "AI" basket where exposure could be more dubious. The margins of Growth stocks that are being asked about AI-related key words have shown more expansion vs. the margins of companies where AI words like "GPU" are not being asked about on earnings calls (right).

Mentions of GPU-related Words In Earnings Call
Through End-December, 2024

Source: BLS, Trivariate Research

Median Net Margin for AI Basket vs. Non-AI Companies
3-Month Average
Growth Universe, Ex-Semiconductors
Through End-December, 2024

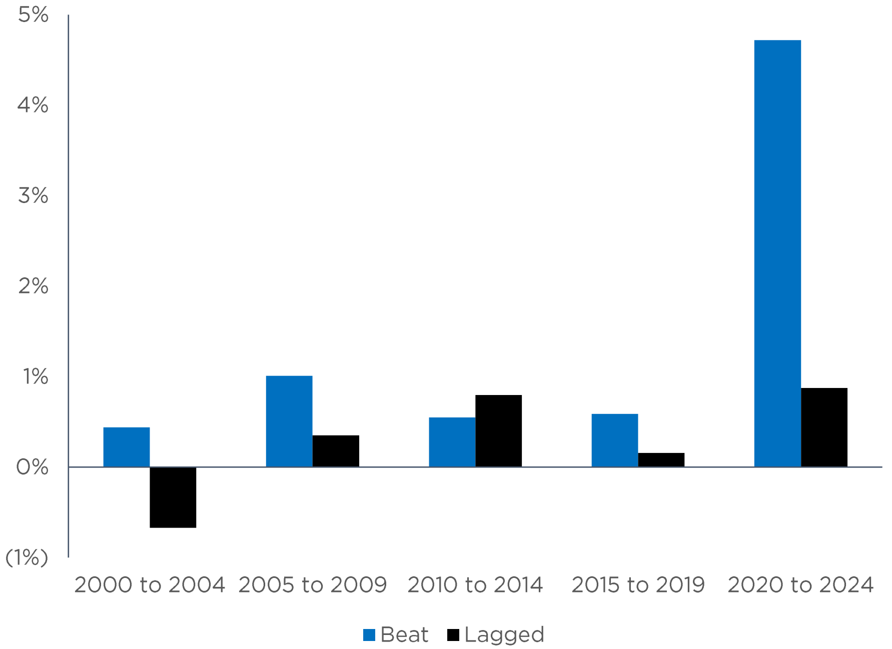


Source: Trivariate Research

GROSS MARGINS HAVE REALLY MATTERED THE LAST 4 YEARS

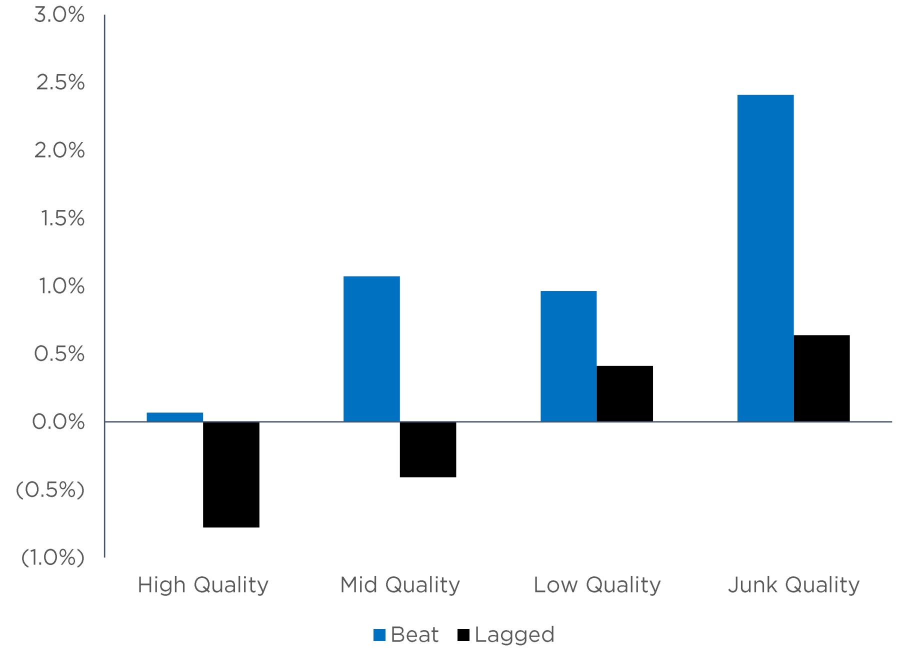
There were historical periods where changes in gross margins were not particularly relevant to identifying big winners / losers. In fact, from 2010-2014, big losers had more gross margin growth than big winners among mega / large caps. <u>However, since 2020, big winners have shown an average of 5% year-over-year gross margin growth</u> (left). Among SMID cap, gross margin expansion has mattered for stocks in the bottom-half of quality more than the top half of quality (right).

Mega / Large Cap.
Mean Change in Trailing Gross Margin
Growth Stocks Beating or Lagging >20% Over 12m Period
Through End-December, 2024



Source: Trivariate Research

Small / Mid Cap.
Mean Change in Trailing Gross Margin
Growth Stocks Beating or Lagging >20% Over 12m Period
Through End-December, 2024

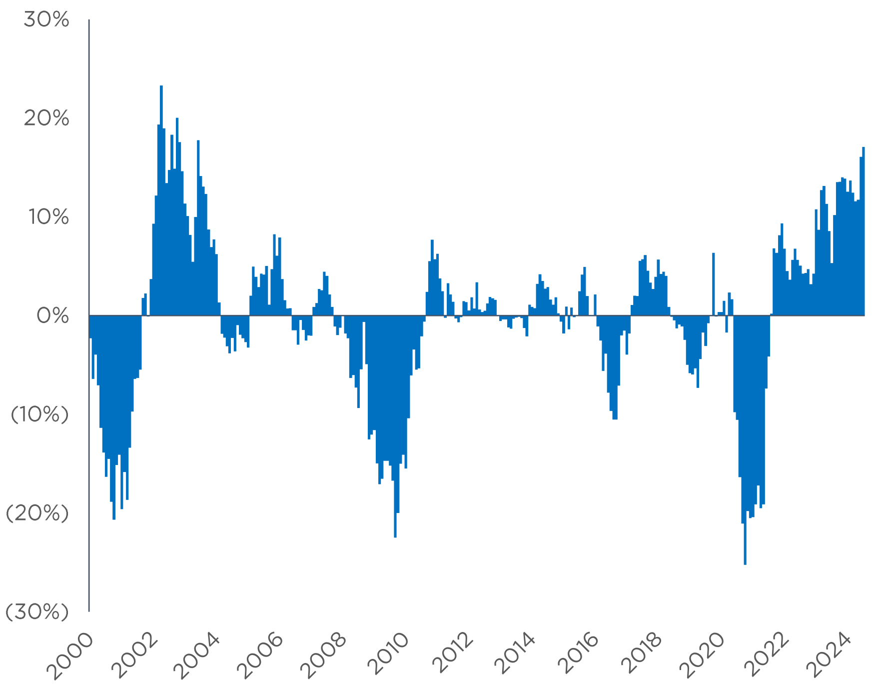


Source: Trivariate Research

BUT MARGINS MIGHT MATTER LESS THAN REVENUE GROWTH IN 2025

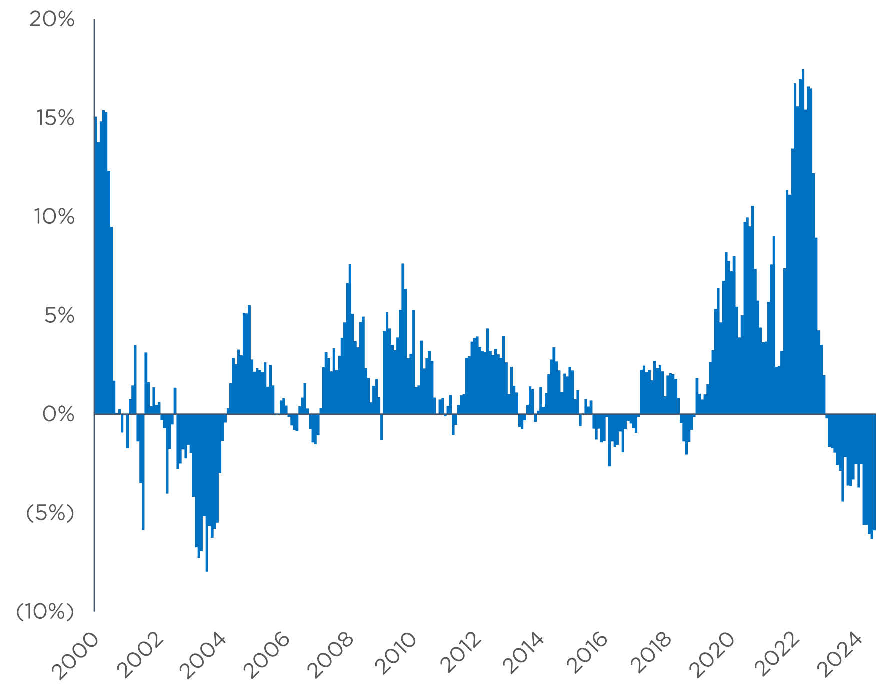
We have just come through a very strong period of efficacy for gross margin growth (left), the strongest such period in over 20 years. The top quintile beat the bottom quintile by 18% in the last year. At the same time, we have seen the weakest period for the efficacy of the revenue acceleration factor in 20 years (right). Recently, companies with the highest revenue growth acceleration have strongly underperformed those with biggest deceleration. We wouldn't be surprised to see gross margin growth matter less and revenue acceleration matter more in 2025.

Gross Margin Growth
Rolling 12m Cumulative Spread Return (Q1 - Q5)
Through End-December, 2024



Source: Trivariate Research

Revenue Growth Acceleration
Rolling 12m Cumulative Spread Return (Q1 - Q5)
Through End-December, 2024



Source: Trivariate Research

PART 1: OVERALL SUMMARY

Up until now, the bull case for US equities has been predicated on gross margin expansion, an accommodative Fed, a large US fiscal deficit acting as a form of US fiscal stimulus, the specter of China stimulus, and the possibility of AI productivity. This combined with the Red Sweep enabling dreams of higher growth, less regulation, lower risk of higher taxes, and more M&A created a bullish 2H of 2024 and another strong year of equity returns. However, the probability and magnitude of some of the bull case elements seem less likely or more muted today than a few months ago.

Risks to the market are:

1) **Less potential upside and relevancy of gross margins:** Gross margins are expanding but may have less potential upside owing to challenges with pricing power. Moreover, revenue acceleration might matter more for stock selection than gross margin growth in 2025.
2) **Is it now time to fight the Fed?:** We learned from the last cycle that the market began discounting the next cycle once the Fed was halfway done hiking. We think that the Fed is close to halfway done cutting this cycle, and we don't think it will be incrementally positive if they keep cutting like it was earlier in the cycle. The time to start fighting the Fed is in Q1.
3) **Less US government stimulus:** President-Elect Donald Trump created the Department of Government Efficiency (DOGE) with the goal of making the government more fiscally responsible. This likely means there will be less upside from US government spending in 2025 and 2026. This spending has previously served as a tailwind for the largest US equities.

4) China stimulus less effective: The magnitude and timing of an incremental China stimulus is unknown, but many investors (us included) are less excited about something productively impacting US corporate earnings in the first half of 2025 than they were a few months ago.

5) New policies not bullish?: We think investors have too benign of an interpretation of potential new policies and their impact on US earnings. Outside of Healthcare, where investors have determined RFK, Jr. will wreak havoc on earnings, we have not seen stocks sell-off on the specter of tariffs, the stronger dollar, or other potentially volatility-introducing policies articulated by the Trump team. It could be challenging for CEOs to optimize US / non-US hiring, and they may see a fall-off in demand as they attempt to raise pricing.

6) The biggest negative no one is talking about: At some point in the next two years, it will become likely that TSM / NVDA can meet demand for high-end chips. Three-to-six months before that, the stock market will sell-off 10%, the Nasdaq 20%, and the associated Semiconductor companies 30%. We do not think this will happen in 1H 2025, but inevitably it will. Semiconductors are a cyclical business.

7) Sentiment: We can no longer romanticize we are contrarian bulls, like we were able to do in our year-ahead outlooks in 2023 and in 2024. The consensus sell-side strategist is embedding low double-digit returns for 2025. Many of the "word salad" prognosticators who were cautious the last two years now like US equities and small caps. That's worrisome.

CONCLUSION: Given the market run, we think it is likely the market will correct in the first half of 2025. Earnings growth is plateauing. Our judgment is that the risks are skewed toward the downside for the S&P500 in the first half of the year.

PART 1: OVERALL SUMMARY

Bull case:

1) **AI proof cases:** We are still quite optimistic that we will see some large companies report earnings and indicate that they are getting better at implementing predictive analytics, or even AI, to drive costs lower. Any sign of a large company with lots of employees saying they would have hired people in the past but aren't now will be bullish. The dream scenario would be Walmart (Ticker: WMT), who hinted at such efficiencies two quarters ago. Frankly, AI productivity is a reason that earnings will likely be strong through the end of the decade.

2) **M&A cycle will likely be enormous:** Every lawyer and investment banker we know remained busy through December, and nearly every day a new deal announcement was made. Less regulation in our minds makes 2025 very likely to be a big year for deals, and ultimately this will provide support for the market once it sells-off more than 10%.

CONCLUSION: We can see some logic to the future economy, and the future earnings of the S&P500, having less cyclicality than in the past. The probability of a global synchronous expansion or contraction appears to be low for the foreseeable future because of divergent policies from Central Banks, and because many underlying businesses are less correlated (like Autos and Housing) than they were in the past. With that in mind, we built in some lower amplitude earnings cycles into our long-term outlook, embedding however, the same long-term EPS growth for the S&P500 we have seen in the past. **We forecast $261 in 2025 EPS, below the consensus of $273.** However, long-term, we forecast 8.6% per annum EPS and that yields $428 in S&P500 earnings by 2031. **Paying 22-23x that yields a S&P500 near 10000 by the end of the decade.**

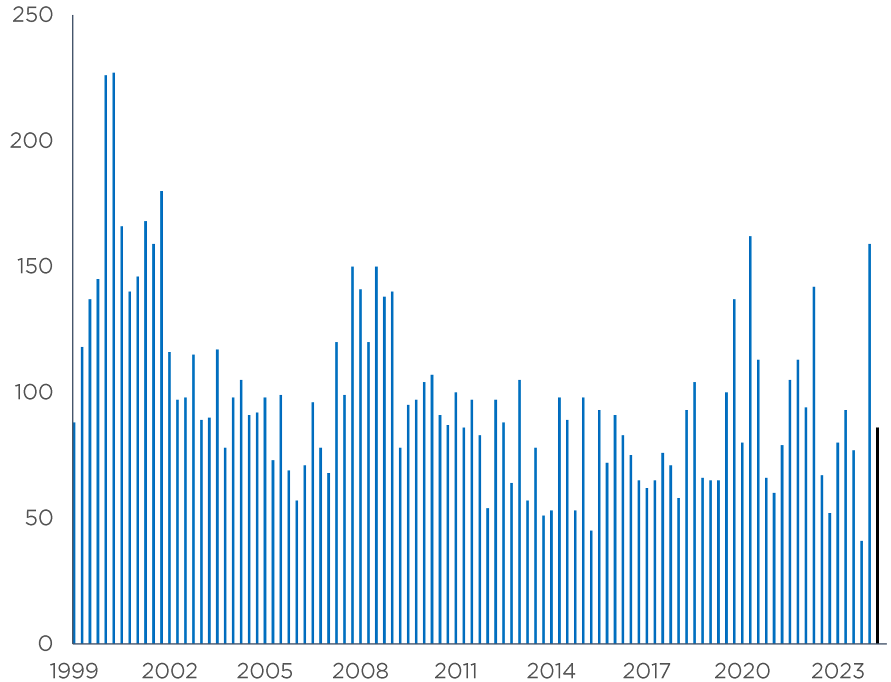
PART 2 OUTLINE: COHORTS

- We see breadth as a mischaracterized issue – a large number of stocks have beaten / lagged the market by more than 10% during each of the last several quarters.
- The higher the beta, the lower the alpha. People confuse this all the time.
- Among Growth stocks, high-quality, low beta, low forecasted growth is best.
- Growth has beaten Value by an average of 1.3% a month for 50 years, and most of the time over the last 30 years. Given this, it raises the question of how can Value managers position themselves to attract capital in such an environment? We don't have an answer.
- Value is less Financials than ever, and not that cheap vs. its own history.
- High free cash flow yield and low capital intensity work for picking Value stocks, but leverage is different for Financials / REITs than other Value stocks.
- Small caps tend to sustainably outperform during a recession recovery. They aren't that cheap when you normalize for style and quality. We would not overweight small caps.

IT'S BEEN A GOOD YEAR FOR STOCK PICKING

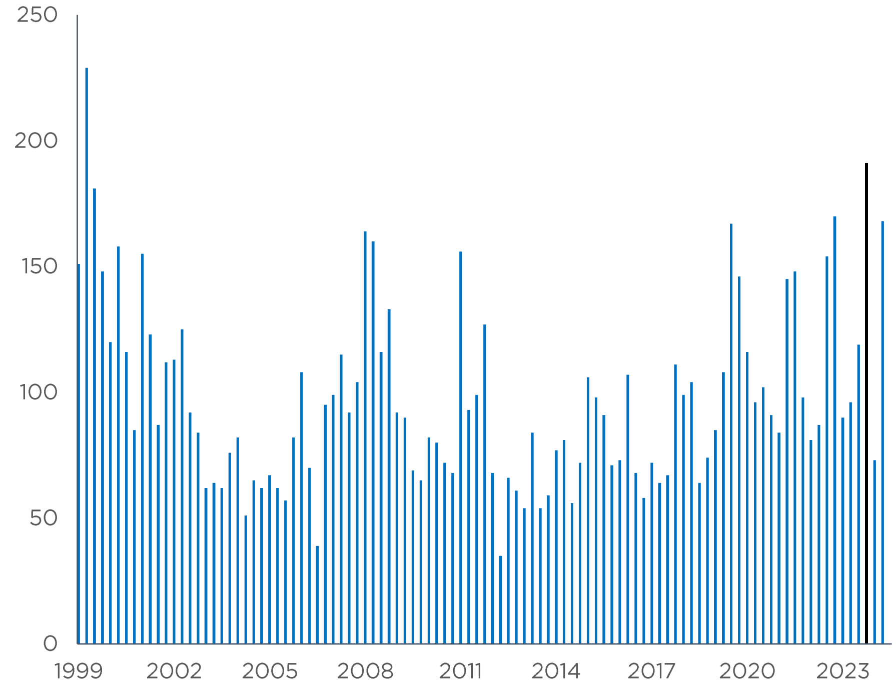
We analyzed the number of companies that beat or lagged the S&P500 by more than 10% in every quarter since 1999. During Q3 2024 (left), we saw the 2nd best period for long ideas in the last 20 years. During both Q2 and Q4 of 2024, we saw two of the biggest periods for short ideas in over 20 years (right). In fact, 168 of the S&P500 stocks lagged the market by more than 10% in Q4, after 159 beat the market by more than 10% in Q3 of last year. **Several names have deviated materially from the index.** We recommend long-only firms hire a "blow-up avoidance" expert as part of their risk management.

Number of Stocks Beating S&P500 >10%
Each Quarter Since Q3 1999, Top 500 US Equities
Through End-December, 2024



Source: Trivariate Research

Number of Stocks Lagging S&P500 >10%
Each Quarter Since Q3 1999, Top 500 US Equities
Through End-December, 2024



Source: Trivariate Research

CONCENTRATION OF SECTOR RETURNS IS UNDERSTANDABLY HIGH

We looked at the percentage of S&P500 returns that comes from the largest three sectors over time. Today, the top three account for 58% of the market cap., the highest level since 2001. These are Technology, Financials, and Consumer Discretionary (left). At the same time, the smallest four sectors have essentially never been smaller, with REITs, Utilities, Materials, and Energy COMBINED all less than 10% of the S&P500 (right). What does that mean? **The performance of the market is more about Technology and Financials and Consumer Discretionary than other sectors. The headline level of the market might not move as much as some of the moves in the underlying sectors.**

Largest Three Sectors
Market Cap Share of S&P500
Through End-December, 2024

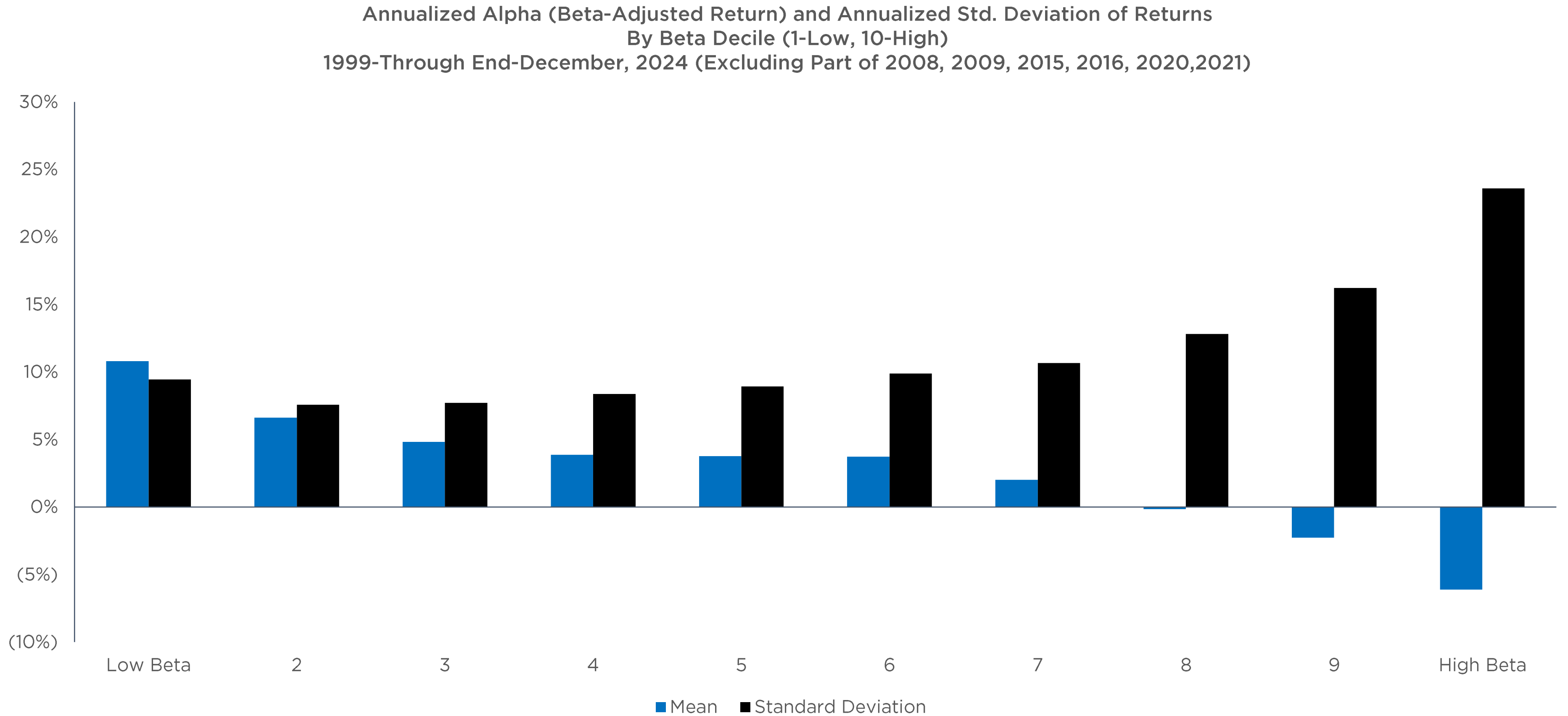
Source: Trivariate Research

Smallest Four Sectors
Market Cap Share of S&P500
Through End-December, 2024

Source: Trivariate Research

THE HIGHER THE BETA, THE LOWER THE ALPHA

Across the market, there is a clear inverse relationship between beta and alpha. The lower beta stocks have higher alpha, and the higher beta stocks have lower alpha and higher volatility of alpha. The pattern is clear and perfectly rank orders across beta decile.



Source: Trivariate Research

MARKET HAS TO BE UP >12% FOR A LOWER BETA EXPOSURE TO HURT

The long-term betas for the mid-point of each decile (meaning the 5^{th}, 15^{th}, 25^{th} percentiles and so on) are shown on the left. Five percent of stocks have a beta less than 0.30, and the median stock in the lowest beta decile has 10.8% of annualized alpha. On the contrary, only 5% of stocks have a beta higher than 2.18 historically, and the highest beta decile realizes an annual NEGATIVE alpha of 610bps (left). Assuming these historical betas by decile hold constant, we simulated the expected return (market assumption*beta + alpha) for various S&P500 return scenarios (right). Once the market's returns are above 12%, the higher beta is enough to offset its alpha destruction.

Performance Statistics of Beta Deciles
1999 Through End-December, 2024

Beta Decile	Annualized Alpha	Hit Rate	Median Beta
1	10.8%	67.3%	0.30
2	6.6%	62.1%	0.57
3	4.8%	59.5%	0.75
4	3.9%	56.5%	0.89
5	3.8%	56.1%	1.01
6	3.7%	54.3%	1.14
7	2.0%	50.6%	1.27
8	(0.2%)	45.4%	1.42
9	(2.3%)	43.1%	1.67
10	(6.1%)	42.8%	2.18

Source: Trivariate Research

Implied Annual Return Under Different Assumptions
As of End-December, 2024

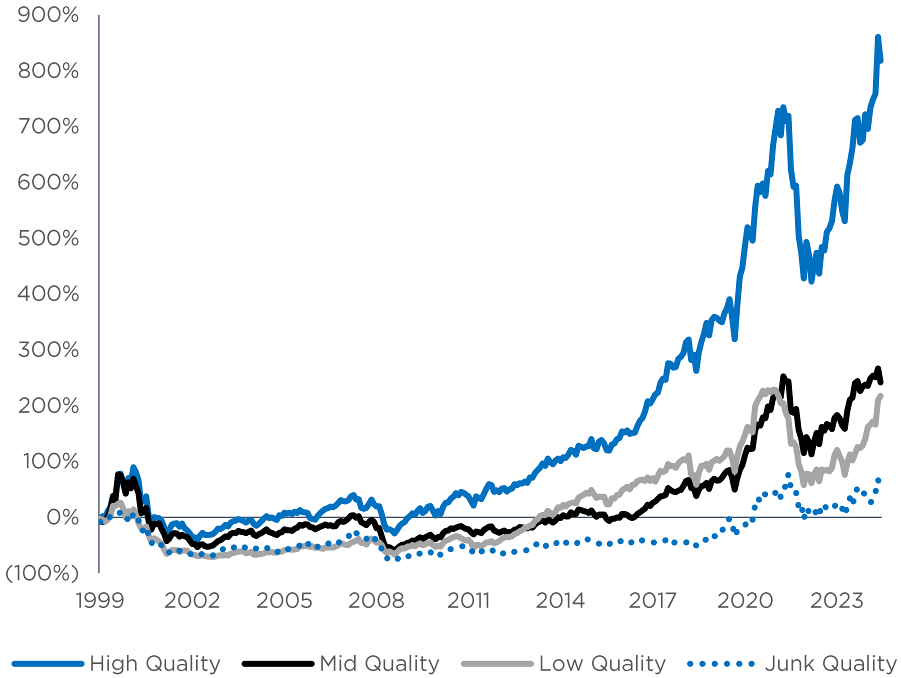
Move	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
(30%)	3.4%	(9.8%)	(17.0%)	(22.3%)	(26.6%)	(30.5%)	(35.8%)	(43.0%)	(52.5%)	(72.6%)
(25%)	4.7%	(7.1%)	(13.3%)	(17.9%)	(21.5%)	(24.8%)	(29.5%)	(35.8%)	(44.1%)	(61.5%)
(20%)	5.9%	(4.3%)	(9.7%)	(13.6%)	(16.4%)	(19.1%)	(23.2%)	(28.6%)	(35.7%)	(50.4%)
(15%)	7.2%	(1.6%)	(6.0%)	(9.2%)	(11.4%)	(13.4%)	(16.8%)	(21.5%)	(27.3%)	(39.4%)
(10%)	8.4%	1.2%	(2.4%)	(4.8%)	(6.3%)	(7.6%)	(10.5%)	(14.3%)	(19.0%)	(28.3%)
(5%)	9.7%	4.0%	1.3%	(0.4%)	(1.2%)	(1.9%)	(4.2%)	(7.2%)	(10.6%)	(17.3%)
0%	10.9%	6.7%	4.9%	4.0%	3.9%	3.8%	2.1%	(0.0%)	(2.2%)	(6.2%)
5%	12.2%	9.5%	8.6%	8.3%	8.9%	9.5%	8.5%	7.1%	6.2%	4.8%
6%	12.6%	10.1%	9.3%	9.2%	9.8%	10.6%	9.6%	8.4%	7.8%	6.9%
8%	13.2%	11.2%	10.8%	11.0%	11.8%	12.8%	12.2%	11.2%	11.1%	11.3%
10%	13.8%	12.4%	12.3%	12.8%	13.9%	15.1%	14.7%	14.1%	14.5%	15.6%
12%	14.4%	13.5%	13.8%	14.5%	15.9%	17.4%	17.3%	16.9%	17.8%	20.0%
14%	15.1%	14.7%	15.3%	16.3%	17.9%	19.7%	19.8%	19.8%	21.2%	24.3%
15%	14.7%	15.0%	15.9%	17.1%	19.1%	21.0%	21.1%	21.4%	23.0%	27.0%
20%	16.0%	17.8%	19.5%	21.5%	24.2%	26.7%	27.4%	28.6%	31.4%	38.0%
25%	17.2%	20.5%	23.2%	25.9%	29.3%	32.4%	33.7%	35.7%	39.8%	49.1%
30%	18.5%	23.3%	26.8%	30.2%	34.3%	38.2%	40.1%	42.9%	48.2%	60.1%

Source: Trivariate Research

AMONG GROWTH STOCKS, HIGH-QUALITY IS BEST

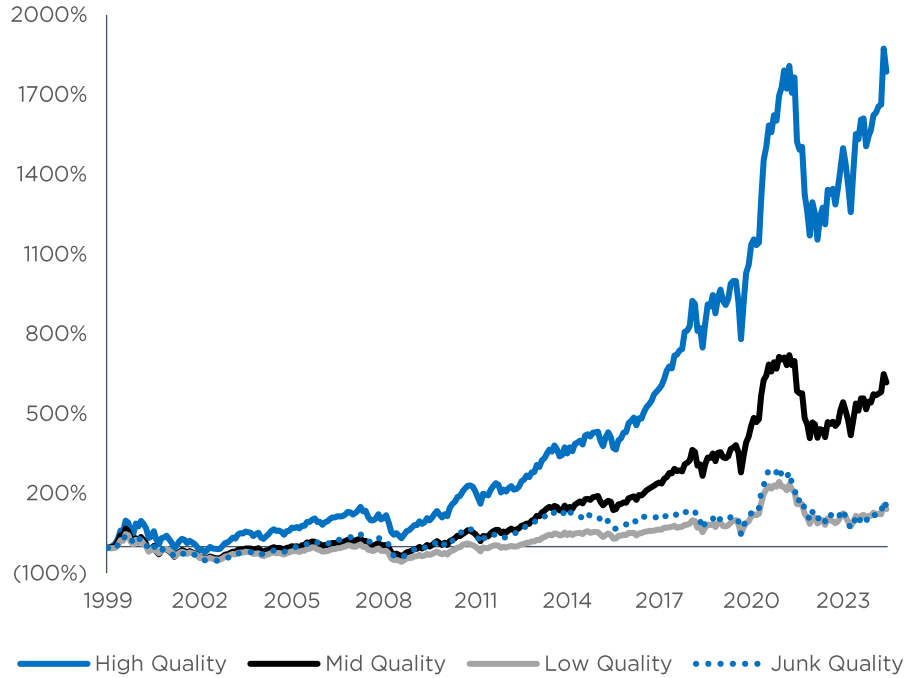
While there was a significant drawdown in mega / large-cap quality Growth stocks from 2021 through 2022, the highest quality quartile has performed the best over the long-term. Clearly, avoiding the lowest quality quartile has been prudent among mega / large-cap quality stocks (left). The same is true for SMID-cap quality Growth (right).

Growth Universe
Mega / Large Cap. Performance by Quality Quartile
Through End-December, 2024



Source: Trivariate Research

Growth Universe
SMID Cap. Performance by Quality Quartile
Through End-December, 2024

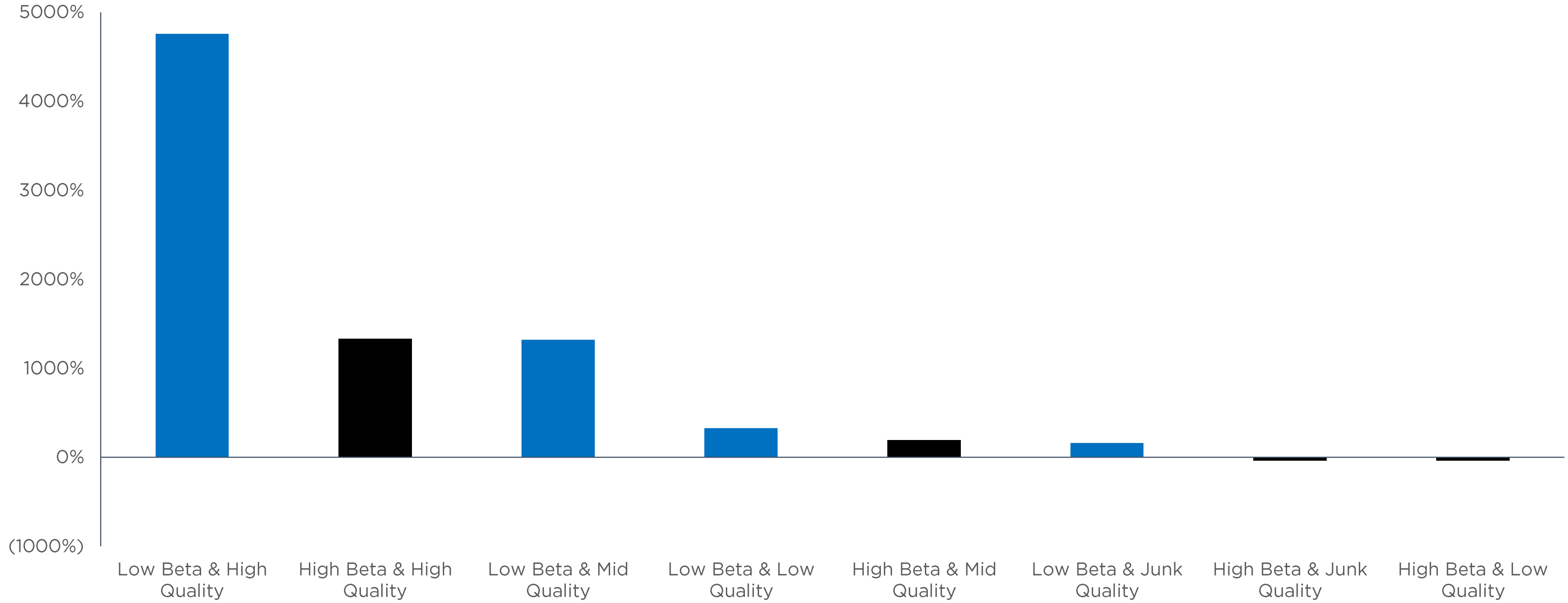


Source: Trivariate Research

HIGH-QUALITY / LOW-BETA GROWTH STOCKS OUTPERFORM

We defined "growth beta" as beta vs. the Nasdaq – NOT the S&P500 to make it more relevant for Growth investors. High growth-beta Growth stocks in the bottom half of quality are down in absolute terms over the last 24 years! By far the best performing bucket are low growth-beta Growth stocks that are high quality – up over 4500% during that timeframe. If Growth managers are going to own high growth-beta Growth stocks, skewing to the highest quality quartile is crucial (black bar 2nd from left below). <u>We think a long-only US portfolio should have roughly two-thirds of its exposure to high-quality, low-beta, mega/large cap. Growth stocks.</u>

Performance of Growth Stocks by Growth Beta and Substance
Through End-December, 2024



Source: Trivariate Research

LESS FORECASTED GROWTH AND LOW BETA AMONG GROWTH WINS

Below we show the quintiles of growth-beta (Q1 is low beta and Q5 is high beta) and our "style score" that we used to categorize stocks into Growth and Value (Q1 is least forecasted growth and Q5 is most forecasted growth). We see that within the Growth universe, less forecasted growth and low growth-beta Growth stocks are best, and higher forecasted growth and high growth-beta stocks perform the worst. Longing relatively less growth and lower beta and shorting more growth and higher beta seems a tried and tested Growth-stock pair trade.

Equal-Weighted Growth Stock Performance
Quintile in Growth Beta (Columns) and Quintile in Style Score (Rows) with Stock Count
From 1999 to End-December, 2024

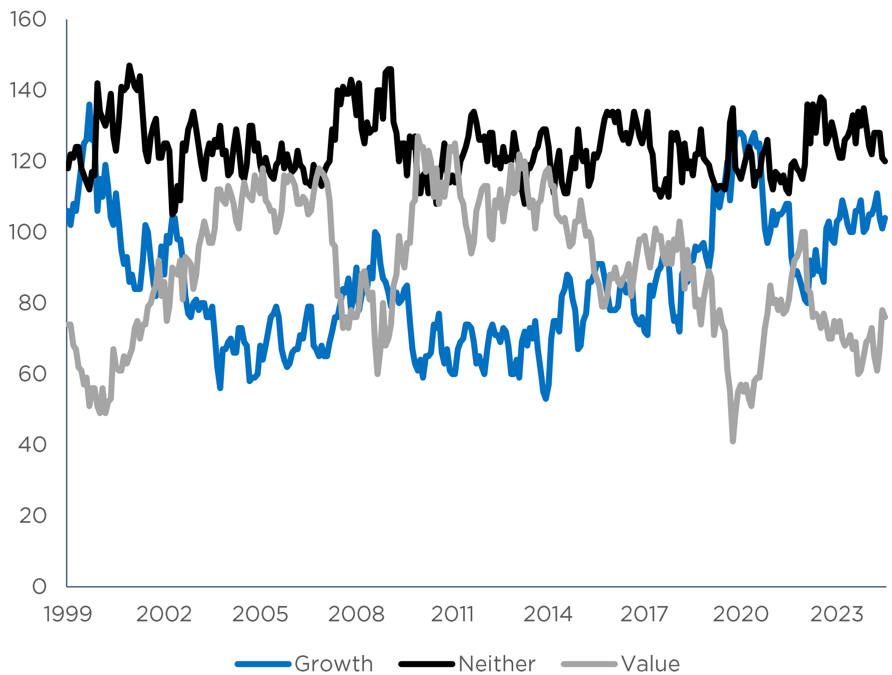
Style Score \ Growth Beta	Q5 (High Beta)	Q4	Q3	Q2	Q1 (Low Beta)
Q5 (Most Growth)	(51%) (49)	233% (44)	220% (38)	530% (31)	712% (24)
Q4	(33%) (44)	327% (43)	208% (38)	602% (33)	954% (28)
Q3	50% (36)	420% (38)	585% (39)	610% (38)	1762% (34)
Q2	101% (31)	490% (34)	823% (38)	1858% (42)	1710% (41)
Q1 (Least Growth)	122% (27)	280% (25)	656% (32)	1106% (43)	1986% (58)

Source: Trivariate Research

IS IT POSSIBLE TO BE A DIVERSIFIED LARGE CAP VALUE MANAGER?

There are 300 mega- / large-cap. stocks in our universe. We tag the top 3000 stocks by style, into tertiles of Growth, Value, and a middle ground we call "Neither" based on factors including price-to-book, long-term earnings growth, dividend yield, and net debt to market cap. Today, there are relatively few mega- / large-cap. Value stocks in the universe with this strict definition (left) – only 76 total to choose from. Can you even be a diversified large-cap Value manager? The universe has changed a lot and is now 21% Energy and less than 9% Financials (right). Our favorite data point – there is only ONE mega / large cap. Technology stock (Intel Ticker: INTC) that's in Value.

Mega / Large
Stock Count By Style
Through End-December, 2024



Source: Trivariate Research

Mega / Large Cap. Value Stocks
Distribution of Market Cap. By Sector
As of End-December, 2024

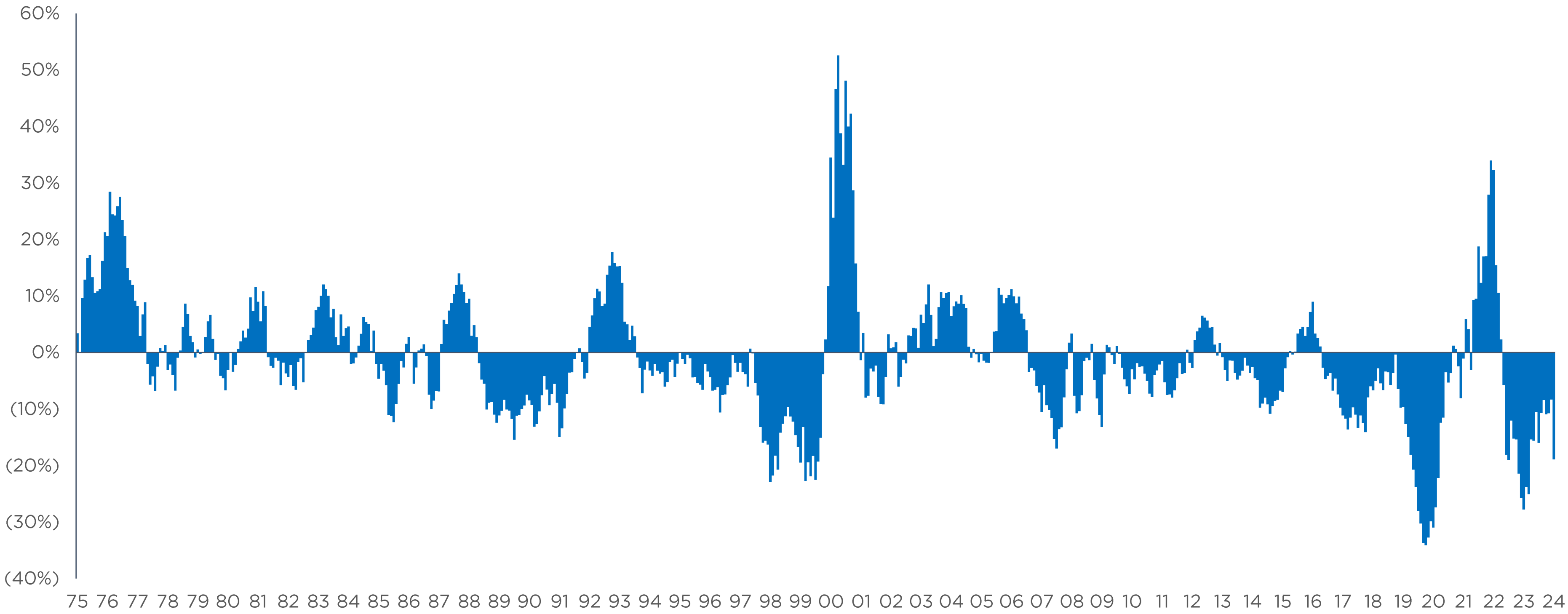
Sector	% of Market Cap.	%tile vs. History	Count
Communication Services	8.7%	46.1%	4
Consumer Discretionary	12.3%	92.5%	8
Consumer Staples	10.9%	50.0%	10
Energy	21.2%	85.3%	11
Financials	8.8%	2.9%	8
Health Care	9.5%	79.0%	6
Industrials	7.2%	24.2%	7
Information Technology	1.4%	29.3%	1
Materials	3.3%	62.3%	4
Real Estate	4.5%	35.4%	5
Utilities	12.2%	93.8%	12

Source: Trivariate Research

VALUE INVESTING IS A CURIOUS PROPOSITION FOR ALLOCATORS

Over the past 50 years, the MSCI US Value Index has underperformed the MSCI US Growth Index by an average of 1.3% a month - and over the last 25 years closer to 2% per month. That's MASSIVE. Since the early 1990s, or basically for the last 30 years, the only sustained periods where Value beat Growth were post the TMT bubble and the immediate aftermath of COVID. We have our doubts that there will be a sustained period where "Value" stocks outperform, particularly in an up tape. We are not sure what marketing folks could tell allocators about Value investing that could resonate.

MSCI USA Value vs Growth
Rolling 12m Performance Spread
Through End-December, 2024

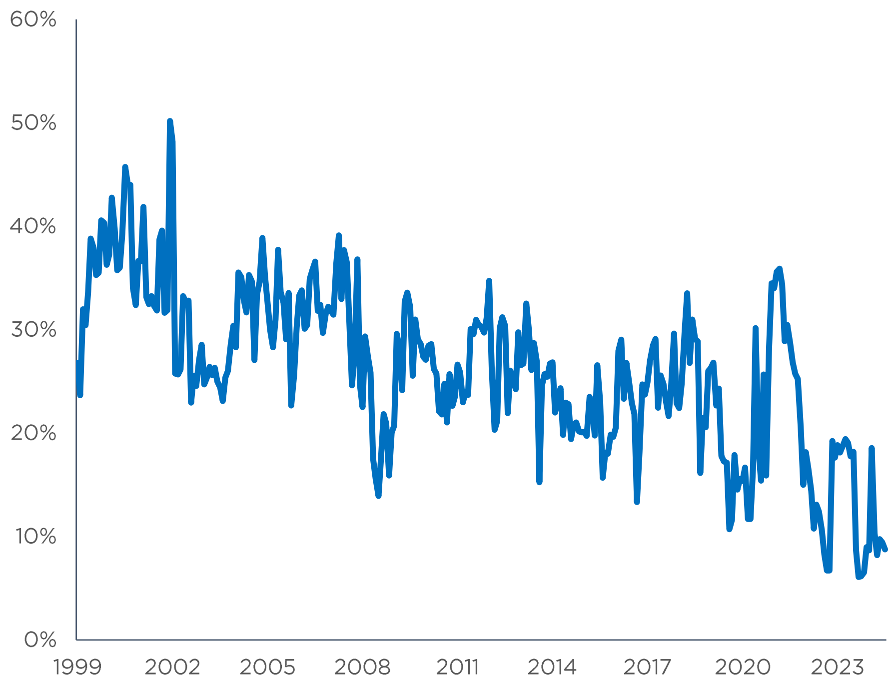


Source: Trivariate Research

NONE OF THE TEN BIGGEST FINANCIALS ARE VALUE

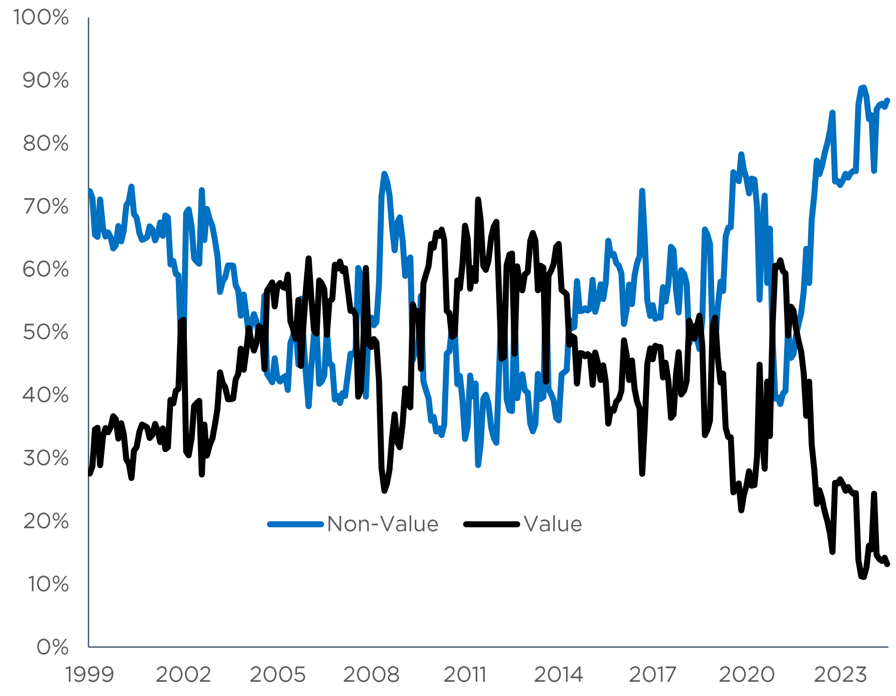
Within mega- / large-cap. Value, the percentage of the universe that is Financials has declined over time and is now in the 3rd percentile vs. its 25-year history, at 8.8% of the market capitalization (left). None of the largest 10 Financials by market capitalization are in the Value tertile today. 85% of the Financials Sector market cap is not Value (right), and the first $5 Trillion of Financials market cap. is not Value either.

Mega / Large Cap. Value Stocks
Percent of Market Cap. That Is Financials
Through End-December, 2024



Source: Trivariate Research

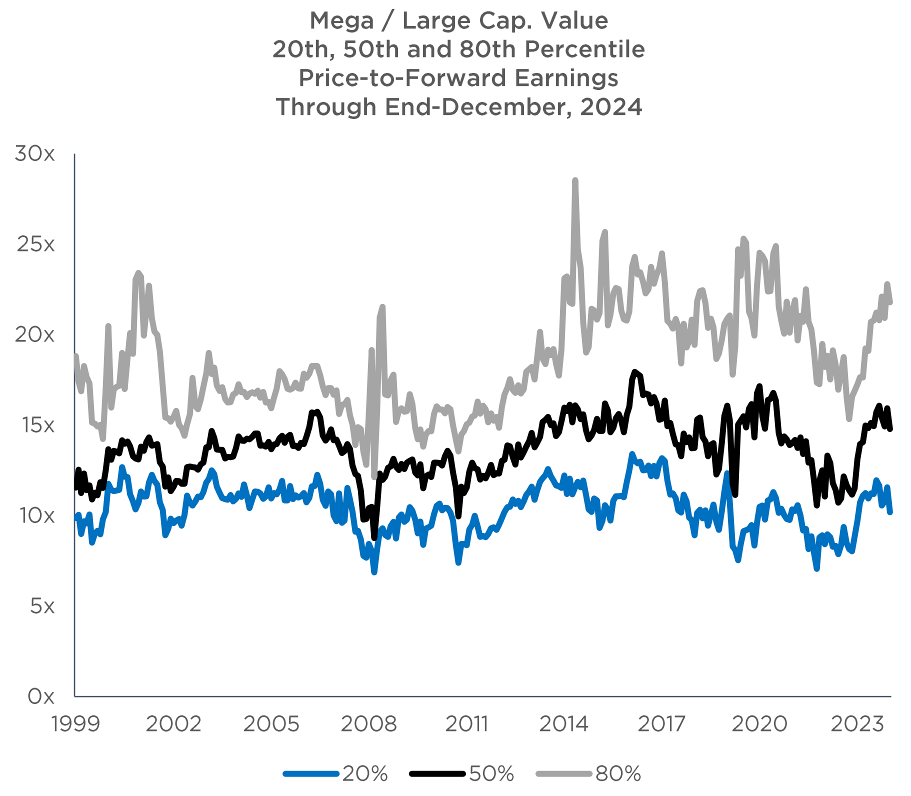
Financials Sector
% of Market Cap. By Style
Through End-December, 2024



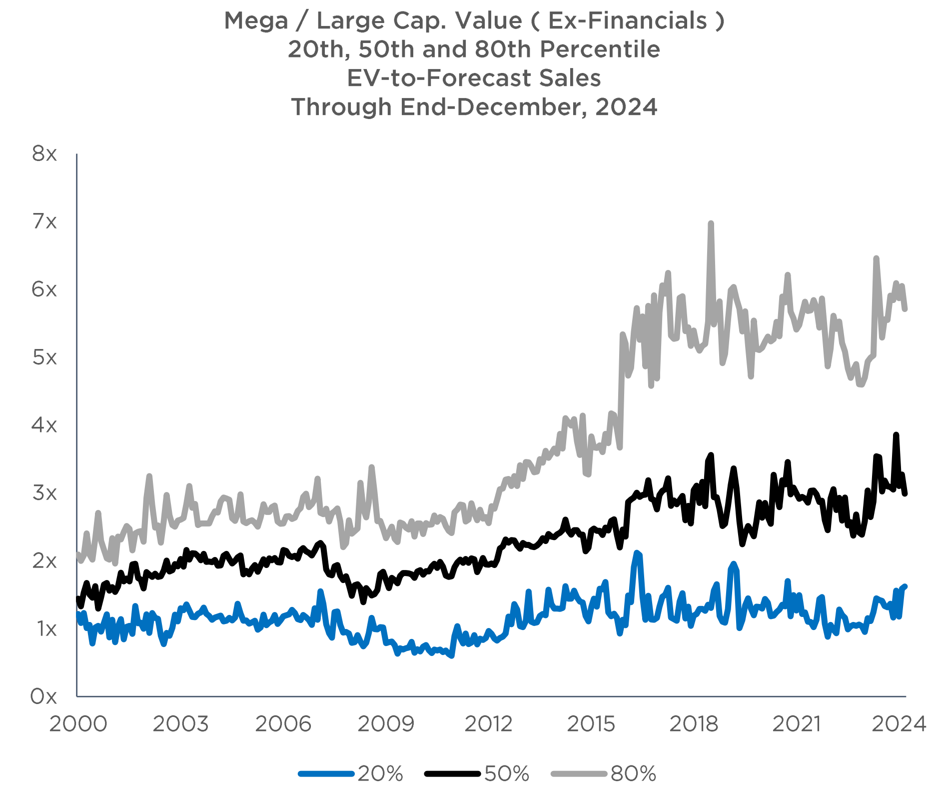
Source: Trivariate Research

THE MEDIAN MEGA- / LARGE-CAP VALUE STOCK IS NOT CHEAP

Given the recent move in mega- / large-cap Value stocks, the absolute valuation no longer looks particularly compelling vs. history. In fact, at 14.8x price-to-forward earnings, the median mega- / large-cap. Value stock is in the 74th percentile vs. history (left). The 80th percentile Value stock trades at a price-to-forward earnings of 21.8x, the 84th percentile vs. its own history. On the Enterprise Value-to-Forecasted Sales (right) the median stock is at 3.0x, the 90th percentile vs. history.



Source: Trivariate Research

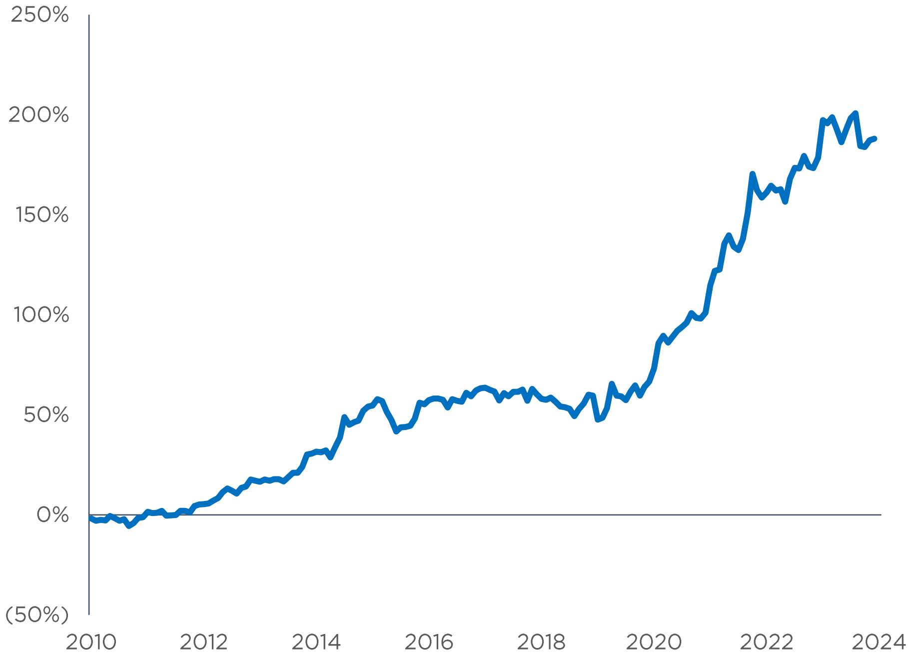


Source: Trivariate Research

LOW CAPITAL INTENSITY AND HIGH FCF YIELD AMONG VALUE IS BEST

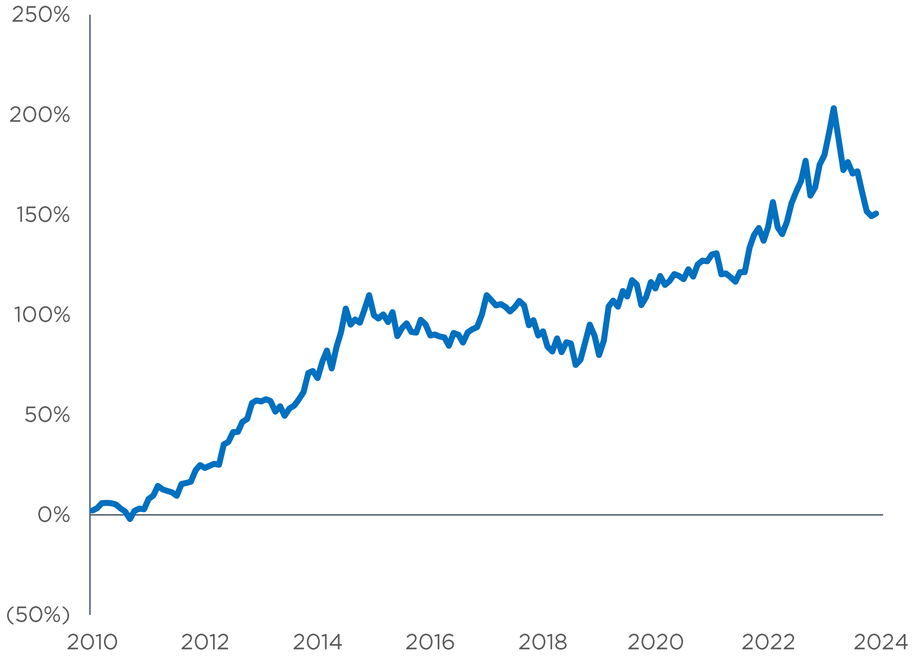
There have been periods where stocks that are cheap on price-to-free cash flow don't outperform those that are expensive among mega- / large-cap Value stocks, such as the five-year period between 2014-2019, but this metric was effective in 2020 through 2023 before losing efficacy recently (left). Obviously, this is correlated to capital spending, and high capital spenders had lagged less capital-intensive business models since 2019 until last February, where capital intensity was "perverse" in its efficacy (right).

Mega / Large Cap. Value
Free Cash Flow Yield
Cumulative Returns of Top (High) – Bottom Tertile (Low)
Through End-December, 2024



Source: Trivariate Research

Mega / Large Cap. Value
Capital Spending-to-Sales
Cumulative Return of Top (Low) - Bottom Tertile (High)
Through End-December, 2024

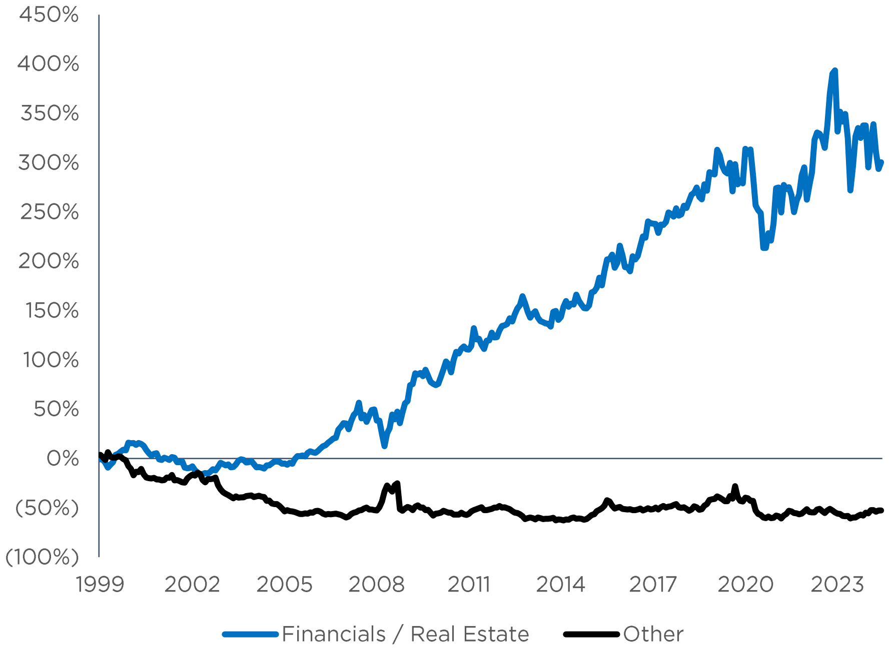


Source: Trivariate Research

SIGNALS USED TO PICK FINANCIALS VS. NON-FINANCIALS VARY

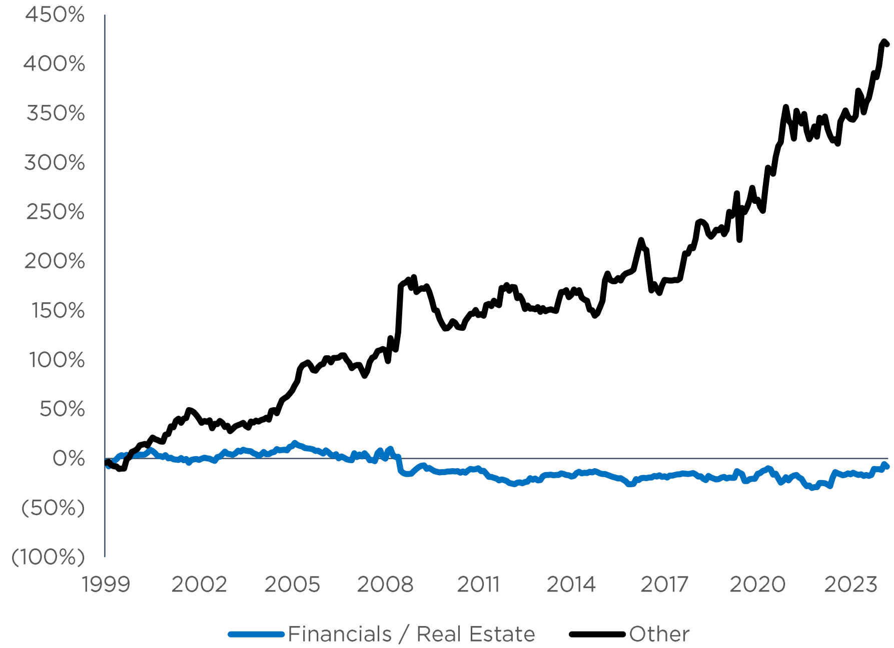
The reason the sector constitution matters so much is that the types of signals that help investors pick winners from losers is typically quite different for Financials stocks. Within Financials, those that are unlikely to default strongly outperform those with more default risk (left), whereas that is not an efficacious metric for identifying Value stocks outside of Financials. On the contrary, growth in net debt matters among non-Financials Value stocks (right), in contrast to Financials where it is not *per se* a relevant metric for stock selection.

Distance-to-Default
Q1 vs. Q5 Beta-Adjusted Return Spread
Top Half of Quality & Value Universe
Through End-December, 2024



Source: Trivariate Research

3m Growth in Net Debt
Q1 vs. Q5 Beta-Adjusted Return Spread
Top Half of Quality & Value Universe
Through End-December, 2024



Source: Trivariate Research

SMALL CAPS ARE NOT CHEAP ONCE ADJUSTING FOR STYLE

Small caps look cheap compared to large caps optically, as evidenced by the price-to-forward earnings of the cap-weighted universe hovering near 20-year highs compared to the equal-weighted universe (left). But, when you adjust for style (right), the case is less compelling. Both mega-/ large- and small-cap Growth stocks are expensive vs. their own histories at 29.8x and 31.5x, respectively. Small-cap Value is the only cohort cheap vs. its own history.

Price-to-Forward Earnings of Top 500 Cap-Weighted vs. Equal-Weighted Through End-December, 2024

Source: Trivariate Research

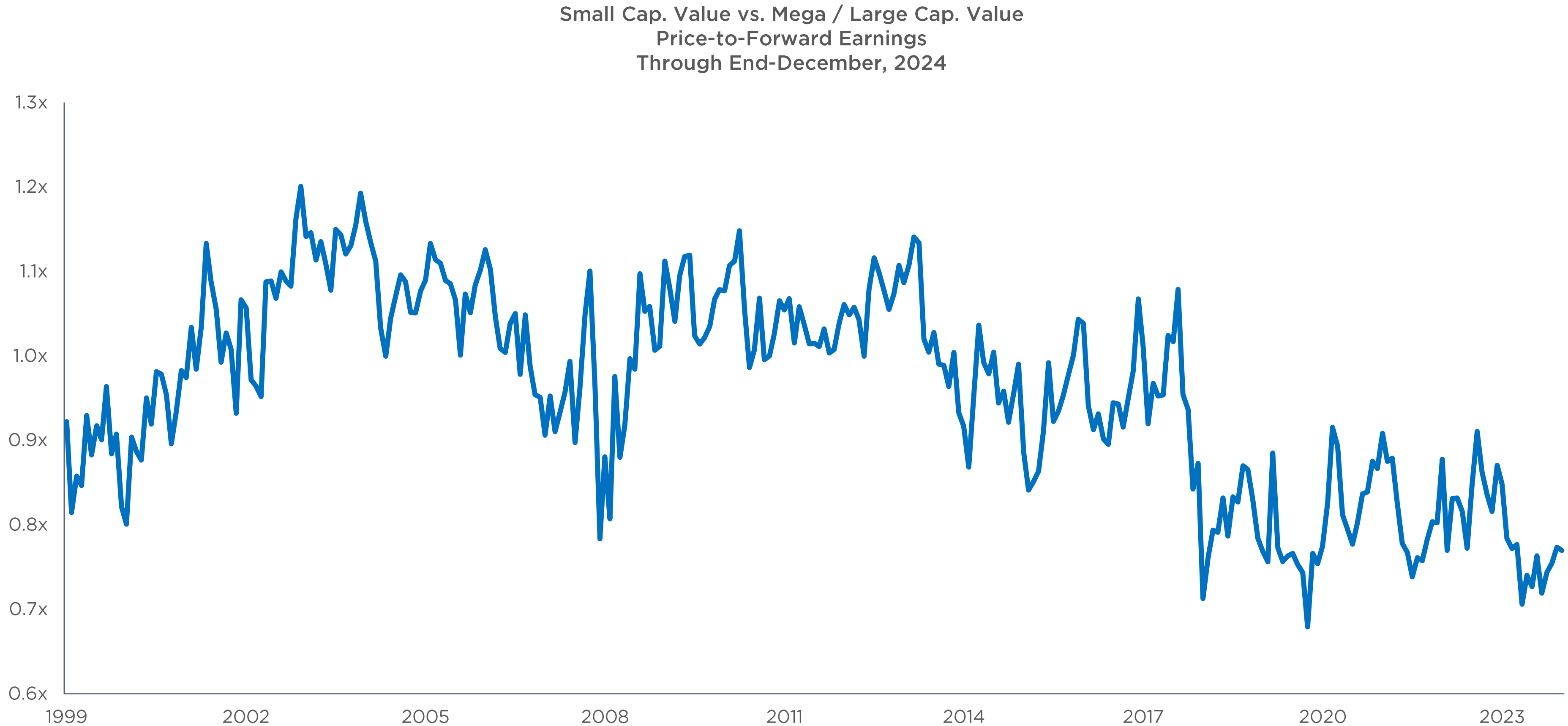
Market Capitalization Weighted Price-to-Forward Earnings End-December, 2024

Cohort	Value	Percentile vs. History (Since 1999)
Top 3000	22.0x	85%
Mega / Large	22.9x	86%
Mega / Large Excluding Magnificent 7	20.0x	82%
Small	18.6x	27%
Mega / Large Cap. Growth	29.8x	81%
Mega / Large Cap. Value	13.7x	58%
Small Cap. Growth	31.5x	70%
Small Cap. Value	11.7x	19%

Source: Trivariate Research

SCV CHEAP VS. LCV ONLY ON 25-YEAR VIEW, NOT 7-YEAR VIEW

Because small-cap Value (SCV) is cheap, many investors have been calling for the outperformance of SCV stocks over large-cap Value (LCV). Small caps got a boost post the election in November on the specter of lower taxes, less regulation, and ultimately the potential for higher earnings growth. On price-to-forward earnings it doesn't appear today's valuation is particularly attractive vs. the last five years, only just vs. the last 25 years.

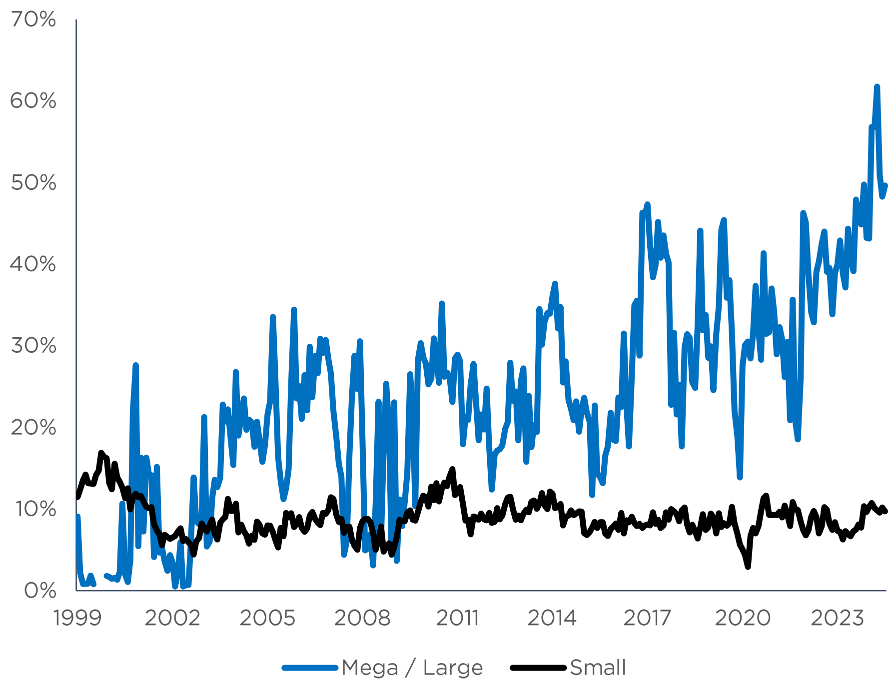


Source: Trivariate Research

THE LARGE CAP UNIVERSE IS WAY HIGHER QUALITY THAN SMALL CAP

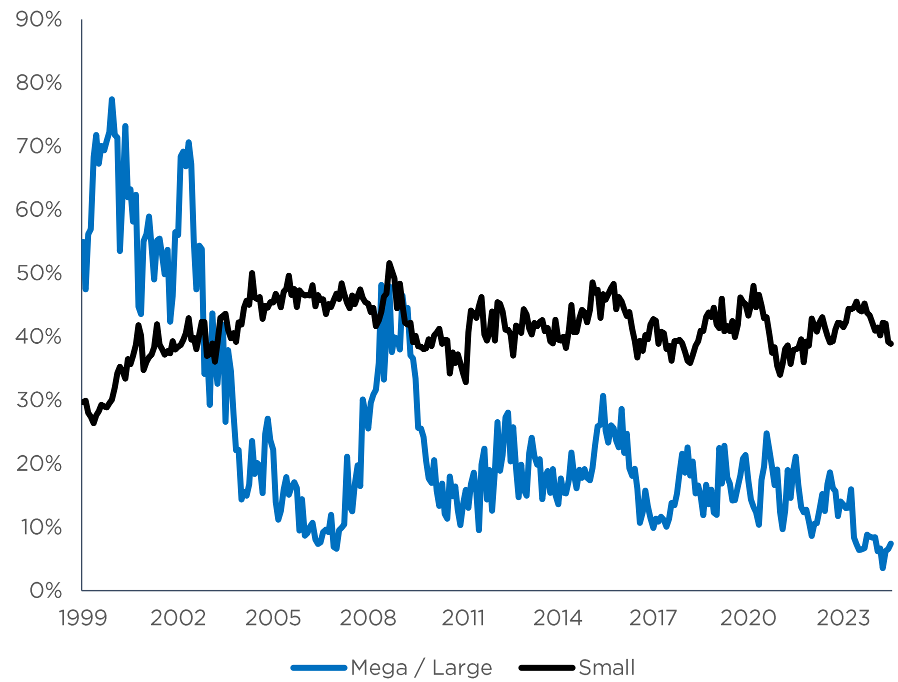
There's a reason we think SCV is relatively cheap vs. LCV. The percentage of market capitalization of the LCV universe that is in the highest quartile of our proprietary substance model, we call "high quality" is 50%, as compared to the SCV universe, where only 10% of its market cap. is in the highest quality quartile (left). The LCV universe has 7% of its market cap. in "junk" (right). On the contrary, the SCV universe is 39% junk. In our judgment, these trends explain part of the valuation disconnect vs. history. **Small cap. stocks are not as cheap vs. large cap. stocks once you adjust for style and substance.**

Small Cap. VS. Mega / Large Cap. Value Stocks
Percent of Market Cap That Is High Quality
Through End-December, 2024



Source: Trivariate Research

Small Cap. VS. Mega / Large Cap. Value Stocks
Percent of Market Cap That Is Junk Quality
Through End-December, 2024

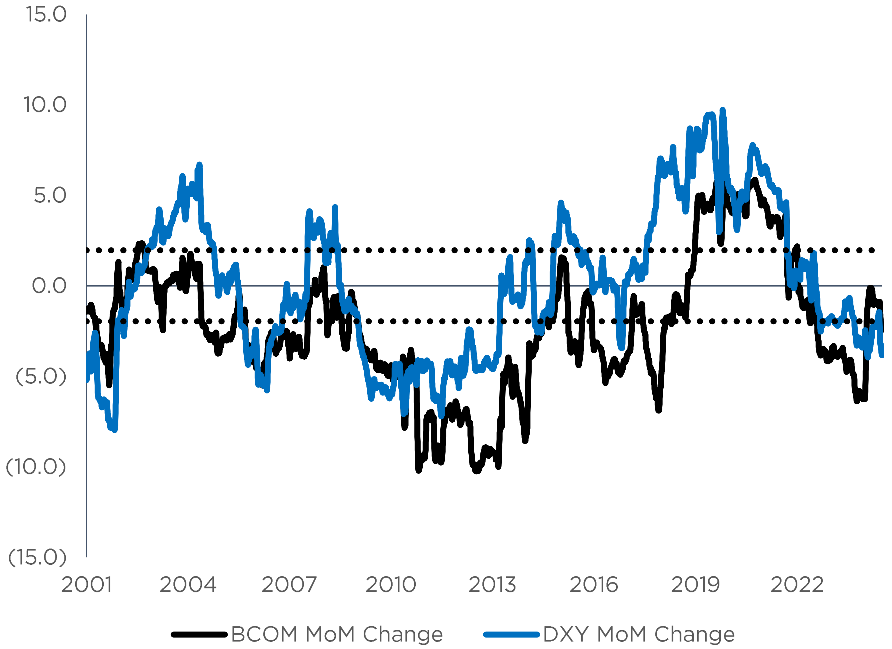


Source: Trivariate Research

SMALL CAP PERFORMANCE IS RELATED TO AN EXPECTED RECOVERY

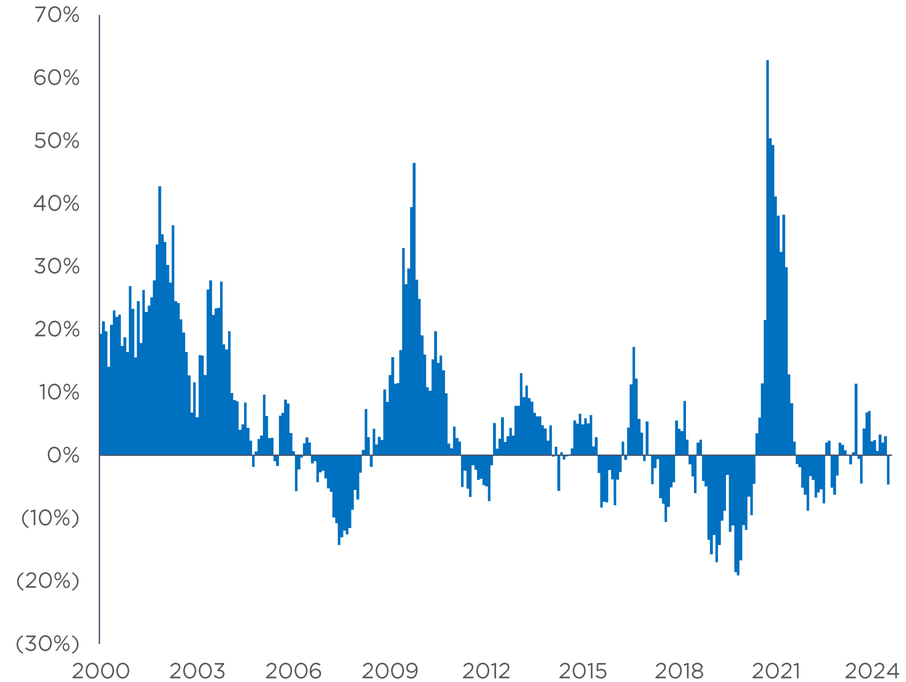
We wondered whether commodity prices or currency moves could impact the relative performance of SCV vs. LCV. We looked at the 2-year rolling T-statistic and found no strong relationships between stock performance and changes in commodities or currencies (left). Other than the immediate aftermath of the Financials Crisis and COVID, SCV has generally lagged LCV since 2010 until the rally in the middle of 2024. It seems we need a recession before we can buy the SCV relative recovery in our view, yet stocks rallied as if there was a recession recovery coming in Q4. We would not expect small caps to outperform in a flat-to-down tape.

2-Year Rolling T-Statistic, Value Universe
1m Performance Differential (Small cap – Large Cap)
vs. MoM Change of Commodities and Dollar Index (DXY)
Through End-December, 2024



Source: Trivariate Research

Rolling 12-Month Size Premium
Small Cap Value vs. Mega / Large Cap. Value
Through End-December, 2024



Source: Trivariate Research

SMALL CAPS DO NOT WORK AS A DEFENSIVE ASSET CLASS

By reading the headlines from several 2025 year-ahead outlooks, we have learned that the overwhelming consensus is that small caps will outperform. Given we see the possibility of a weaker first half of 2025, we analyzed how likely it is that small caps. work in that environment. The only time small caps outperformed in a down tape was the TMT bubble unwind. If you are bullish, you can own small caps - but if you are neutral to negative – there is limited historical precedent.

Performance of S&P500 and Russell 2000 in Corrections of S&P500 of 10% or More Since 1986

Start of Correction	End of Correction	Number of Months	S&P500 Return	R2K Return
8/31/1987	11/30/1987	3	(30.2%)	(35.5%)
5/31/1990	10/31/1990	5	(14.7%)	(28.9%)
6/30/1998	8/31/1998	2	(15.4%)	(25.9%)
8/31/2000	9/30/2002	25	(44.7%)	(30.6%)
10/31/2007	2/27/2009	16	(50.9%)	(52.0%)
4/30/2010	6/30/2010	2	(12.8%)	(14.7%)
4/29/2011	9/30/2011	5	(16.3%)	(25.1%)
9/28/2018	12/31/2018	3	(13.5%)	(20.2%)
12/31/2019	3/31/2020	3	(19.6%)	(30.6%)
12/31/2021	9/30/2022	9	(23.9%)	(25.1%)

Source: Trivariate Research

PART 2: COHORT SUMMARY

- **Broad:** Given how big the three largest sectors are, and how small the four smallest are, we are going to continue to hear investors complain about breadth. It just isn't borne out by the data. There has been plenty of breadth. There are just 3 big sectors and 4 small ones, and that influences the market level accordingly.
- **High-quality, low-beta Growth:** Skewing toward mid-to-low beta, and high-quality Growth makes sense. Unless the market is up more than 12%, lower beta has enough incremental alpha to matter.
- **Value:** Focus on stocks that have low capital intensity and high free cash flow yield.
- **Do not overweight small caps:** Small caps typically only work in a recession recovery and aren't that cheap when you normalize for quality and style. We do not recommend investors overweight small caps.

CONCLUSION: We like high quality, mid-to-low beta Growth stocks, and select Value with high free cash flow. Given our view that we could have a poor first half, skewing toward low beta is key. Moreover, we would not recommend owning small cap. stocks, as they rarely outperform in a down tape.

PART 3 OUTLINE: SECTORS

- **As part of our 2025 year ahead outlook, we are upgrading Industrials to Overweight, and Financials to Market-weight.**
- **We are downgrading Utilities to Market-weight.**
- Our biggest recommended exposures are Technology (33%), Healthcare (15%), Financials (14%), and Industrials (12%). The biggest differences between our sector recommendations and the S&P500 index weights are Healthcare (Overweight by 5%), Industrials (Overweight by 3.9%), and Consumer Discretionary (Underweight by 6.4%), and Communication Services (Underweight by 2.4%).
- **For Industrials,** our proprietary Industrial Activity Gauge is now expanding, the market is likely to anticipate the forecasted earnings acceleration in Q3 of 2025, and inventory-to-sales levels have peaked.
- **For Healthcare**, the stock underperformance has been unprecedented, despite expectations for high earnings growth and the history of stable top-line growth. Moreover, the sector is a clear M&A beneficiary, with 5.5% of all Healthcare stocks receiving a tender offer every 12 months.
- We are cautious on **Consumer Discretionary**, as macro trends are slowing and estimate achievability is below average.
- We have identified 6 Growth baskets, AI Semiconductors, AI Software, Electrification Industrials, Housing / Building Products, Healthcare Services, and Power / Utilities that we think investors will want thematic exposure to in 2025.

TRIVARIATE SECTOR RECOMMENDATIONS

We are recommending Healthcare and Industrials. We are cautious on Communication Services and Consumer Discretionary. In absolute terms, our biggest exposures are to Technology and Healthcare.

Trivariate Sector Recommendations as of December 31st, 2024

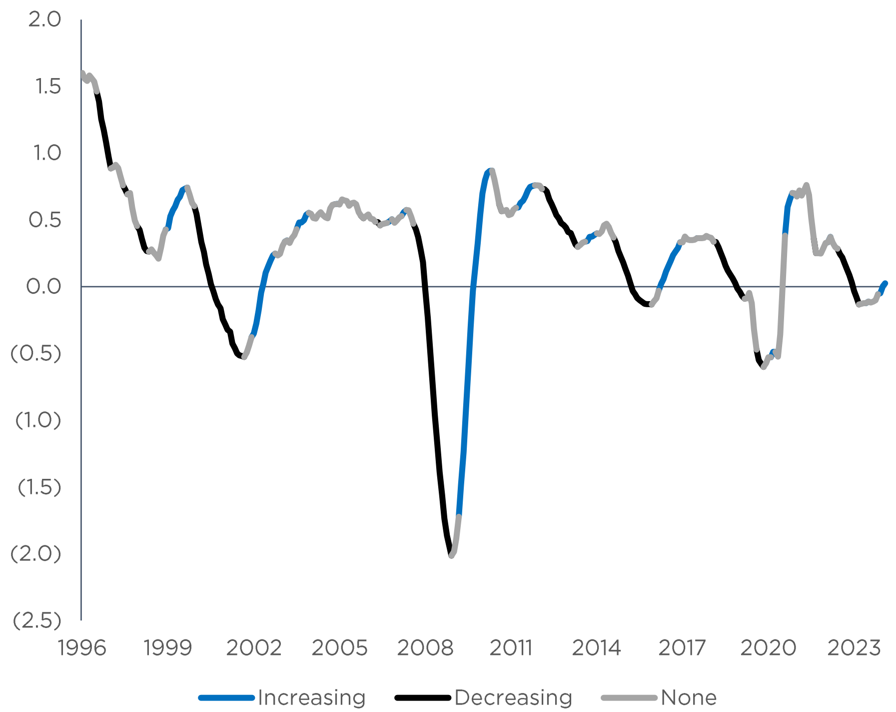
Sector	Total S&P 500 Market Cap. (US$ Trillion.)	Current S&P 500 Weight	Trivariate Old Recommended Weight	Trivariate Changes for Jan 2025	Trivariate New Recommended Weight	Trivariate-Relative Weight	Trivariate Recommendation	Comments
Health Care	**5.28**	**10.0%**	17.0%	(2%)	15.0%	5.0%	Overweight	It appears to us that Healthcare has above average estimate achievability, and compelling valuation.
Industrials	**4.23**	**8.1%**	9.0%	3%	12%	3.9%	Overweight	Industrial activity is inflecting, earnings accelerate in Q3 2025, inventory has peaked
Financials	**6.96**	**13.5%**	10.0%	4%	14%	0.5%	Equal-Weight	Earnings expectations seem achievable in first half of 2025. M&A / deal flow will help, prefer large to small cap
Consumer Staples	**3.22**	**5.5%**	8.0%	(2%)	6.0%	0.5%	Equal-Weight	The winners here will need topline upside and margin expansion
Information Technology	**16.81**	**32.7%**	29.0%	4%	33%	0.3%	Equal-Weight	Exposure to key growth themes for 2025, market-weight the large stocks
Materials	**0.97**	**1.9%**	2.0%	None	2%	0.1%	Equal-Weight	Small piece of S&P500, long-term copper dynamics seem favorable
Energy	**1.62**	**3.1%**	3.0%	None	3%	(0.1%)	Equal-Weight	Expectations are low, but we have no confidence multiples will expand, perhaps gas has more upside than oil
Utilities	**1.18**	**2.3%**	5.0%	(3%)	2.0%	(0.3%)	Equal-Weight	Some idiosyncratic investments are sensible, but valuations can't be justified by likely growth rates
Real Estate	**1.07**	**2.1%**	1.0%	None	1%	(1.1%)	Equal-Weight	Pockets of success, but likely a very long road to a recovery in CRE and a tiny sector in S&P500
Communication Services	**5.09**	**9.4%**	11.0%	(4%)	7%	(2.4%)	Underweight	Cautious on businesses that are heavily indebted and need ARPU growth
Consumer Discretionary	**6.25**	**11.4%**	5.0%	None	5%	(6.4%)	Underweight	The Consumer stocks are embedding a recovery unlikely to unfold. Avoid physical retailers. 3 stocks matter

Source: Trivariate Research

INDUSTRIAL ACTIVITY AND EARNINGS APPEAR TO HAVE BOTTOMED

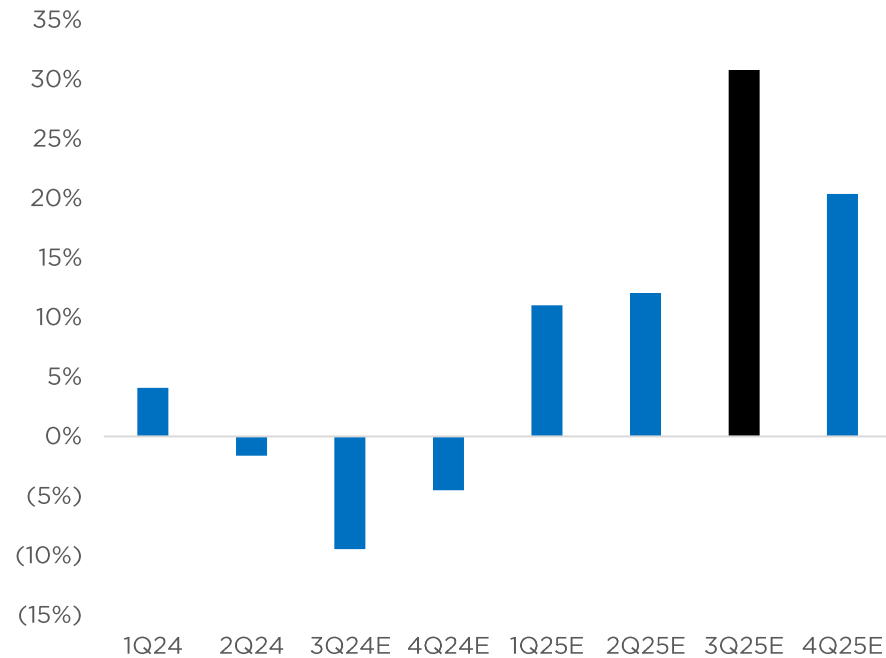
Our proprietary Industrial Activity gauge, which combines several activity and production metrics, bottomed several quarters ago, and now is improving for the first time in more than two years (left). Evidence includes improvement in North American Car-Loads, Dry Van Rate per Mile, and Auto SAAR, among other metrics. Industrials' earnings were down year-over-year in the October quarter and are forecasted to remain negative in Q4 (right). However, strong growth is forecasted through Q3 2025, as comparisons from today's level are quite easy. Typically, the market is anticipatory of earnings acceleration by 3-to-6-months, supportive of increasing Industrials exposure today.

Trivariate Industrial Activity Gauge
Through End-December, 2024



Source: Trivariate Research

Industrials
Forecasted Bottom-Up Consensus Year-over-Year
Quarterly EPS Growth Through Q4 2025
As of January 3rd, 2025

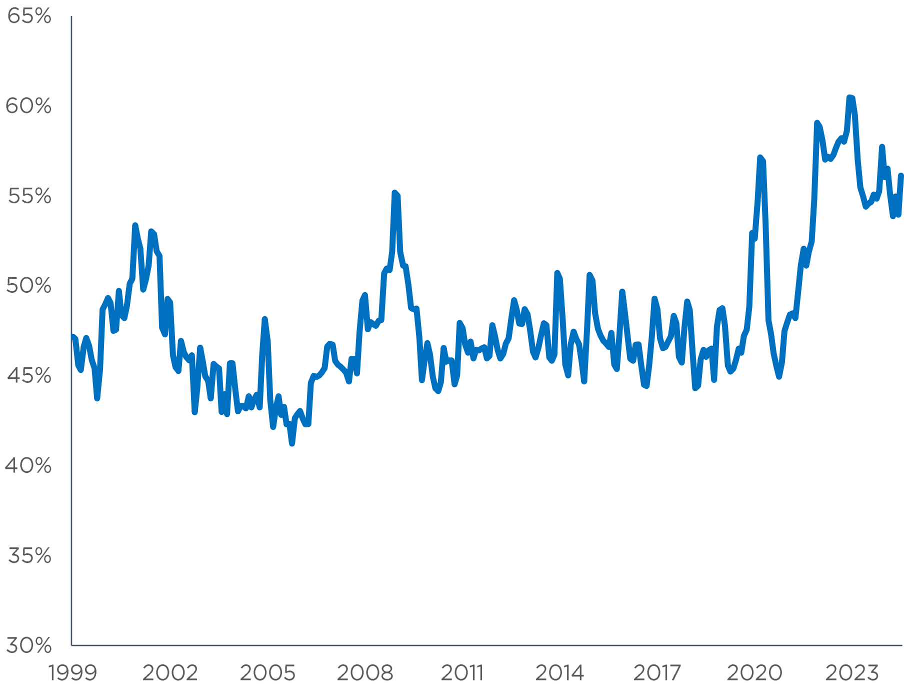


Source: Trivariate Research

INDUSTRIALS: INVENTORY HAS PEAKED

Inventory-to-sales is still relatively high vs. history but peaked in June of 2023 and is slowly being burned off (left). Change matters more than level when it comes to inventory-to-sales in terms of subsequent stock performance. For stock ideas, we show on the right Industrials that are high-quality, have a beta less than 1.2x, and forecasted revenue of 5% or higher for the next 12 months. RTX, TT, WM are among the preferred names.

Industrials
Median Inventory-to-Sales
Through End-December, 2024



Source: Trivariate Research

High-Quality, Low Beta Industrials Companies
End-December, 2024

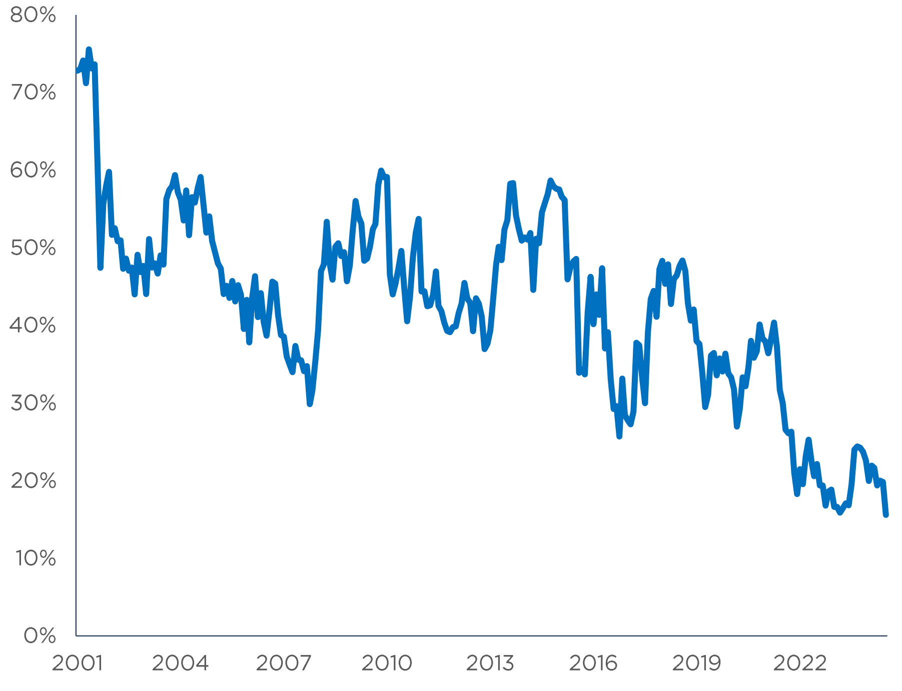
Ticker	Company	Industry	Market Cap. (US $Bil.)
RTX	RTX Corporation	Aerospace & Defense	154.03
TT	Trane Technologies plc	Building Products	83.11
WM	Waste Management, Inc.	Commercial Services & Supplies	80.99
TDG	TransDigm Group Incorporated	Aerospace & Defense	71.26
RSG	Republic Services, Inc.	Commercial Services & Supplies	63.00
CPRT	Copart, Inc.	Commercial Services & Supplies	55.30
GWW	W.W. Grainger, Inc.	Trading Companies & Distributors	51.33
WCN	Waste Connections, Inc.	Commercial Services & Supplies	44.28
AME	AMETEK, Inc.	Electrical Equipment	41.70
FAST	Fastenal Company	Trading Companies & Distributors	41.20
VRSK	Verisk Analytics, Inc.	Professional Services	38.89
WAB	Westinghouse Air Brake Technologies Corporation	Machinery	33.21
XYL	Xylem Inc.	Machinery	28.19
FTV	Fortive Corporation	Machinery	26.02

Source: Trivariate Research

HEALTHCARE HAS HAD ITS WORST STRETCH IN MORE THAN 25 YEARS

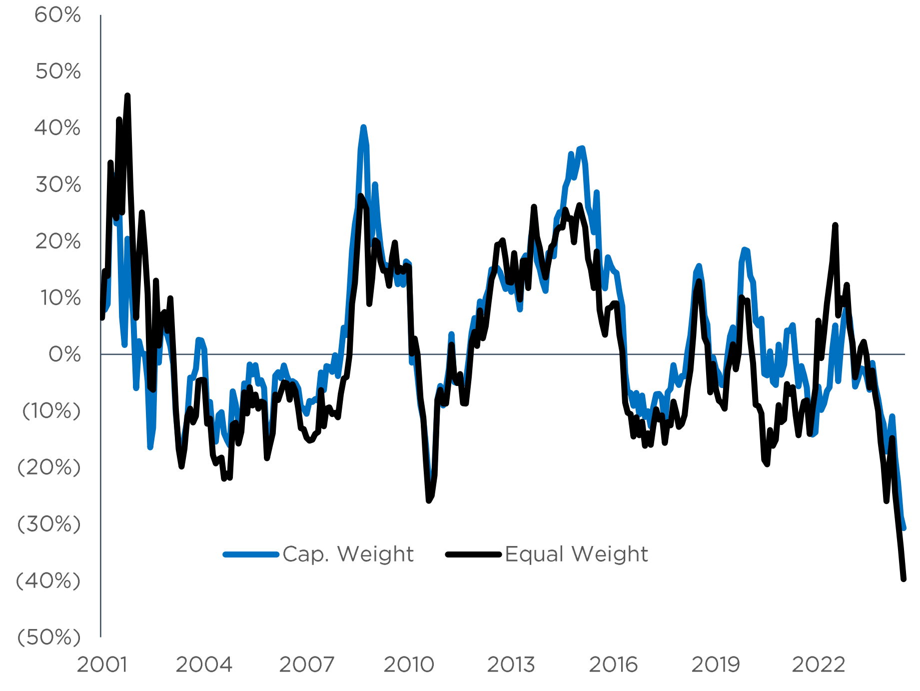
For Healthcare investors, the last few years have been a particularly challenging time. **Less than 20% of Healthcare stocks have beaten the market over the last two years,** the lowest percentage of winners in at least two decades (left). In fact, on a rolling two-year basis, the equally-weighted Healthcare sector has now experienced its worst performance vs. the market excluding Healthcare in more than 25 years (right).

Percent of Healthcare Stocks Outperforming S&P500
24-Month Rolling Window, Top 3000 US Equities
Through End-December, 2024



Source: Trivariate Research

24-Month Rolling Cumulative Return
Healthcare vs. Ex-Healthcare Spread, Top 500 US Equities
Through End-December, 2024



Source: Trivariate Research

HEALTHCARE EPS IS FORECASTED TO GROW ACROSS ALL INDUSTRIES

Yet, net income growth is projected to be positive across the board for each Healthcare sub-industry in 2025, in contrast to the poor stock performance. Pharma earnings are forecasted to grow 36% in 2025, followed by Biotechnology at 29%, and Healthcare Distributors at 16%. The lowest earnings forecast in Healthcare is expected to be in Managed Care, at 5.6%. This level of relative performance means investors are assuming material volatility will be introduced into earnings, in part by RFK Jr.'s role overseeing the Department of Health and Human Services.

Bottom-Up Analyst Net Income Growth Expectations by Healthcare Sub-Industry, Top 500 US Equities
End-December, 2024

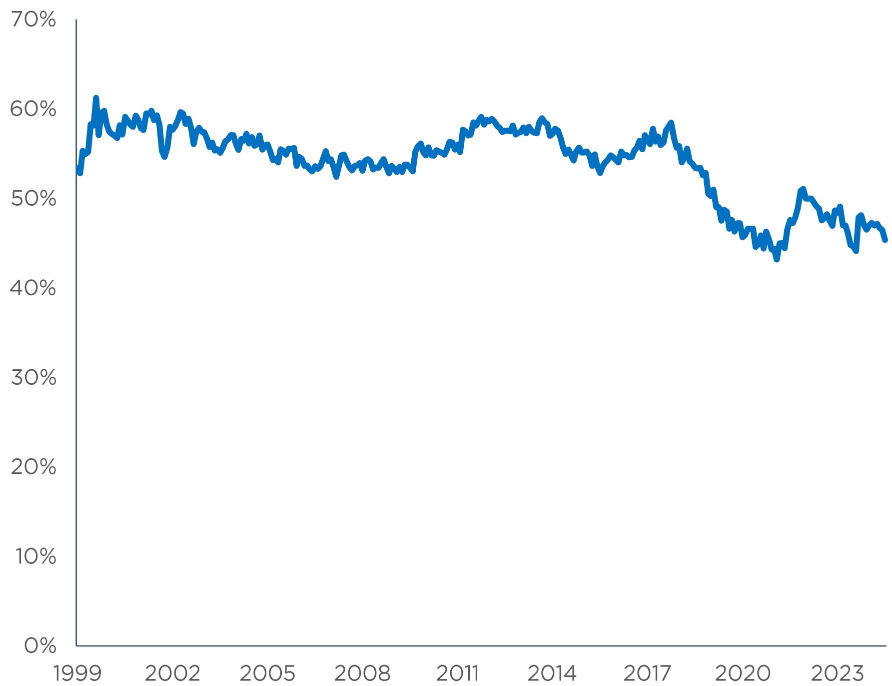
Sub-Industry	2023	2024E	2025E	Largest 3 Tickers
Pharmaceuticals	(42.1%)	21.1%	36.2%	LLY, JNJ, MRK
Biotechnology	(28.9%)	(10.4%)	29.1%	ABBV, AMGN, GILD
Health Care Distributors	11.8%	0.4%	15.7%	MCK, COR, CAH
Health Care Supplies	10.7%	10.2%	12.3%	COO, ALGN, SOLV
Health Care Services	(4.1%)	(19.2%)	10.6%	CI, CVS, LH
Health Care Equipment	2.0%	7.8%	10.1%	ABT, ISRG, SYK
Health Care Technology	13.7%	34.4%	8.8%	VEEV, DOCS, WAY
Health Care Facilities	5.6%	8.9%	7.8%	HCA, THC, UHS
Life Sciences Tools & Services	(14.8%)	2.1%	7.8%	TMO, DHR, A
Managed Health Care	10.6%	1.7%	5.6%	UNH, ELV, CNC

Source: Trivariate Research

HEALTHCARE MARGIN EXPANSION POTENTIAL IS HIGH

There are many Healthcare companies that have gross margins less than 50% (left), so while so many companies have improved their gross margins, there is still ample opportunity for improvement. Given there are so many AI-for-Healthcare applications, we are confident that margin expansion potential in many Healthcare businesses is above average. Healthcare companies with many employees and, therefore, margin expansion potential (right) include UNH, MCK, CAH, LH, and DGX, among others.

% of Healthcare Companies with Gross Margins < 50%
Ex-Pharma. & Biotech, Top 3000 US Equities
Through End-December, 2024



Candidate Healthcare Companies for AI-Driven Margin Expansion
High Number of Employees, Below Peak Margin
End-December, 2024

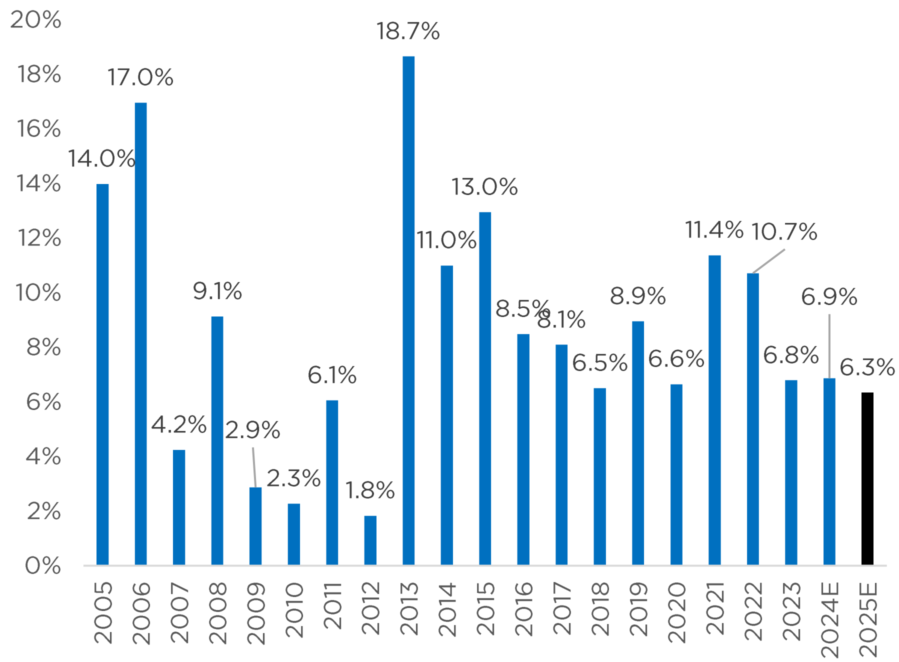
Ticker	Company	Sub-Industry	Number of Employees	Market Cap. (US $Bil.)
UNH	UnitedHealth Group Incorporated	Managed Health Care	440,000	465.5
ABT	Abbott Laboratories	Health Care Equipment	114,000	196.2
CI	The Cigna Group	Health Care Services	72,500	76.8
MCK	McKesson Corporation	Health Care Distributors	51,000	72.3
CAH	Cardinal Health, Inc.	Health Care Distributors	48,900	28.6
LH	Labcorp Holdings Inc.	Health Care Services	67,000	19.2
DGX	Quest Diagnostics Incorporated	Health Care Services	48,000	16.8
MOH	Molina Healthcare, Inc.	Managed Health Care	18,000	16.6
BAX	Baxter International Inc.	Health Care Equipment	60,000	14.9
AVTR	Avantor, Inc.	Life Sciences Tools & Services	14,500	14.3

Source: Trivariate Research

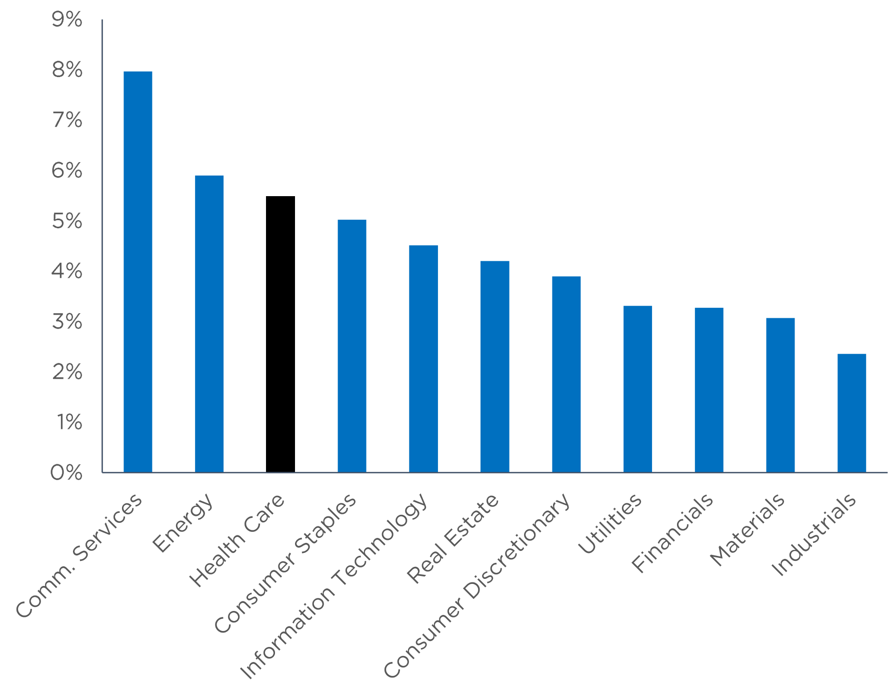
M&A SHOULD BE A BIG POSITIVE FOR HEALTHCARE IN 2025

The historical growth rate for Healthcare stocks has been quite steady, with no down years in the last TWENTY years (left). An additional part of the bull case for Healthcare is that it is a potential M&A beneficiary. Typically, 5.5% of the Healthcare stocks in the top 1000 by market capitalization receive a tender offer every 12-months. That makes Healthcare a top three sector for M&A (right). In our view, it is incongruous to bid up the Investment Banking stocks – as we have seen since the Red Sweep – and not conclude select Healthcare stocks will also see multiple expansion.

Healthcare
Bottom-up Consensus Revenue Growth Per Share
Through 2025E
As of January 3rd, 2025



% of Companies that Receive an Acquisition Offer
Mean of Each Year, Top 1000 US Equities
1999 to End-December, 2024

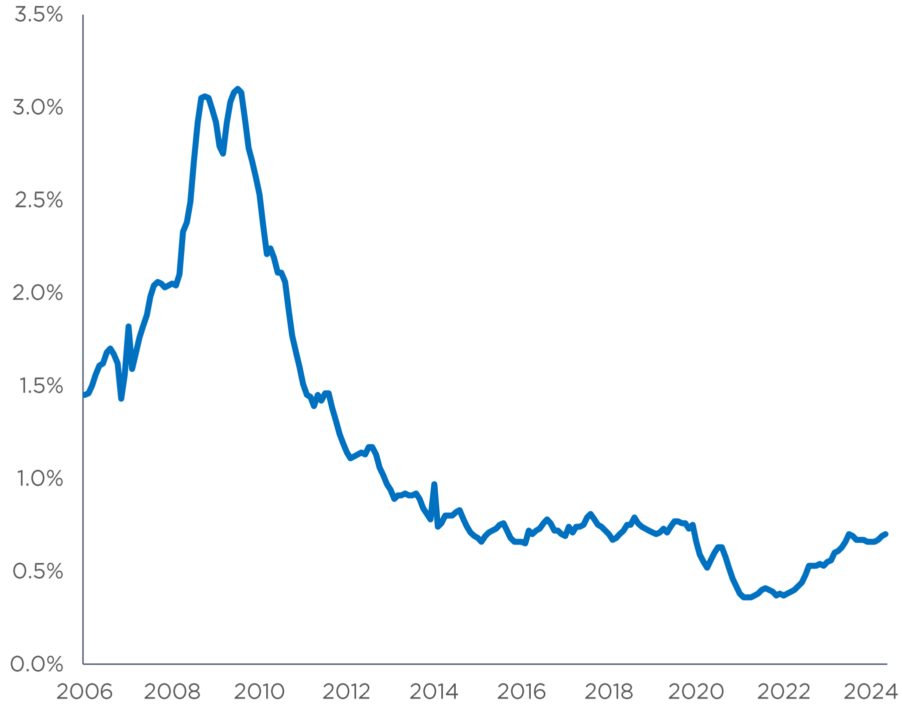


Source: Trivariate Research

CONSUMER MACRO TRENDS MAY BE SLOWING, AND 3 STOCKS MATTER

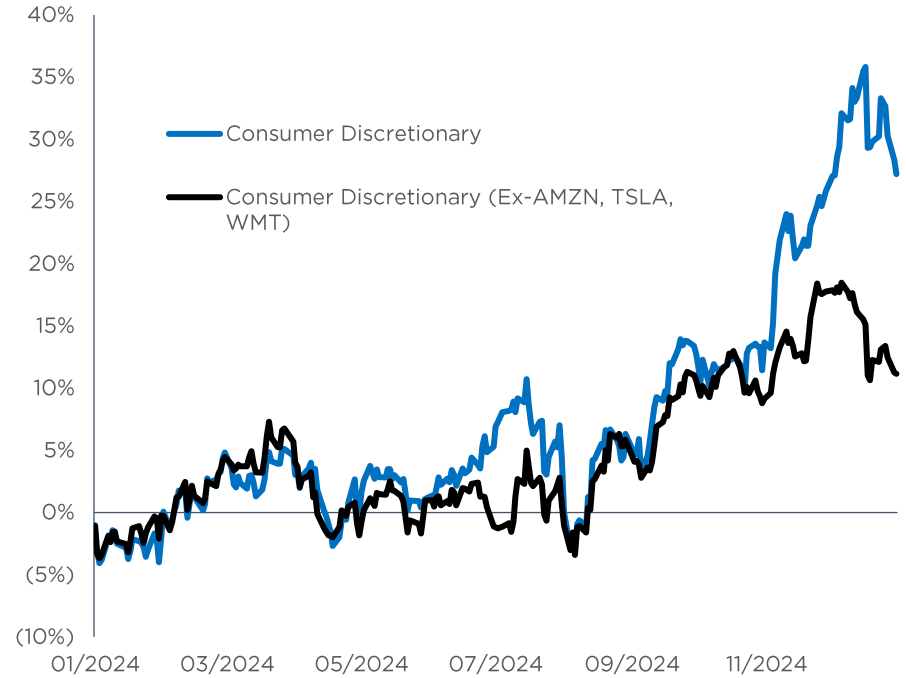
We see some macro trends beginning to slow (our proprietary Consumer Activity Gauge is level after increasing previously). 90-day credit card delinquencies have slowly crept up to cycle highs (left). We have been surprised how well the Consumer Discretionary sector has performed, though excluding TSLA and AMZN and WMT makes the story far different. The Consumer Discretionary sector is up 27% over the last year, but only 11% when "the Big 3 in CD" are removed (right). We would continue to avoid Physical Retailers and are now cautious on Casual Diners where we don't think fundamentally strong trends will persist through 2025.

US Credit Card 90+ Day Delinquency Rate
Through End-November, 2024



Source: Trivariate Research

Consumer Discretionary Sector With and Without Big 3
Cumulative Cap-Weighted Return
2024



Source: Trivariate Research

THE AI SEMICONDUCTOR BASKET

Below are the constituents in our AI Semiconductor basket as of the end of December 2024. We identified ten Semiconductor stocks whose recent earnings conference calls had the most mentions of "AI" related keywords. These words include phrases like LLM, GPU, and other phrases that indicate the company is focused on AI.

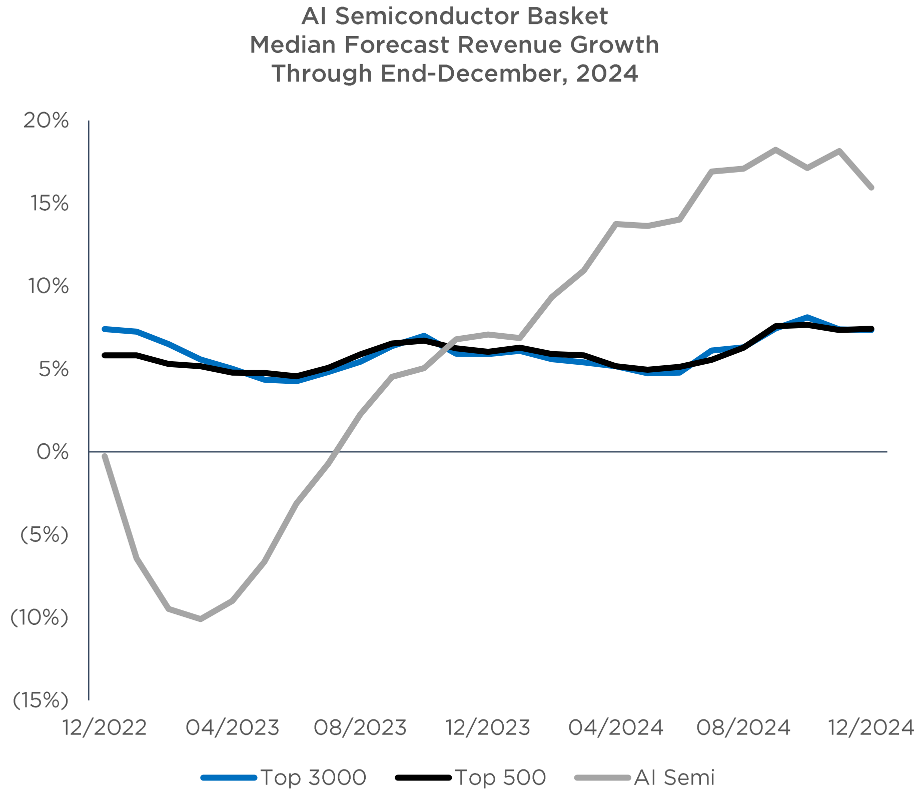
AI Semiconductor Basket Stocks
As of End-December, 2024

Ticker	Company	Sub-Industry	Market Cap. (US $Bil.)	Forecast Revenue Growth	Return Since 2023
NVDA	NVIDIA Corporation	Semiconductors	3288.76	69.7%	819.6%
AVGO	Broadcom Inc.	Semiconductors	1086.72	18.3%	329.8%
AMD	Advanced Micro Devices, Inc.	Semiconductors	196.02	33.7%	86.5%
QCOM	QUALCOMM Incorporated	Semiconductors	170.67	8.9%	46.3%
AMAT	Applied Materials, Inc.	Semiconductor Materials & Equipment	132.33	8.3%	69.9%
MU	Micron Technology, Inc.	Semiconductors	93.77	21.9%	70.3%
LRCX	Lam Research Corporation	Semiconductor Materials & Equipment	92.94	11.1%	75.7%
KLAC	KLA Corporation	Semiconductor Materials & Equipment	84.28	13.6%	70.6%
TER	Teradyne, Inc.	Semiconductor Materials & Equipment	20.51	22.2%	45.4%
AOSL	Alpha and Omega Semiconductor Limited	Semiconductors	1.08	3.7%	29.6%

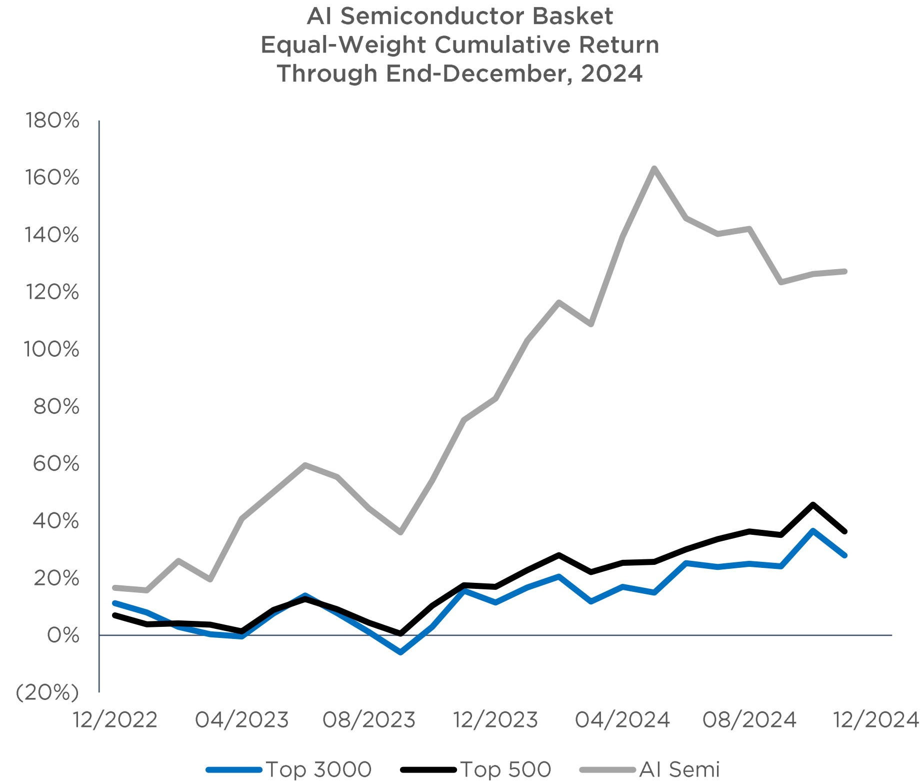
Source: Trivariate Research

EXPECTATIONS ARE FOR STRUCTURALLY HIGHER SEMIS GROWTH

Nvidia's (Ticker: NVDA) big upward sales revision in May of 2023 started a trend where the median AI Semiconductor company is now growing faster than the broader market, after coming out of a sharp post-COVID inventory correction in 2022. Current expectations for the median stock in the AI Semiconductor basket (left) are for 16% revenue growth over the next 12 months. Despite recent poor news from Micron (Ticker: MU), performance has been quite strong, with this group beating the Top 500 US equities by over 100% in the last two years on an equally-weighted basis.



Source: Trivariate Research



Source: Trivariate Research

THE AI SOFTWARE BASKET

Below are the constituents in our AI Software basket as of the end of December 2024. We identified 20 Software stocks whose recent earnings conference calls had the most mentions of "AI" related keywords.

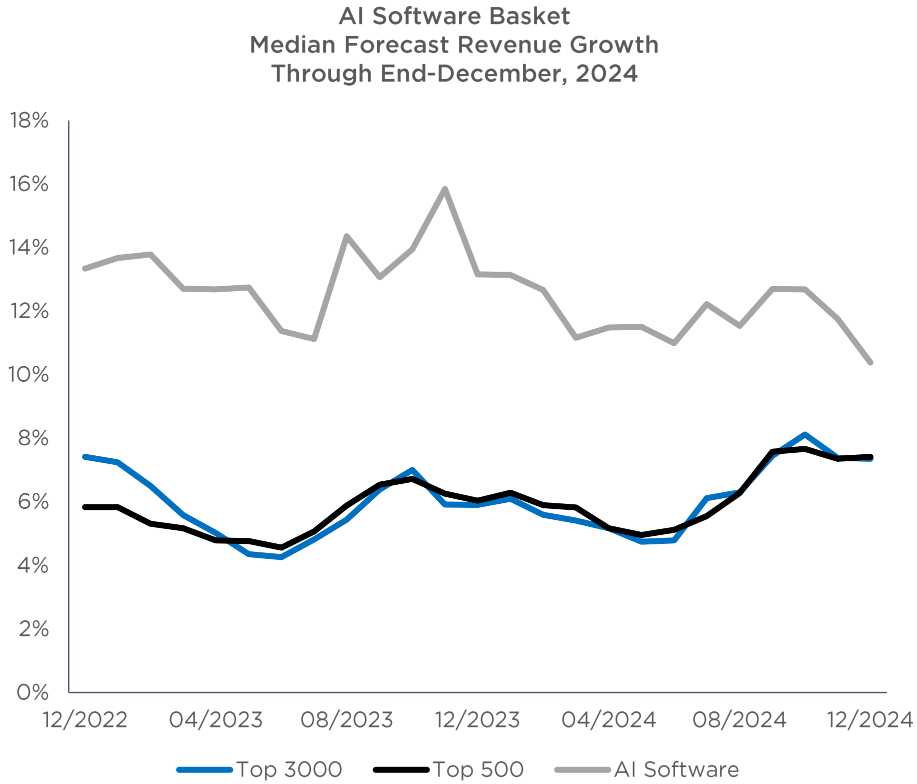
AI Software Basket Stocks
As of End-December, 2024

Ticker	Company	Sub-Industry	Market Cap. (US $Bil.)	Forecast Revenue Growth	Return Since 2023
MSFT	Microsoft Corporation	Systems Software	3133.80	10.1%	78.6%
ORCL	Oracle Corporation	Systems Software	466.08	8.5%	109.5%
NOW	ServiceNow, Inc.	Systems Software	218.72	26.3%	173.0%
ADBE	Adobe Inc.	Application Software	195.75	9.2%	32.1%
INTU	Intuit Inc.	Application Software	175.93	10.2%	63.6%
CDNS	Cadence Design Systems, Inc.	Application Software	82.41	20.6%	87.0%
SNPS	Synopsys, Inc.	Application Software	75.03	10.6%	52.0%
ZM	Zoom Communications Inc.	Application Software	25.01	3.7%	20.5%
ESTC	Elastic N.V.	Application Software	10.27	13.2%	92.4%
GTLB	GitLab Inc.	Systems Software	9.15	31.9%	24.0%
PEGA	Pegasystems Inc.	Application Software	7.99	6.9%	173.3%
INFA	Informatica Inc.	Application Software	7.92	7.5%	59.2%
SOUN	SoundHound AI, Inc.	Application Software	7.34	145.2%	1020.9%
ASAN	Asana, Inc.	Application Software	4.64	13.7%	47.2%
BOX	Box, Inc.	Application Software	4.54	8.1%	1.5%
AI	C3.ai, Inc.	Application Software	4.44	24.2%	207.7%
ZETA	Zeta Global Holdings Corp.	Application Software	4.27	35.5%	120.2%
FIVN	Five9, Inc.	Application Software	3.06	13.3%	(40.1%)
CXM	Sprinklr, Inc.	Application Software	2.15	4.2%	3.4%
VRNT	Verint Systems Inc.	Application Software	1.71	5.8%	(24.3%)

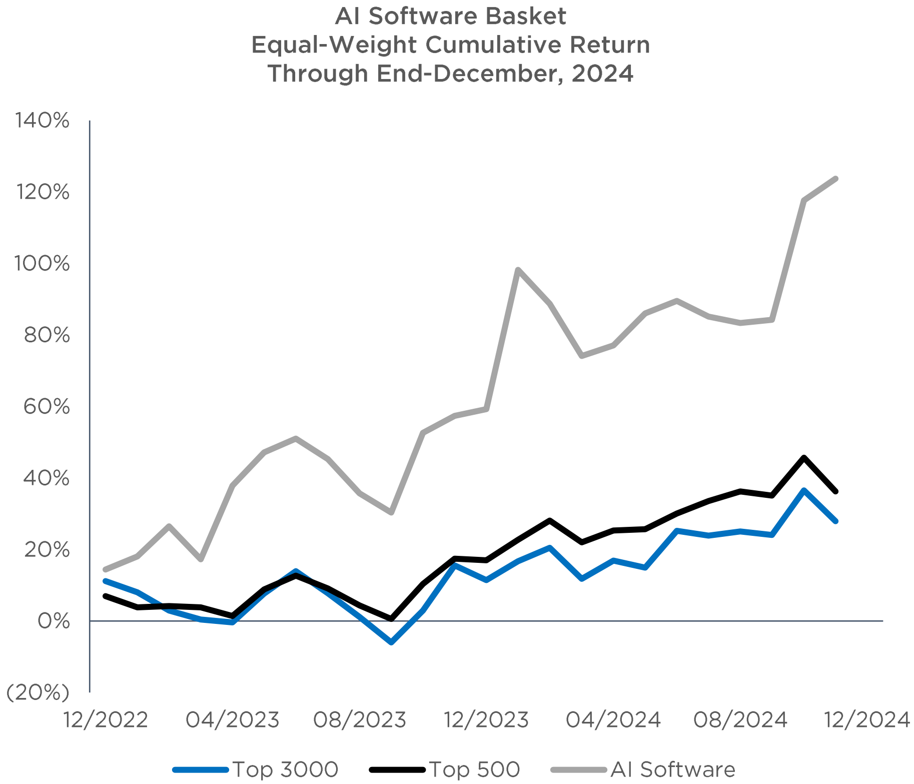
Source: Trivariate Research

SOFTWARE RELATIVE GROWTH EXPECTATIONS ARE SLIGHTLY LOWER

Unlike AI Semiconductors, which have posted structurally higher growth recently, the projected growth rates of AI Software stocks are slightly *less* than the long-term average, though of course still above the market rate (left). The stocks performed extremely well on an equally-weighted basis in the last few months of 2024 (right), despite the collapse in the growth rate.



Source: Trivariate Research



Source: Trivariate Research

POWER AND UTILITIES BASKET

Below are the constituents in our Power and Utilities basket as of end December 2024. We identified 16 Utilities stocks that have mentioned at least one "AI-related" keyword in their recent earnings conference calls.

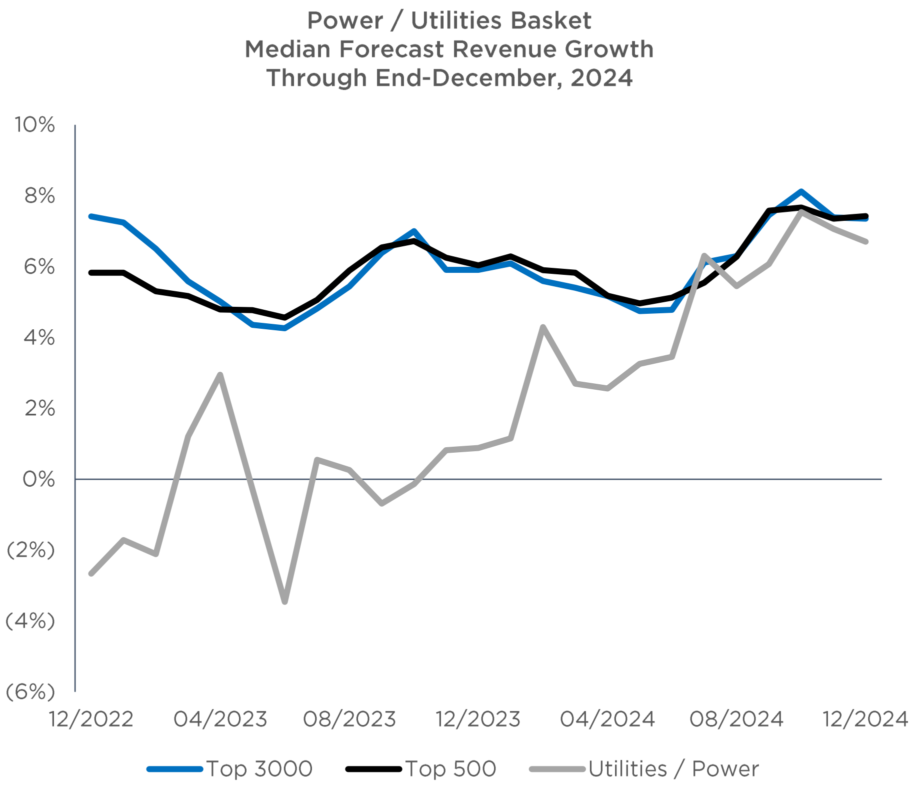
Power And Utilities Basket Stocks
As of End-December, 2024

Ticker	Company	Sub-Industry	Market Cap. (US $Bil.)	Forecast Revenue Growth	Return Since 2023
CEG	Constellation Energy Corporation	Electric Utilities	69.97	(5.4%)	164.5%
SRE	Sempra	Multi-Utilities	55.56	35.3%	21.1%
VST	Vistra Corp.	Independent Power Producers & Energy Traders	46.91	19.9%	516.8%
PWR	Quanta Services, Inc.	Construction & Engineering	46.65	17.0%	122.4%
PCG	PG&E Corporation	Electric Utilities	43.13	3.4%	24.5%
PEG	Public Service Enterprise Group Incorporated	Multi-Utilities	42.10	7.4%	47.8%
XEL	Xcel Energy Inc.	Electric Utilities	38.77	12.6%	2.5%
EXC	Exelon Corporation	Electric Utilities	37.82	1.8%	(6.0%)
WEC	WEC Energy Group, Inc.	Multi-Utilities	29.75	12.2%	8.0%
PPL	PPL Corporation	Electric Utilities	23.95	5.3%	19.3%
NRG	NRG Energy, Inc.	Electric Utilities	18.28	15.3%	202.3%
AES	The AES Corporation	Independent Power Producers & Energy Traders	9.15	2.7%	(51.9%)
IDA	IDACORP, Inc.	Electric Utilities	5.82	6.0%	8.1%
NFG	National Fuel Gas Company	Gas Utilities	5.51	28.2%	3.1%
POR	Portland General Electric Company	Electric Utilities	4.60	(0.1%)	(2.9%)
SJW	SJW Group	Water Utilities	1.64	4.2%	(36.3%)

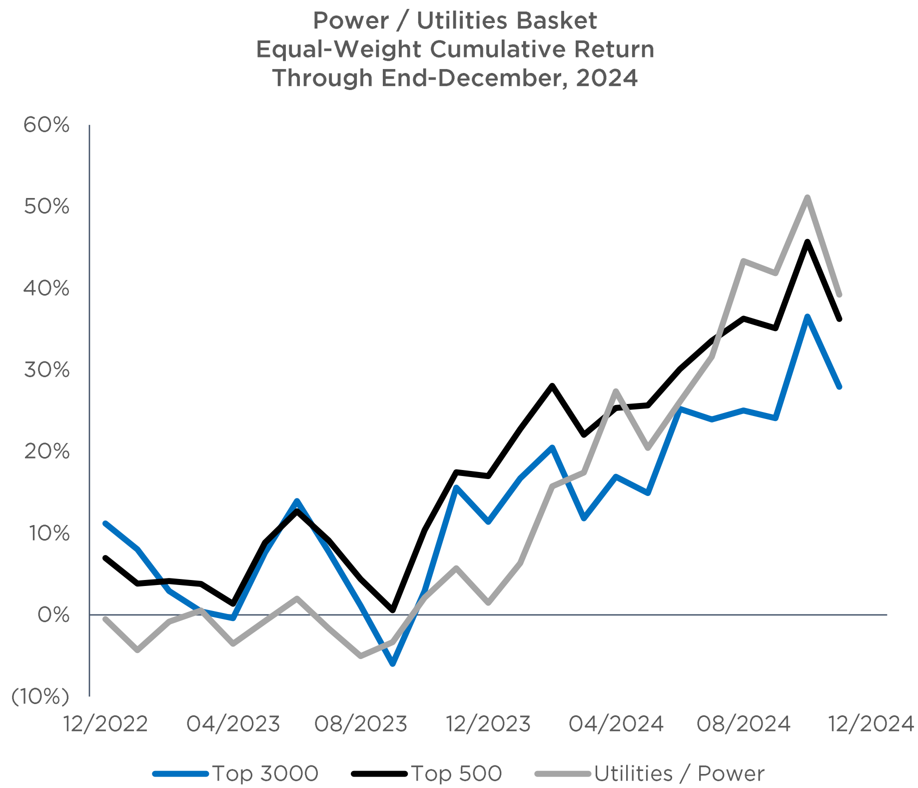
Source: Trivariate Research

POWER / UTILITIES NOW GROW AT THE OVERALL MARKET RATE

After growing much slower than the market in 2023, the Utilities / Power complex is now forecasted to grow meaningfully faster – roughly in-line with the broader market – over the next 12 months (left). The result is that the basket has now outperformed the market since the beginning of 2023 but has had particularly strong performance in the last six months (right). Last week we saw a surge in the large cap names as much of their fleets appear to qualify for credits for hydrogen production, an incremental positive.



Source: Trivariate Research



Source: Trivariate Research

HEALTHCARE SERVICES BASKET

We isolated 21 Healthcare Providers & Services stocks, that are neither micro-cap nor Value and are in the top tercile of forecasted revenue growth.

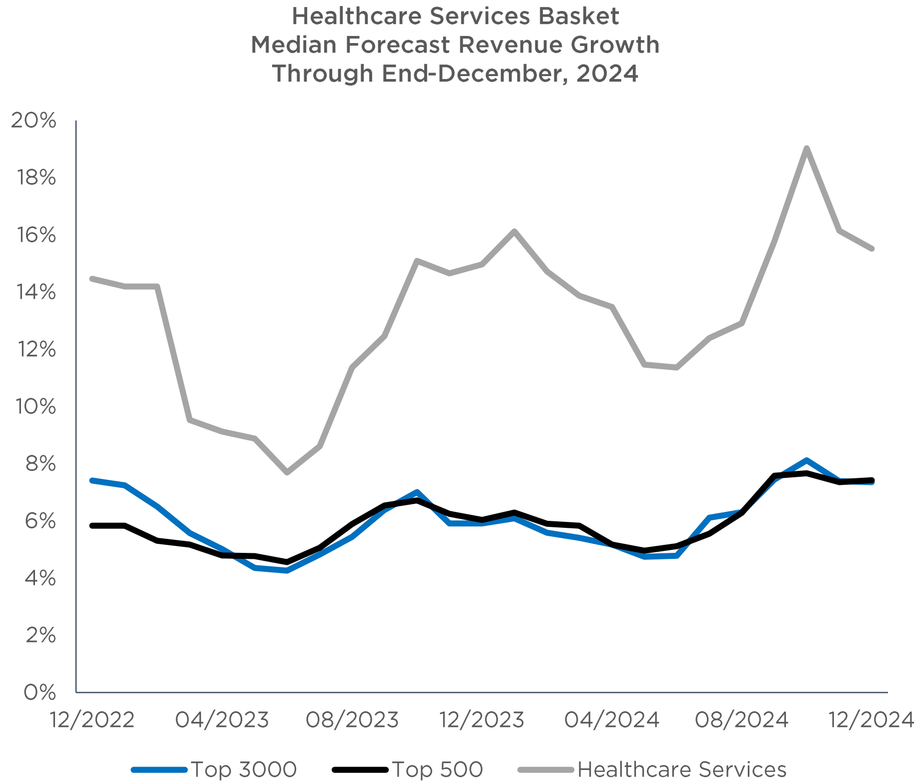
Healthcare Services Basket Stocks
As of End-December, 2024

Ticker	Company	Sub-Industry	Market Cap. (US $Bil.)	Forecast Revenue Growth	Return Since 2023
CI	The Cigna Group	Health Care Services	76.81	9.2%	(13.7%)
MCK	McKesson Corporation	Health Care Distributors	72.34	17.1%	53.5%
MOH	Molina Healthcare, Inc.	Managed Health Care	16.65	14.5%	(11.9%)
EHC	Encompass Health Corporation	Health Care Facilities	9.30	11.8%	56.7%
HQY	HealthEquity, Inc.	Managed Health Care	8.32	12.4%	55.7%
ENSG	The Ensign Group, Inc.	Health Care Facilities	7.56	15.7%	41.0%
HIMS	Hims & Hers Health, Inc.	Health Care Services	5.28	64.0%	277.2%
OPCH	Option Care Health, Inc.	Health Care Services	3.95	9.1%	(22.9%)
GH	Guardant Health, Inc.	Health Care Services	3.77	22.3%	(3.4%)
ACHC	Acadia Healthcare Company, Inc.	Health Care Facilities	3.68	10.4%	(51.8%)
BTSG	BrightSpring Health Services, Inc.	Health Care Services	2.97	16.7%	37.4%
LFST	LifeStance Health Group, Inc.	Health Care Services	2.82	15.3%	49.2%
SGRY	Surgery Partners, Inc.	Health Care Facilities	2.68	13.5%	(24.0%)
ADUS	Addus HomeCare Corporation	Health Care Services	2.25	25.3%	26.0%
ALHC	Alignment Healthcare, Inc.	Managed Health Care	2.16	39.1%	(4.3%)
NEO	NeoGenomics, Inc.	Health Care Services	2.12	13.0%	78.4%
WGS	GeneDx Holdings Corp.	Health Care Services	2.11	25.5%	405.9%
ASTH	Astrana Health, Inc.	Health Care Services	1.55	53.1%	(30.0%)
PNTG	The Pennant Group, Inc.	Health Care Services	0.91	24.7%	141.5%
AGL	agilon health, inc.	Health Care Services	0.78	13.2%	(88.2%)

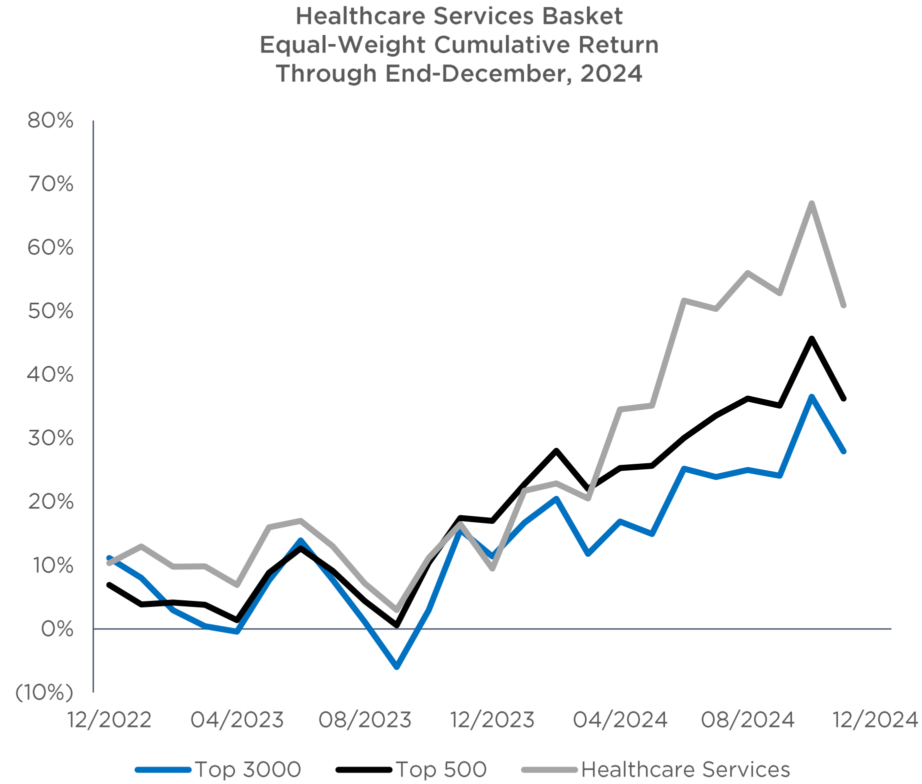
Source: Trivariate Research

2025 REVENUE EXPECTATIONS ARE 15.5% FOR OUR HEALTHCARE LIST

Our Healthcare Services basket is now forecasted to grow its 12-month forward revenue at 15.5%, well above the market average rate (left). The basket performed well in 2024 until the end of October, with the new administration the likely catalyst for the sharp sell-off since (right).



Source: Trivariate Research



Source: Trivariate Research

HOUSING / BUILDING PRODUCTS BASKET

We found 16 stocks in the Homebuilding & Building Products sub-industry that are neither micro-cap nor Value stocks and are in the top tercile of forecasted revenue growth.

Housing / Building Basket Stocks
As End-December, 2024

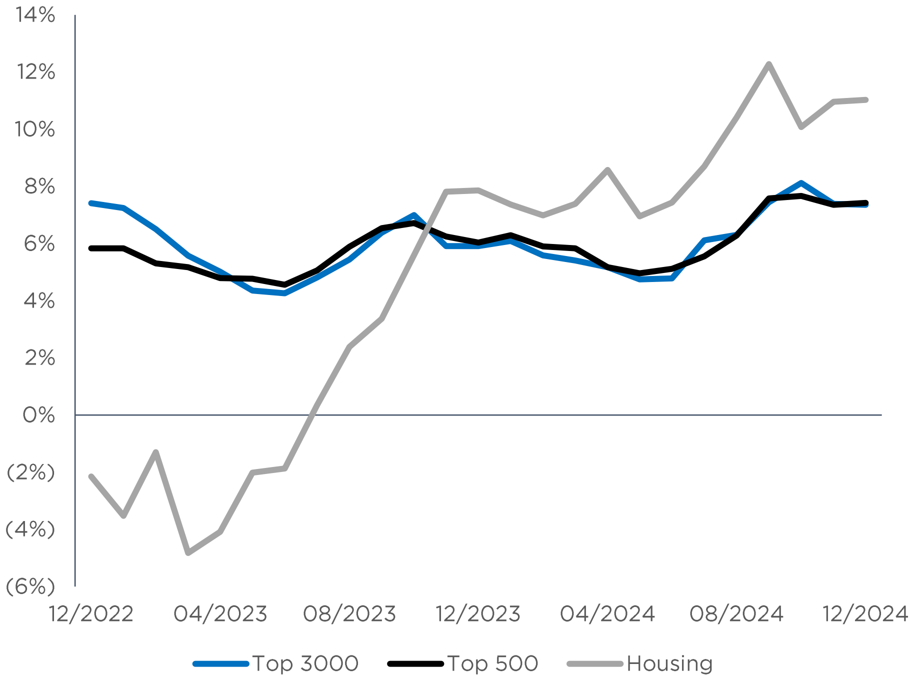
Ticker	Company	Sub-Industry	Market Cap. (US $Bil.)	Forecast Revenue Growth	Return Since 2023
TT	Trane Technologies plc	Building Products	83.11	9.0%	125.4%
LII	Lennox International Inc.	Building Products	21.71	8.7%	160.2%
CSL	Carlisle Companies Incorporated	Building Products	16.67	6.0%	60.0%
OC	Owens Corning	Building Products	14.61	15.2%	106.5%
AAON	AAON, Inc.	Building Products	9.56	26.0%	136.4%
TMHC	Taylor Morrison Home Corporation	Homebuilding	6.33	8.2%	101.7%
AWI	Armstrong World Industries, Inc.	Building Products	6.16	10.0%	110.8%
SKY	Champion Homes, Inc.	Homebuilding	5.06	10.1%	71.0%
IBP	Installed Building Products, Inc.	Homebuilding	4.90	5.0%	111.3%
KBH	KB Home	Homebuilding	4.82	12.3%	112.2%
TGLS	Tecnoglass Inc.	Building Products	3.73	16.2%	162.0%
MHO	M/I Homes, Inc.	Homebuilding	3.62	12.0%	187.9%
HAYW	Hayward Holdings, Inc.	Building Products	3.29	9.9%	62.7%
GRBK	Green Brick Partners, Inc.	Homebuilding	2.51	14.4%	133.1%
LGIH	LGI Homes, Inc.	Homebuilding	2.10	24.7%	(3.5%)
NX	Quanex Building Products Corporation	Building Products	1.14	45.9%	4.8%

Source: Trivariate Research

HOUSING REV. EXPECTATIONS ARE 13%: THE STOCKS HAVE DONE WELL

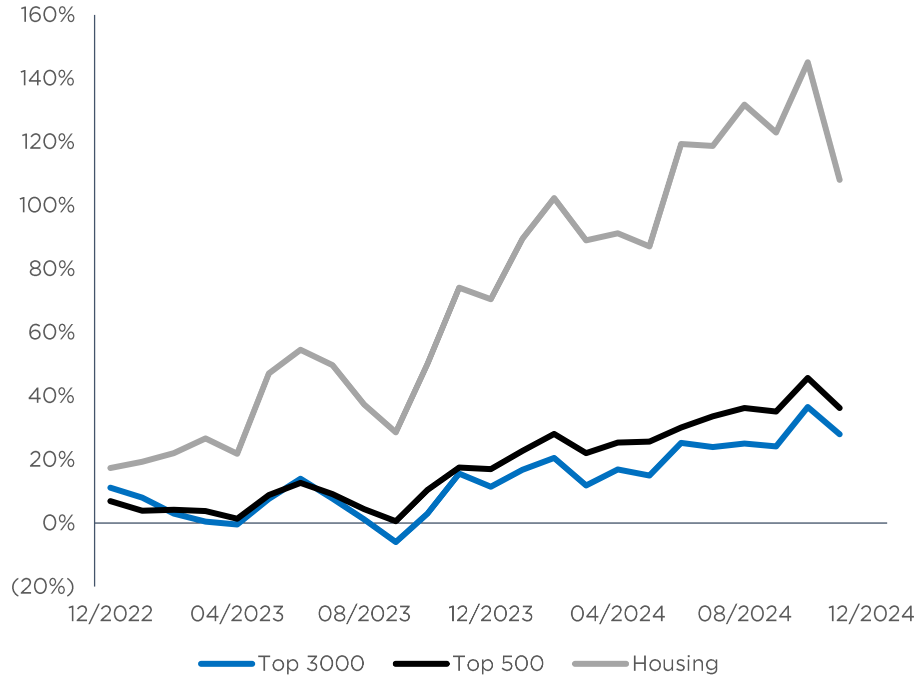
The consensus bottom-up revenue expectations for the median stock in our Housing basket are 11% (left). Housing-related stocks had performed quite well until the 10-year yield sharply rose late in Q4 2024 (right). There is no getting around there can be some rate sensitivity. We like the Building Products group in particular, given they are more agnostic to single vs. multi-family, and high- and low-end Housing outcomes.

Housing / Building Products Basket
Median Forecast Revenue Growth
Through End-December, 2024



Source: Trivariate Research

Housing / Building Products Basket
Equal-Weight Cumulative Return
Through End-December, 2024



Source: Trivariate Research

ELECTRIFICATION INDUSTRIALS BASKET

Our Electrification Industrials basket is 16 stocks that mentioned "electrification" related keywords the most in their earnings calls that are neither micro-cap nor Value stocks and are in the top tercile of forecasted revenue growth.

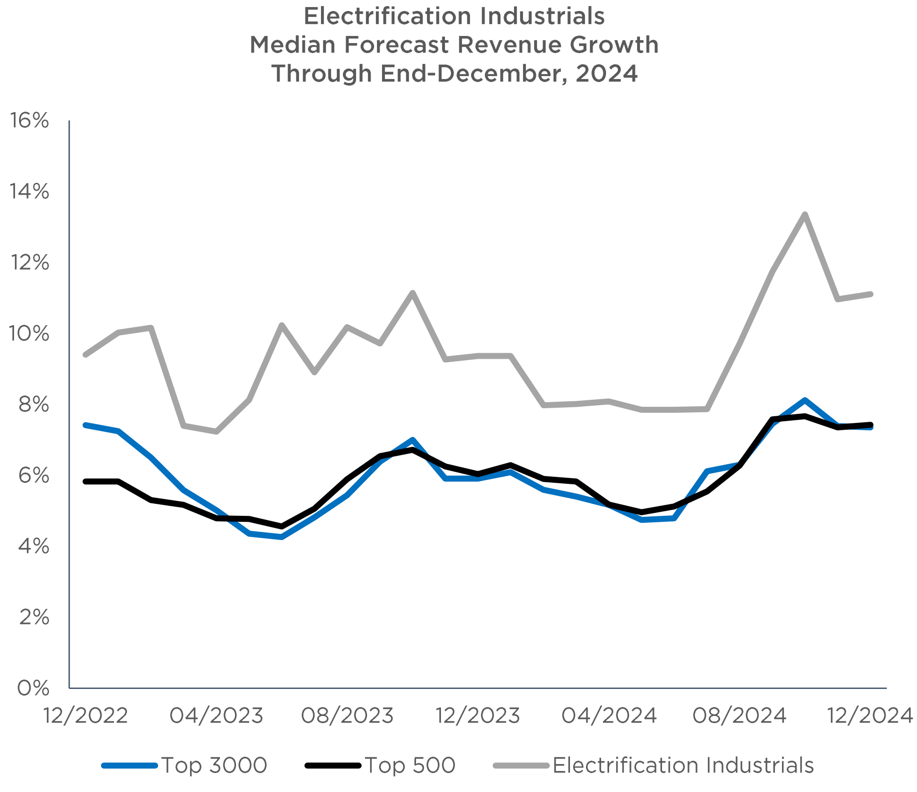
Electrification Industrials Basket Stocks
As of End-December, 2024

Ticker	Company	Sub-Industry	Market Cap. (US $Bil.)	Forecast Revenue Growth	Return Since 2023
ETN	Eaton Corporation plc	Electrical Components & Equipment	131.16	9.5%	117.9%
ROK	Rockwell Automation, Inc.	Electrical Components & Equipment	32.26	(1.1%)	15.0%
FIX	Comfort Systems USA, Inc.	Construction & Engineering	15.05	17.5%	271.6%
NVT	nVent Electric plc	Electrical Components & Equipment	11.23	31.5%	81.9%
GNRC	Generac Holdings Inc.	Electrical Components & Equipment	9.23	13.1%	54.0%
CR	Crane Company	Industrial Machinery & Supplies & Components	8.68	8.2%	132.0%
SPXC	SPX Technologies, Inc.	Industrial Machinery & Supplies & Components	6.75	12.2%	121.7%
JOBY	Joby Aviation, Inc.	Passenger Airlines	6.22	1106.8%	142.7%
FSS	Federal Signal Corporation	Construction Machinery & Heavy Transportation Equipment	5.65	9.2%	101.3%
DY	Dycom Industries, Inc.	Construction & Engineering	5.08	15.2%	86.0%
BE	Bloom Energy Corporation	Heavy Electrical Equipment	5.08	31.4%	16.2%
POWL	Powell Industries, Inc.	Electrical Components & Equipment	2.66	10.0%	544.8%
ICFI	ICF International, Inc.	Research & Consulting Services	2.24	7.9%	21.4%
BLBD	Blue Bird Corporation	Construction Machinery & Heavy Transportation Equipment	1.25	8.0%	260.7%

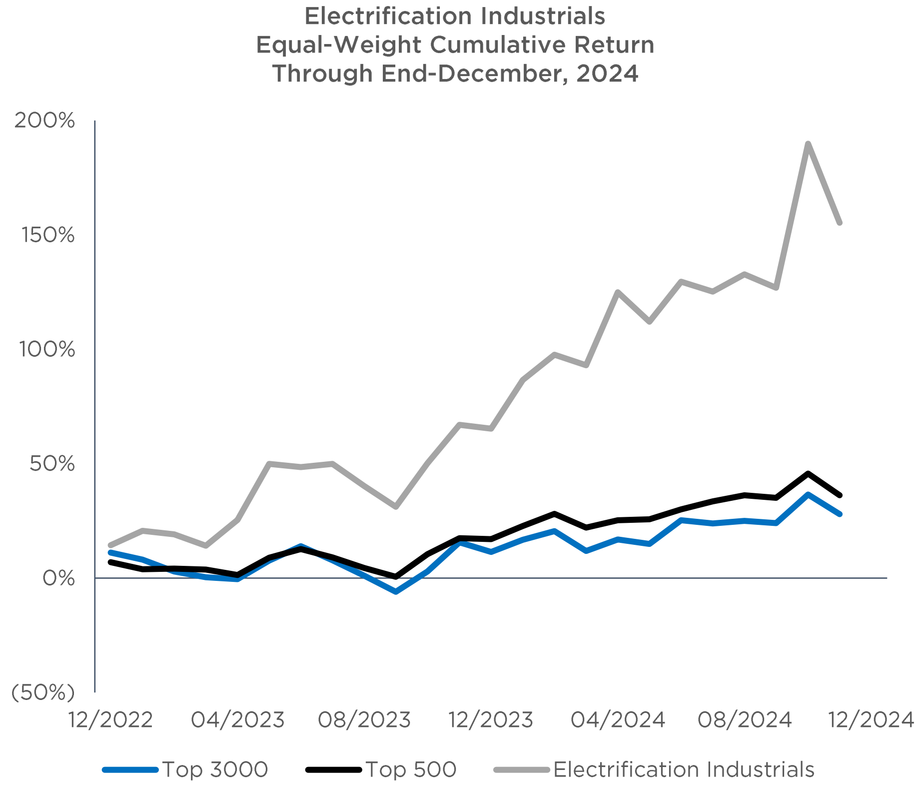
Source: Trivariate Research

ELECTRIFICATION INDUSTRIALS HAVE PERFORMED WELL UNTIL 12/24

Like the other five Growth baskets we have identified, forecasted revenue growth for the next 12 months is higher than the market (left), and performance has been strong, with the basket up 155% (equally-weighted returns of the 16 stocks) over the last two years, despite the December sell-off (right).



Source: Trivariate Research

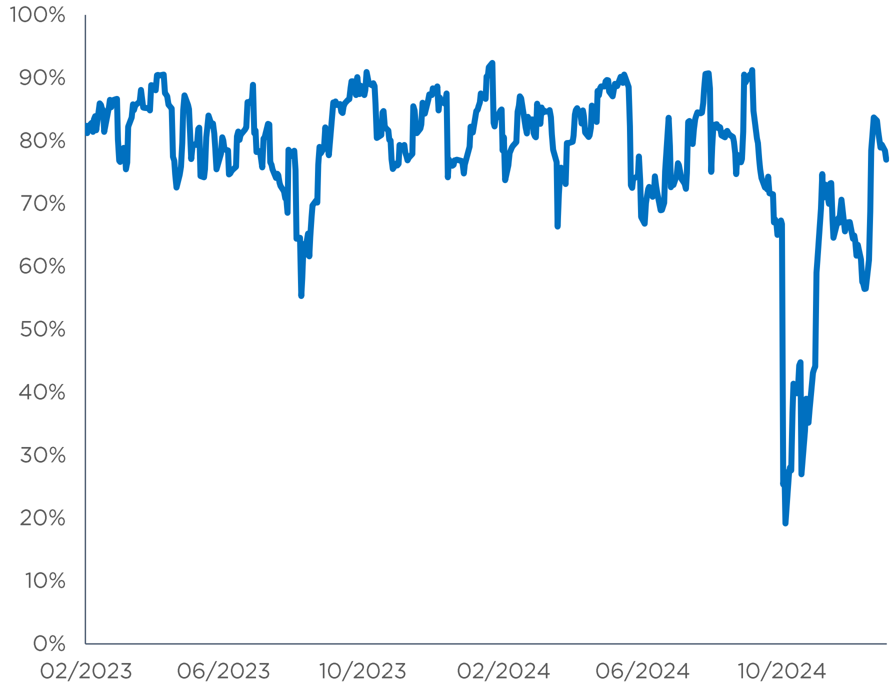


Source: Trivariate Research

HOUSING STOCKS HAVE TRADED LIKE ELECTRIFICATION INDUSTRIALS

While fund managers might want exposure to all or some of these six Growth themes, it is a risk management issue when the stocks in these disparate fundamental groups become correlated. For instance, Housing and Electrification Industrials have been highly correlated for much of the last two years (left). Today, Housing and Electrification have the highest correlation (0.73), and AI Semiconductors and Utilities / Power have the lowest (right). We recommend portfolio and risk managers monitor the rolling correlation of returns between these growth-themed baskets.

Housing vs. Electrification Industrials
21-Day Rolling Correlation of Returns
Through End-December, 2024



Source: Trivariate Research

Six Growth Theme Baskets: 126-Day Correlation of Returns
As of End-December, 2024

	AI Semi	AI Software	Utilities / Power	Healthcare Services	Housing	Electrification Industrials
AI Semi	100%	59%	28%	37%	43%	66%
AI Software	59%	100%	29%	64%	55%	69%
Utilities / Power	28%	29%	100%	28%	47%	56%
Healthcare Services	37%	64%	28%	100%	64%	57%
Housing	43%	55%	47%	64%	100%	73%
Electrification Industrials	66%	69%	56%	57%	73%	100%

Source: Trivariate Research

PART 3: SECTOR SUMMARY

- **As part of our 2025 year ahead outlook, we are upgrading Industrials to Overweight, and Financials to Market-weight.**
- **We are downgrading Utilities to Market-weight.**
- Our biggest recommended exposures are Technology (33%), Healthcare (15%), Financials (14%), and Industrials (12%). The biggest differences between our sector recommendations and the S&P500 index weights are Healthcare (Overweight by 5%), Industrials (Overweight by 3.9%), and Consumer Discretionary (Underweight by 6.4%), and Communication Services (Underweight by 2.4%).
- **For Industrials,** our proprietary Industrial Activity Gauge is now expanding, the market is likely to anticipate the forecasted earnings acceleration in Q3 of 2025, and inventory-to-sales levels have peaked.
- **For Healthcare**, the stock underperformance has been unprecedented, despite expectations for high earnings growth and the history of stable top-line growth. Moreover, the sector is a clear M&A beneficiary, with 5.5% of all stocks receiving a tender offer every 12 months.
- We are cautious on **Consumer Discretionary**, as macro trends are slowing and estimate achievability is below average.
- We have identified 6 Growth baskets --AI Semiconductors, AI Software, Electrification Industrials, Housing / Building Products, Healthcare Services, and Power / Utilities -- that we think investors will want thematic exposure to in 2025.

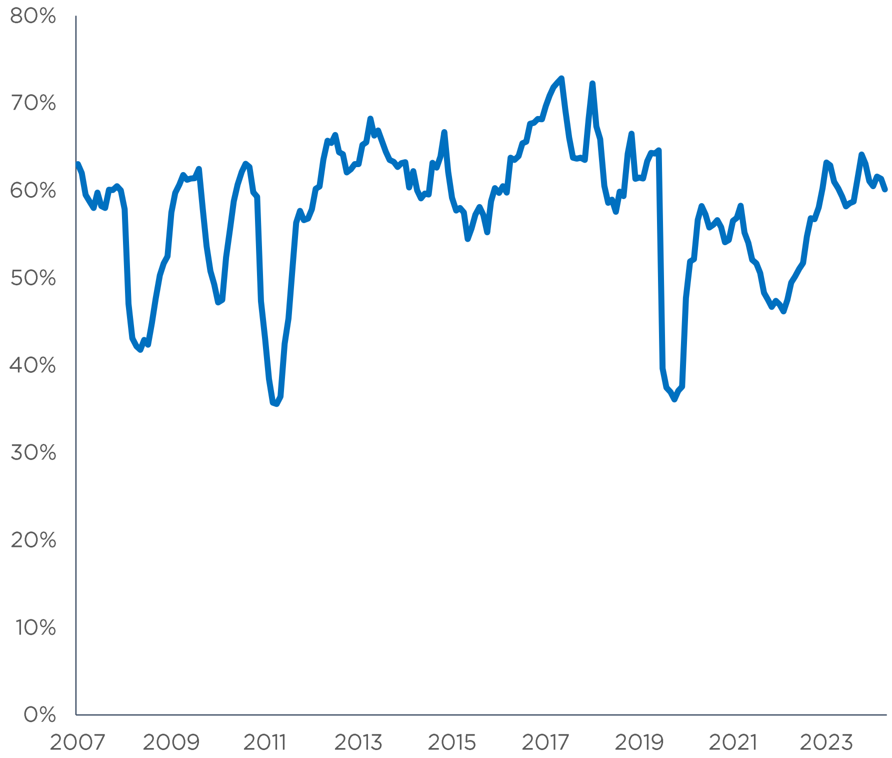
PART 4 OUTLINE: AVAILABLE ALPHA

1) Company-Specific Risk
2) Pairwise Correlations
3) Valuation Dispersion
4) Areas for Alpha
5) Areas for Beta
6) How to Separate from the Index
7) Where Should Fundamental Analysts Spend Time

CSR IS ABOVE AVERAGE BUT HAS MODESTLY DECLINED RECENTLY

Where should a CIO allocate resources for alpha opportunity? The median stock's company-specific risk (CSR) is above long-term averages (left), though we can still explain about 40% of the average stock's returns from our simple seven-factor model. In the last 3 months, CSR was mixed, rising the most in Utilities, REITs, and Media & Entertainment, falling the most in Insurance and Capital Goods (right).

Top 3000 US Equities
Median Company-Specific Risk
Through End-December, 2024



Source: Trivariate Research

Company-Specific Risk
3-Month Change and Level by Industry Group
As of End-December, 2024

Industry Group	Change in CSR	Level of CSR	CSR % Rank vs. History
Utilities	6.3	62.9	80.2
Equity Real Estate Investment Trusts (REITs)	3.5	57.4	64.6
Media & Entertainment	2.8	67.4	78.4
Semiconductors & Semiconductor Equipment	2.7	48.8	27.5
Technology Hardware & Equipment	2.5	56.6	39.6
Household & Personal Products	2.5	71.7	74.4
Automobiles & Components	1.7	54.0	47.3
Consumer Staples Distribution & Retail	1.4	67.9	44.4
Food, Beverage & Tobacco	0.7	73.9	75.8
Telecommunication Services	0.2	76.9	92.3
Financial Services	0.1	53.4	48.3
Commercial & Professional Services	0.1	61.2	68.1
Consumer Discretionary Distribution & Retail	0.0	63.1	50.7
Consumer Durables & Apparel	(0.1)	56.2	40.1
Energy	(0.2)	57.0	62.8
Real Estate Management & Development	(0.9)	52.4	52.4
Pharmaceuticals, Biotechnology & Life Sciences	(1.2)	71.8	49.3
Software & Services	(1.3)	62.6	63.8
Transportation	(1.6)	63.6	75.4
Banks	(2.0)	33.0	13.0
Materials	(2.0)	55.0	60.4
Health Care Equipment & Services	(2.1)	70.0	69.6
Consumer Services	(2.3)	62.6	43.5
Capital Goods	(2.4)	49.3	37.7
Insurance	(3.6)	63.8	87.0

Source: Trivariate Research

CORRELATIONS ARE HIGHER, VALUATION DISPERSION NARROWER

We also assessed the pairwise correlation of returns of each stock in each industry to other stocks in that industry. PWC's were mostly higher, declining in only five of 25 Industry Groups. PWC rose the most in Semiconductors and Capital Goods and declined the most in Utilities (left). Valuation dispersion can be a signal for long / short stock picking opportunities (right). Valuation dispersion generally fell, rising in only 6 of 25 Industry Groups. Utilities and Consumer Staples Distribution & Retail saw the biggest increases in valuation dispersion.

Pairwise Correlation
3-Month Change and Level by Industry Group
As of End-December, 2024

Industry Group	Change in Median Pairwise Correlation	Level of Median Pairwise Correlation	PWC % Rank vs. History
Semis & Semi. Equipment	13.0	56.4	88.2
Capital Goods	9.9	41.6	80.1
Technology Hardware & Equipment	9.9	36.5	81.8
Materials	9.6	35.3	60.0
Banks	8.2	74.4	99.0
Real Estate Management & Dev.	7.7	43.0	90.2
Insurance	7.4	34.0	49.8
Media & Entertainment	7.0	24.2	56.6
Commercial & Professional Services	6.8	28.2	52.9
Consumer Services	6.2	27.0	59.8
Consumer Discretionary Dist. & Retail	6.2	29.9	70.4
Energy	6.2	42.7	56.7
Financial Services	5.6	34.5	57.0
Software & Services	5.5	25.6	53.4
Pharma, Biotech & Life Sciences	4.2	23.5	61.3
Transportation	4.2	28.0	34.6
Consumer Durables & Apparel	3.6	33.5	71.2
Automobiles & Components	3.4	39.8	75.3
Consumer Staples Distribution & Retail	3.3	24.6	56.6
Health Care Equipment & Services	2.5	19.1	47.9
Household & Personal Products	(0.1)	21.2	59.0
Telecommunication Services	(0.3)	18.0	28.9
Food, Beverage & Tobacco	(0.7)	17.1	31.0
Equity Real Estate Investment Trusts	(6.5)	41.7	42.5
Utilities	(8.3)	39.0	25.9

Source: Trivariate Research

Cross-Sectional Dispersion in Price-to-Forward Earnings
Level and 3m Change in 3-Month Average
As of End-December, 2024

Industry Group	Change of PEF Dispersion	Level of PEF Dispersion
Utilities	2.1x	8.0x
Consumer Staples Distribution & Retail	1.3x	11.7x
Energy	0.9x	12.6x
Media & Entertainment	0.7x	18.1x
Household & Personal Products	0.2x	9.3x
Equity Real Estate Investment Trusts (REITs)	0.1x	17.2x
Capital Goods	(0.1x)	13.8x
Automobiles & Components	(0.2x)	13.2x
Consumer Durables & Apparel	(0.2x)	12.8x
Commercial & Professional Services	(0.2x)	12.8x
Transportation	(0.3x)	15.0x
Banks	(0.3x)	5.3x
Software & Services	(0.4x)	22.3x
Materials	(0.5x)	11.9x
Financial Services	(0.6x)	11.1x
Food, Beverage & Tobacco	(0.8x)	10.1x
Insurance	(1.0x)	9.2x
Consumer Discretionary Distribution & Retail	(1.2x)	15.7x
Health Care Equipment & Services	(1.3x)	20.4x
Consumer Services	(1.4x)	15.0x
Pharmaceuticals, Biotechnology & Life Sciences	(1.6x)	17.2x
Real Estate Management & Development	(1.7x)	19.3x
Telecommunication Services	(1.8x)	13.6x
Technology Hardware & Equipment	(2.2x)	13.9x
Semiconductors & Semiconductor Equipment	(2.5x)	17.6x

Source: Trivariate Research

AVAILABLE ALPHA INDUSTRY-LEVEL SUMMARY

The areas of focus have moved around meaningfully this year. Media & Entertainment, Staples Distribution & Retail, and Healthcare Equipment are areas of focus. Banks, Insurance, and Capital Goods are among those industries where a macro call will be important and owning names for risk in addition to alpha is likely sensible.

Industry Group Ranking of Available Alpha Metrics as of End-December, 2024

Industry Group	CSR Level	CSR 3m Change	PWC Level	PWC 3m Change	Valuation Dispersion Level	Valuation Dispersion 3m Change	% Beating or Lagging >=20%	Mean Rank	Largest 3 Companies
Media & Entertainment	7	3	6	18	4	4	5	6.7	GOOGL, META, NFLX
Consumer Staples Distribution & Retail	6	8	7	7	19	2	10	8.4	WMT, COST, TGT
Health Care Equipment & Services	5	22	3	6	2	19	9	9.4	UNH, ABT, ISRG
Telecommunication Services	1	10	2	4	13	23	13	9.4	TMUS, VZ, T
Household & Personal Products	4	6	4	5	22	5	22	9.7	PG, CL, KMB
Pharmaceuticals, Biotech & Life Sciences	3	17	5	11	6	21	7	10.0	LLY, JNJ, ABBV
Food, Beverage & Tobacco	2	9	1	3	21	16	19	10.1	KO, PEP, PM
Software & Services	13	18	8	12	1	13	8	10.4	MSFT, ORCL, CRM
Equity Real Estate Investment Trusts (REITs)	15	2	21	2	7	6	21	10.6	PLD, EQIX, AMT
Automobiles & Components	20	7	19	8	14	8	1	11.0	TSLA, GM, F
Consumer Durables & Apparel	18	14	13	9	15	9	2	11.4	NKE, LULU, DHI
Utilities	11	1	18	1	24	1	25	11.6	NEE, SO, DUK
Transportation	9	19	10	10	9	11	16	12.0	UNP, UBER, UPS
Consumer Discretionary Distribution & Retail	10	13	12	15	8	18	11	12.4	AMZN, HD, LOW
Energy	16	15	22	14	17	3	12	14.1	XOM, CVX, COP
Commercial & Professional Services	14	12	11	17	16	10	20	14.3	ADP, WM, CTAS
Consumer Services	12	23	9	16	10	20	18	15.4	MCD, BKNG, SBUX
Real Estate Management & Development	22	16	23	20	3	22	4	15.7	CBRE, CSGP, Z
Semiconductors & Semiconductor Equipment	24	4	24	25	5	25	3	15.7	NVDA, AVGO, AMD
Technology Hardware & Equipment	17	5	17	23	11	24	14	15.9	AAPL, CSCO, ANET
Financial Services	21	11	15	13	20	15	17	16.0	BRK.B, V, MA
Materials	19	21	16	22	18	14	6	16.6	LIN, SHW, SCCO
Capital Goods	23	24	20	24	12	7	15	17.9	GE, CAT, RTX
Insurance	8	25	14	19	23	17	24	18.6	PGR, CB, MMC
Banks	25	20	25	21	25	12	23	21.6	JPM, BAC, WFC

Source: Trivariate Research

COMPANY-SPECIFIC RISK AND REPLICABILITY ARE KEYS

If investors are good alpha generators, they should take huge positions in stocks (either long or short) with high CSR and low replicability (left). By being right on these names, they will maximize their separation from the index. By replicability we mean the number of stocks with a daily return correlation greater than 0.7 over the last year. Those with low CSR and high replicability should be covered by the Chief Risk Officer (right).

Mega / Large Cap. Stocks
High CSR and Low Replicability, As of End-December, 2024

Ticker	Company Name	Sector	Market Cap. (US $Bn.)
WMT	Walmart Inc.	Consumer Staples	725.82
TMUS	T-Mobile US, Inc.	Communication Services	256.15
MRK	Merck & Co., Inc.	Health Care	251.65
ABT	Abbott Laboratories	Health Care	196.18
LMT	Lockheed Martin Corporation	Industrials	115.18
GILD	Gilead Sciences, Inc.	Health Care	115.12
BMY	Bristol-Myers Squibb Company	Health Care	114.71
MCK	McKesson Corporation	Health Care	72.34
KR	The Kroger Co.	Consumer Staples	44.25
PCG	PG&E Corporation	Utilities	43.13

Source: Trivariate Research

Mega / Large Cap. Stocks
Low CSR and High Replicability, As of End-December, 2024

Ticker	Company Name	Sector	Market Cap. (US $Bn.)
KKR	KKR & Co. Inc.	Financials	131.38
ETN	Eaton Corporation plc	Industrials	131.16
PH	Parker-Hannifin Corporation	Industrials	81.87
PNC	The PNC Financial Services Group, Inc.	Financials	76.52
SNPS	Synopsys, Inc.	Information Technology	75.03
USB	U.S. Bancorp	Financials	74.62
FANG	Diamondback Energy, Inc.	Energy	47.84
URI	United Rentals, Inc.	Industrials	46.23
PRU	Prudential Financial, Inc.	Financials	42.20
WAB	Westinghouse Air Brake Technologies Corporation	Industrials	33.21

Source: Trivariate Research

WHERE FUNDAMENTAL ANALYSTS SHOULD SPEND THEIR TIME

1. **People**: When There Is a New CEO Or CFO It Is Challenging To Link Prior Experience At Public Companies Of the New C-suite Executives To a Stock.
2. **M&A:** Deals That Are More Than 20% Of Market Cap.
3. **Litigation:** Where Legal Outcomes Have a Big Impact On Valuation
4. **High Idiosyncratic Risk:** Small Cap. Biotech, Or Other Hard-to-predict Outcomes
5. **Unique Businesses:** In Multiple Industries, Require Sum-of-the-parts Valuation
6. **Complex Capital Structure:** Tracking Stocks, Imminent Secondaries, Complicated Ownership
7. **New Entities:** IPOs, Spin-offs, Remain-cos

PART 4: SUMMARY FOR FINDING AVAILABLE ALPHA

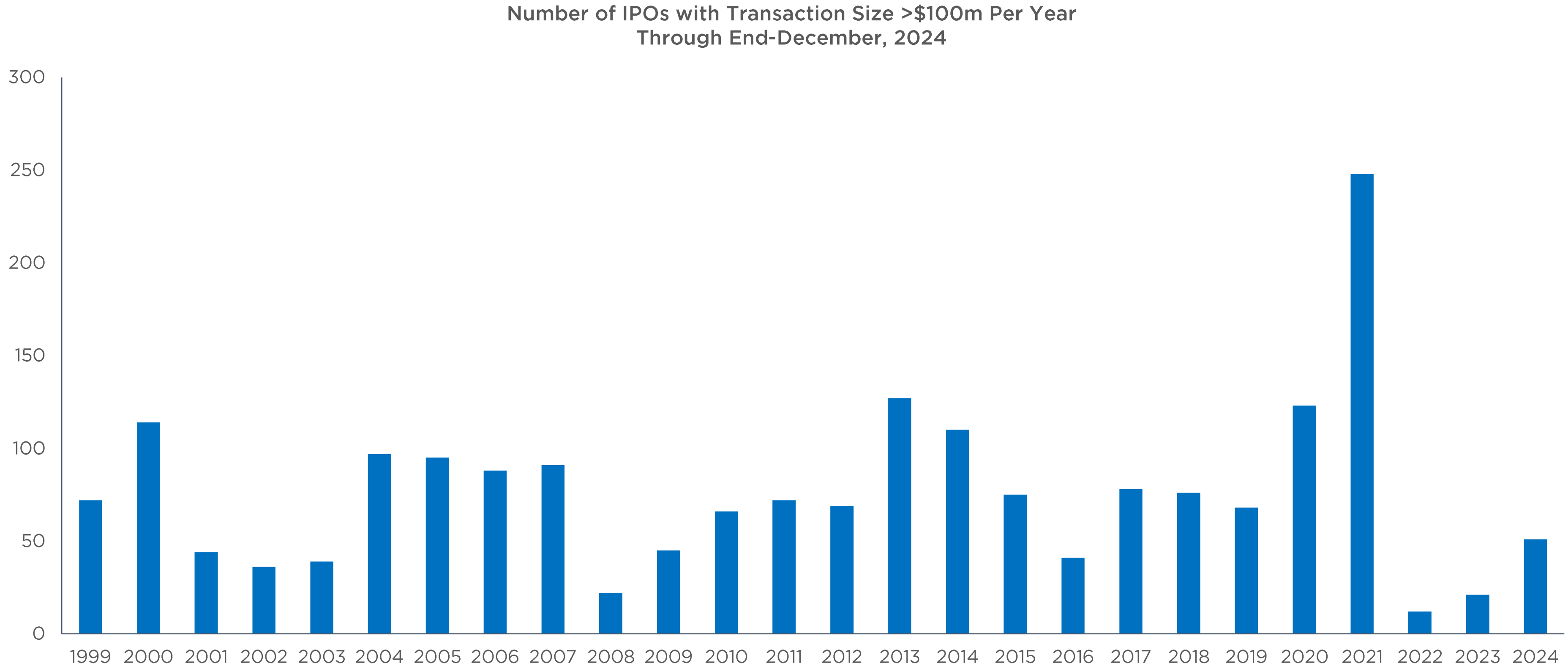
1) Company-Specifics Explain About 60% of a Stock's Returns.
2) Company-Specific Risk (CSR) Has Been Modestly Declining.
3) Pairwise Correlations Have Been Rising.
4) Valuation Dispersion Has Been Mixed By Industry.
5) Media & Entertainment, Staples Distribution & Retail, and Healthcare Equipment are places for Alpha.
6) Banks, Insurance, and Capital Goods are areas for Beta.
7) We Recommend Knowing the CSR and Replicability of Each Stock.
8) Fundamental Analysts Should Spend Time Where They Can Add Value.

PART 5 OUTLINE: MANAGEMENT DECISION-MAKING

- IPOS
- Spin-offs
- Capital Spending
- Buybacks vs. Accelerated Share Repurchases

IT HAS BEEN A SLOW IPO MARKET THE LAST TWO YEARS

The past three years we have seen the fewest number of initial public offerings of greater than $100m transaction size in a three year stretch in over 25 years. 2021 was a record year driven largely by SPACs and correlated to the highest nominal GDP in the US in nearly a half century. Tighter financial conditions, concerns about an economic slowdown, and poor performance are all among the reasons for the weak activity of initial offerings over the last 36 months. We see a large pick-up in deals as likely, given less regulation and the specter of higher growth. We suspect 2025 will be a strong rebound year for IPOs.

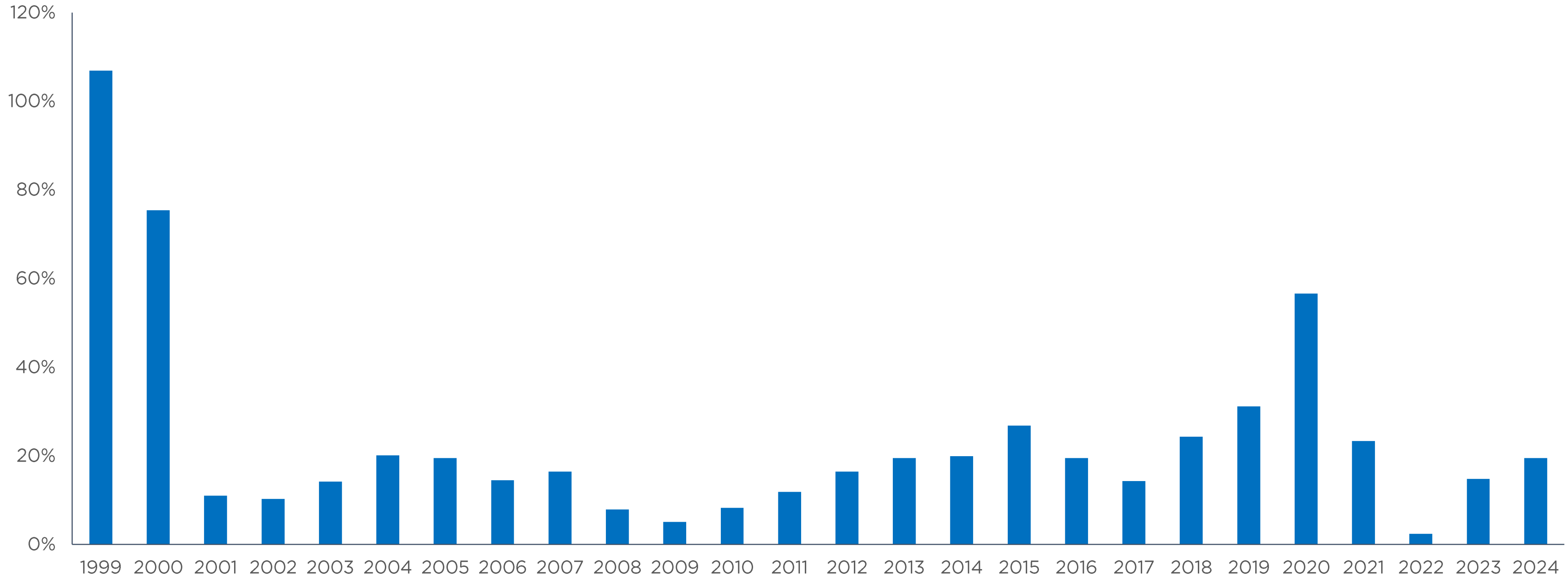


Source: Trivariate Research

THE AVERAGE IPO BEATS THE MARKET IN THE FIRST TRADING DAY

During the TMT bubble of 1999 and 2000, nearly every IPO was a gift, with the first day closing prices averaging a double above the IPO price. That euphoria has yet to be duplicated, though the post-COVID recovery saw an average of 50% first day returns for IPOs. Since then, first day upside has averaged less, though most managers are happy to take shares and sell them for profits in the first day.

IPO Performance from Price to First Market Closing Price, Mean S&P500 Relative Return
By Year of IPO Date
Through End-December, 2024

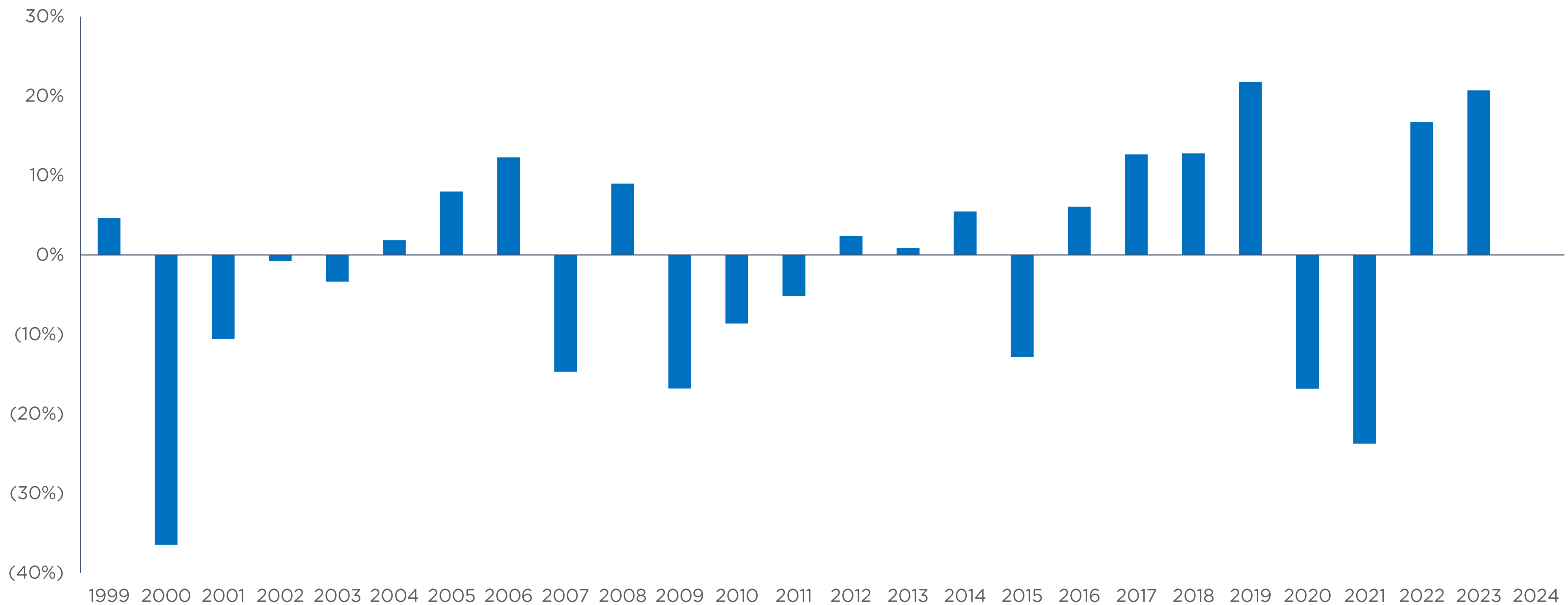


Source: Trivariate Research

1ST YEAR RELATIVE-TO-INDUSTRY RETURN WAS 0 IN 2024 FOR IPOS

In 2020 and 2021, a good strategy was to buy the IPO's industry and short the IPO after one trading day. In 2022 and 2023, relative to industry performance was strong, but there were very few IPOs – so only those that were very robust cleared the bar. In 2024, there was virtually no difference between IPO performance and the industry-average of that company.

First Year Average Industry-Group Relative Return by IPO Year, From First Closing Price Through End-December, 2024

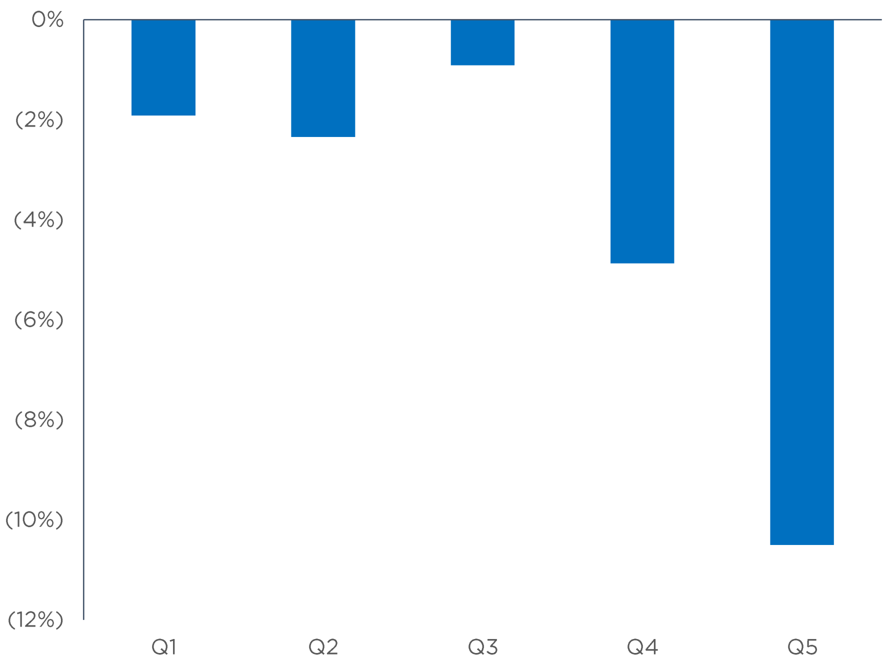


Source: Trivariate Research

AVOID IPOS WITH POOR RELATIVE GROSS MARGINS OR THAT LOSE $

IPOs with gross margins in the bottom 40% relative to their industry average underperform their industry average by 15% for the first year following going public (left). Often these companies have some structural issues that take a while to resolve. IPOs that lose money at the time they go to market statistically significantly underperform companies that make money (T-statistic of nearly -6.0) in the first year post-IPO. Making money matters.

IPOs
Gross Margin (Relative to Industry Average) Quintiles
1yr Industry Group Relative Performance
Through End-December, 2024



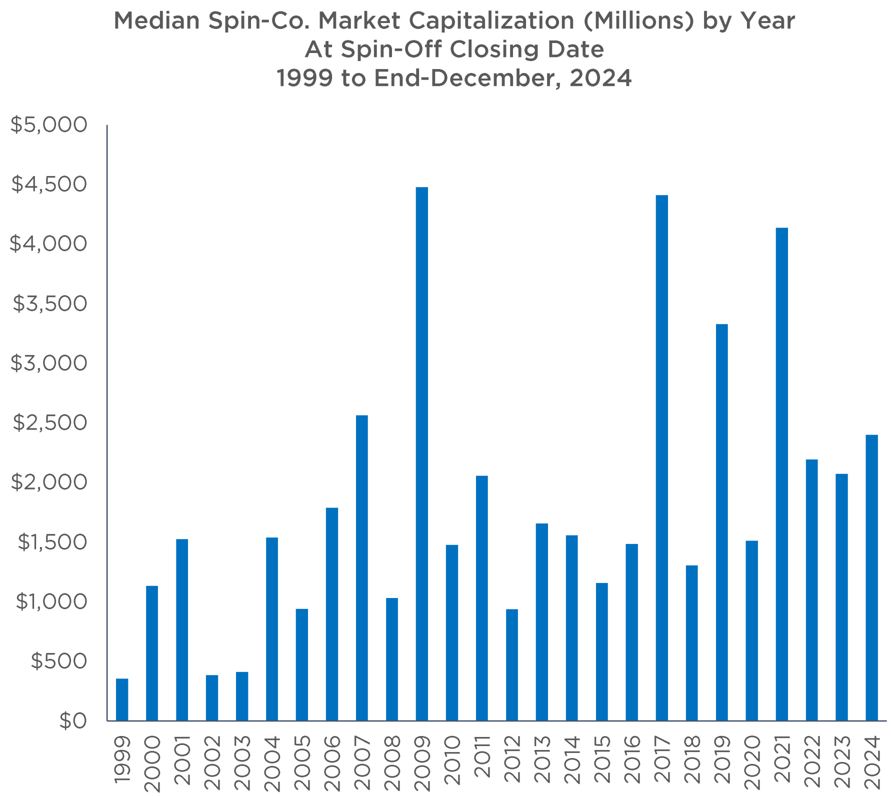
Source: Trivariate Research

T-Stat of Negative vs. Positive Net Income
By Market Days After IPO
Through End-December, 2024

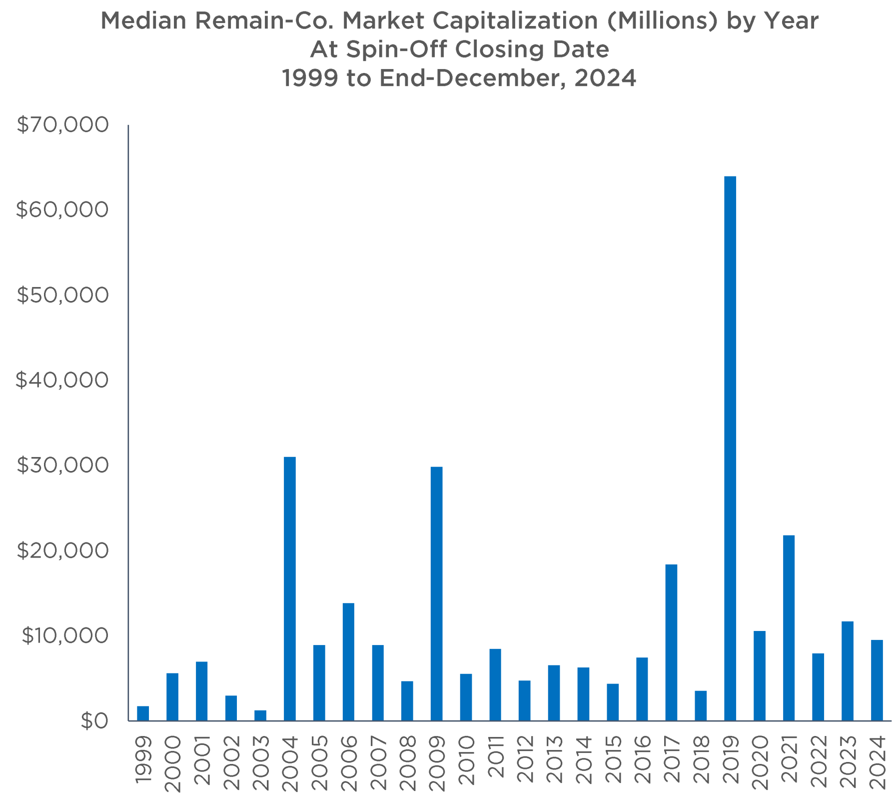
Source: Trivariate Research

THE SIZE OF THE SPINS ARE GRADUALLY GETTING LARGER

Before the financial crisis, most spin-offs were small, averaging less than $1 billion in market capitalization at the time of the spin. More recently, the average spin-off has been closer to $2.4 billion (left). The remaining companies have also gotten bigger, with the median of the recent spins around $9.5 billion (right). Following the success of GEV, CARR, OTIS, DHR, KLG, and many others, we see more management teams interested in spin-offs as a solution for unlocking value.



Source: Trivariate Research

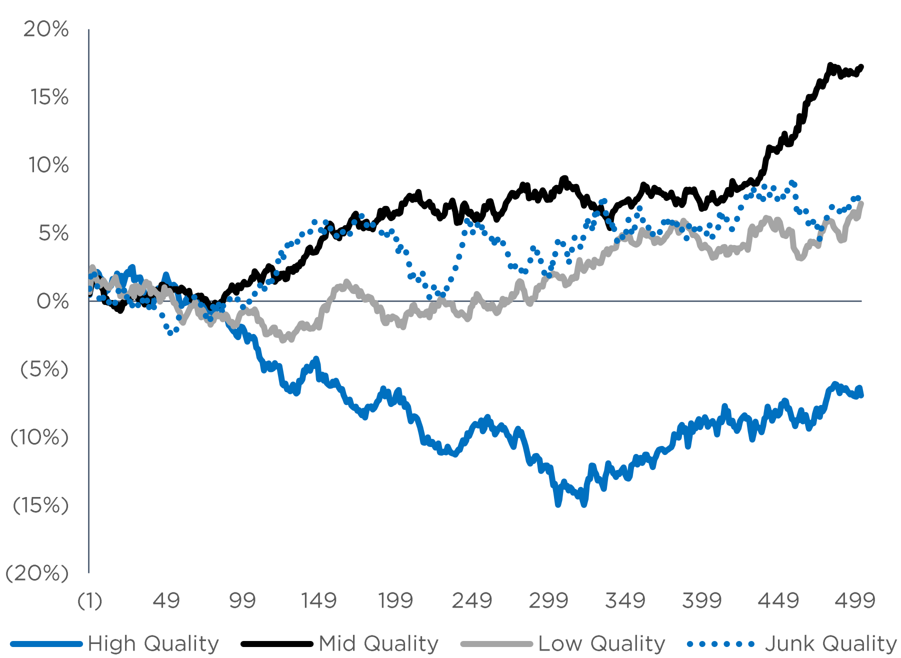


Source: Trivariate Research

HIGH-QUALITY COMPANIES SHOULD NOT DO SPINOFFS

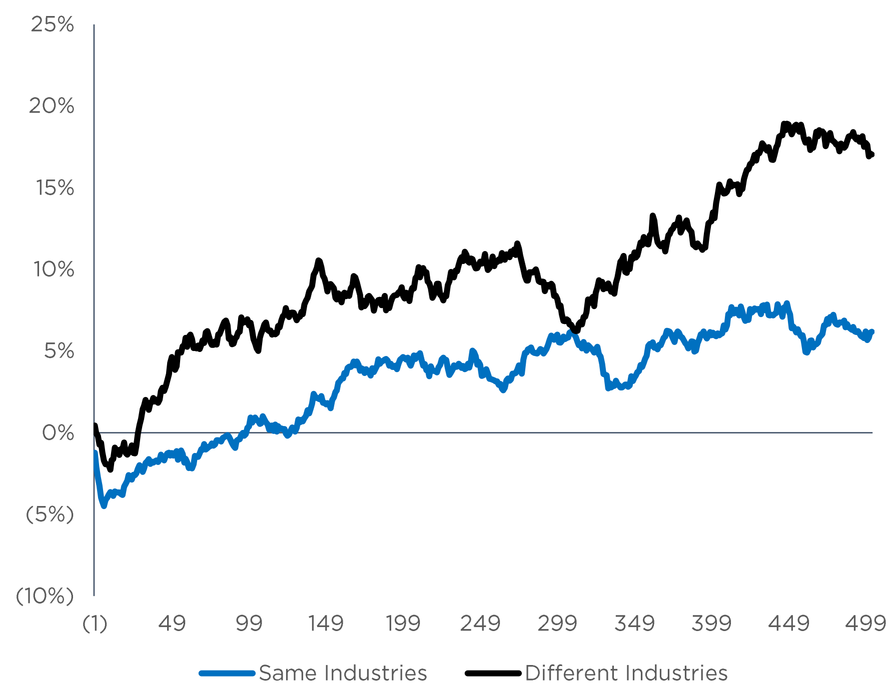
The highest quality remaining companies that engaged in spin-offs were by far the worst performing, lagging the market by 15% on average over the first year (left). **High-quality companies should not do spin-offs.** There are likely some underappreciated synergies of the combined entity that get damaged. Spinning a business into a different industry results in stronger performance vs. spinning into the same industry, nearly 10% better on average over the first six months (right).

Cumulative Mean S&P500 Relative Returns of Remain-Co. by Market Days Following Spin-Off Closing Date 1999 to End-December, 2024



Source: Trivariate Research

Cumulative Mean S&P500 Relative Returns of Spin-Co. If Spin-Co. is in Same / Different Industry Than Remain-Co. 1999 to End-December, 2024



Source: Trivariate Research

HIGHER MARGINS ARE CORRELATED WITH LOWER CAPEX / INVENTORY

Ultimately, trying to align future expectations for consumption with the ability to match it with future production is important for most manufacturing businesses. Companies with the lowest capital spending-to-sales growth and the lowest inventory accruals average 240bps higher gross margins a year later. Those in the highest 40% of capital spending-to-sales growth and in the highest 40% of inventory-to-sales accruals end up with declining gross margins. Stock pickers should hyper focus on inventory and capital spending intensity when forecasting margins.

Long-Term Average of Median Forward Gross Margin Expansion
Quintile in CapEx-to-Sales Growth (Columns)
and Quintile in Inventory Accrual-to-Sales (Rows)
From 1999 to End-December, 2024

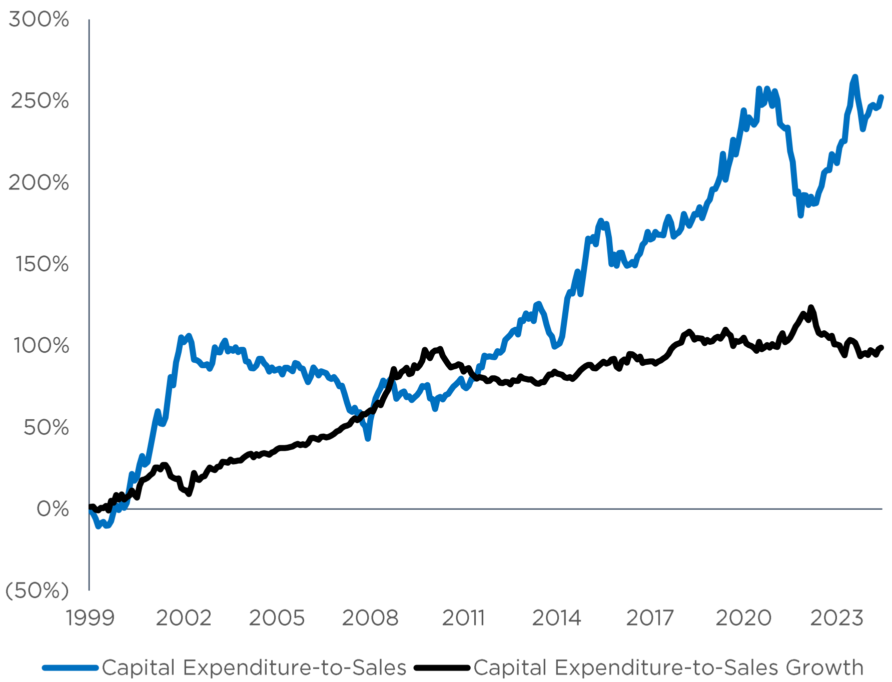
	Lowest CapEx-to-Sales Growth	Q2	Q3	Q4	Highest CapEx-to-Sales Growth
Lowest Inventory Accrual-to-Sales	2.4%	1.8%	1.3%	1.3%	1.4%
Q2	0.8%	0.3%	0.1%	0.2%	0.4%
Q3	0.4%	0.2%	0.0%	-0.1%	-0.1%
Q4	0.2%	0.0%	-0.2%	-0.3%	-0.4%
Highest Inventory Accrual-to-Sales	0.5%	-0.3%	-0.3%	-0.4%	-0.5%

Source: Trivariate Research

LEVEL OF CAPITAL INTENSITY AND CHANGE IN DOI MATTER

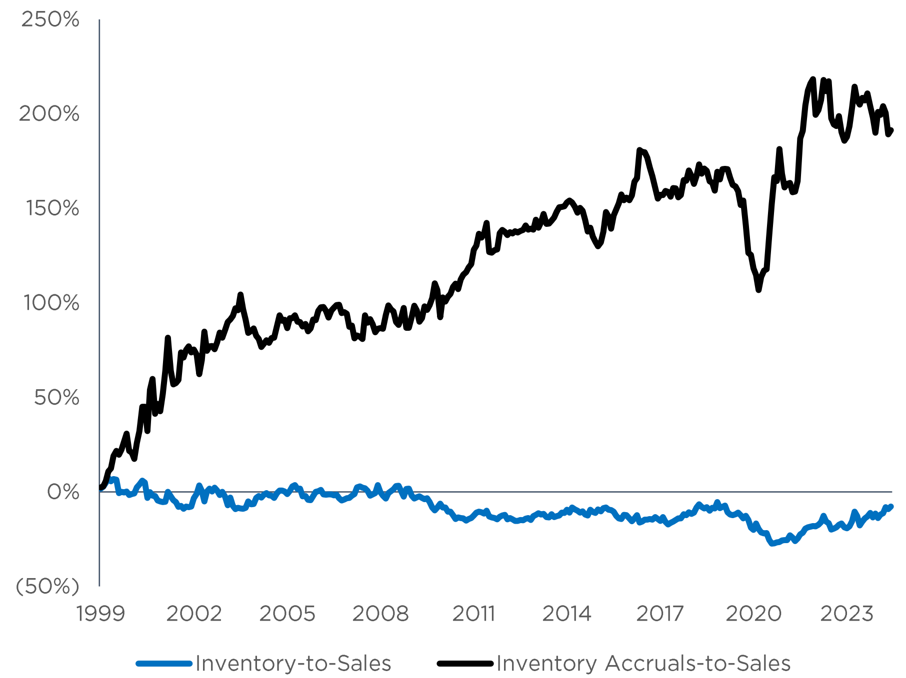
Buying stocks that have lower capital spending-to-sales and shorting those with high capital spending-to-sales generates far more excess return (left) than buying those with lower capital spending-to-sales growth and shorting those with high capital-spending-to-sales growth. Level matters more than change for capital intensity. On the contrary, inventory-to-sales level has no information in it, with low actually UNDERPERFORMING high over the last 25 years (right). But change matters a lot, as buying stocks with declining inventory-to-sales (or DOI) strongly outperforms buying stocks with higher inventory-to-sales. Change matters more than level for inventory-to-sales.

Capital Intensity Efficacy: Level vs Change
Cumulative Return of Q1(Low) - Q5(High)
Through End-December, 2024



Source: Trivariate Research

Inventory-to-Sales Efficacy: Level vs Change
Cumulative Return of Q1(Low) - Q5(High)
Through End-December, 2024

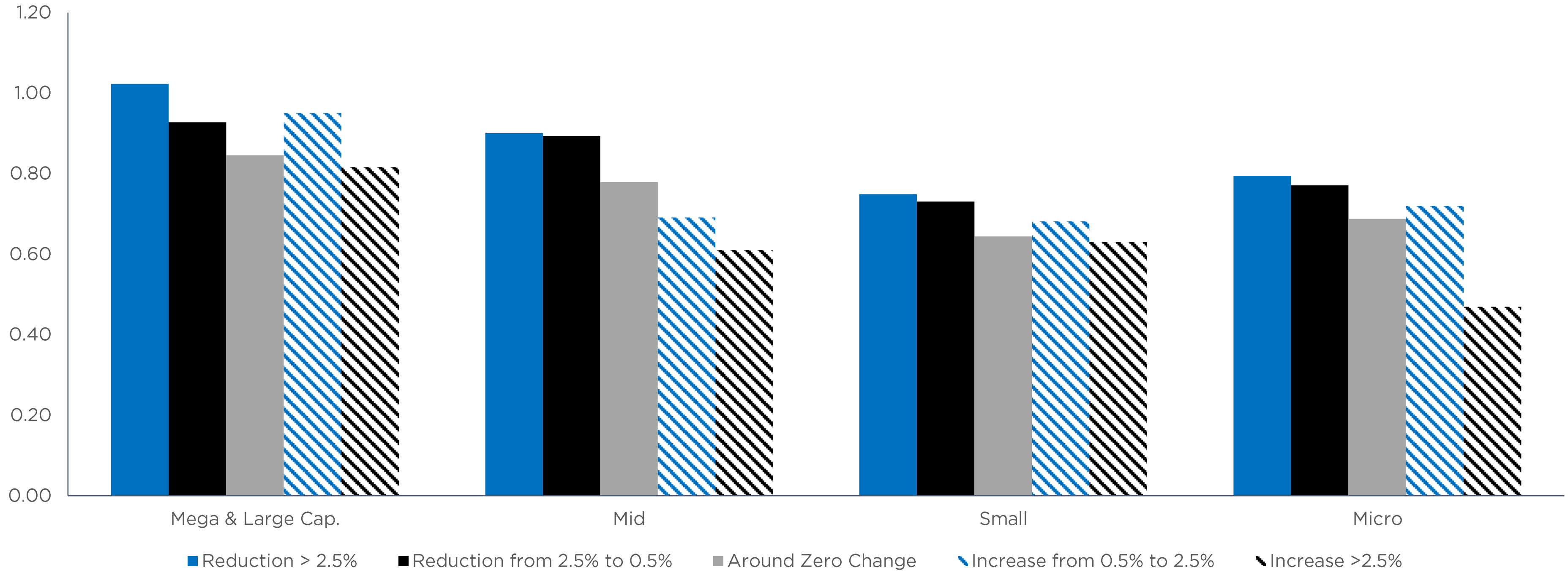


Source: Trivariate Research

BUYBACKS HAVE IN AGGREGATE BEEN A WASTE OF MONEY

There is ample evidence that management teams of most companies should be questioning the value of large buybacks. On average, they were not rewarded, as big share reductions over a 12-month period resulted in similar subsequent performance compared to those companies doing no changes to their share count over the same period (left set of bars). This means deploying the capital elsewhere – on average – would have been prudent. Diluters in mid-cap and micro-cap seem to lag companies doing buybacks, but that relationship did not hold for small-caps.

Information Ratio by Size of 12-Month Percent Change in Shares Outstanding
By Size Category
From June 2009 to End-December, 2024

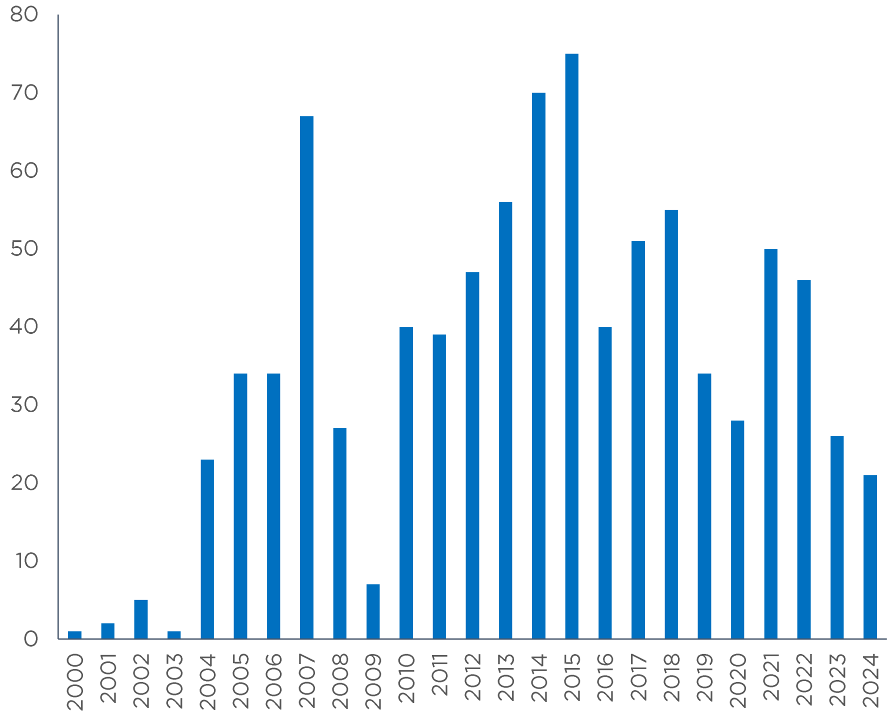


Source: Trivariate Research

WE'VE SEEN RELATIVELY FEW ASRS THE PAST TWO YEARS

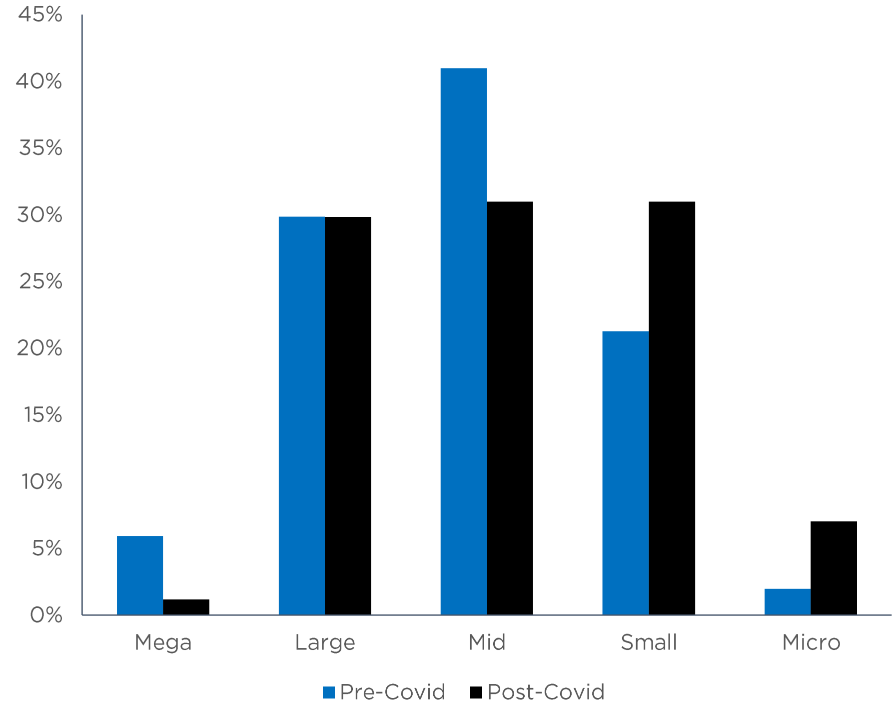
We tracked the number of accelerated share repurchases (ASRs) per year over time. Nearly 70 companies participated in ASRs in 2007 and 2015, both after large market rallies. There have been relatively few ASR programs over the last two years (left), though we have heard several management teams are considering it. Historically, about 40% of all ASRs were performed by mid-cap companies, though today ASRs are relatively evenly distributed across large-, mid-, and small-cap stocks (right).

Number of ASRs by Announced Year
Through End-December, 2024



Source: Trivariate Research

Distribution of ASRs by Market Cap. Bucket
Through End-December, 2024

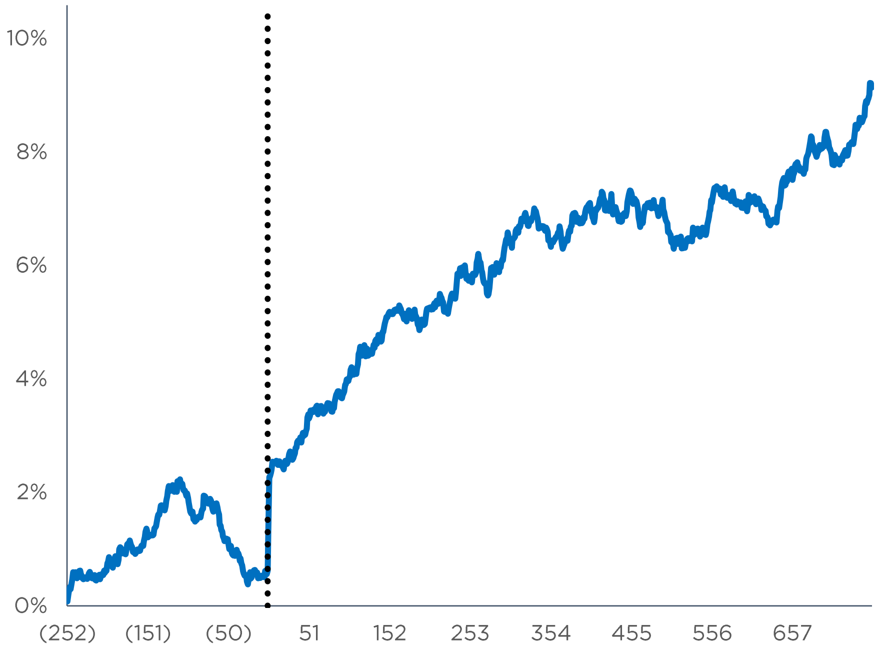


Source: Trivariate Research

SINCE COVID THE AVG. ASR HAS RESULTED IN 15% OUTPERFORMANCE

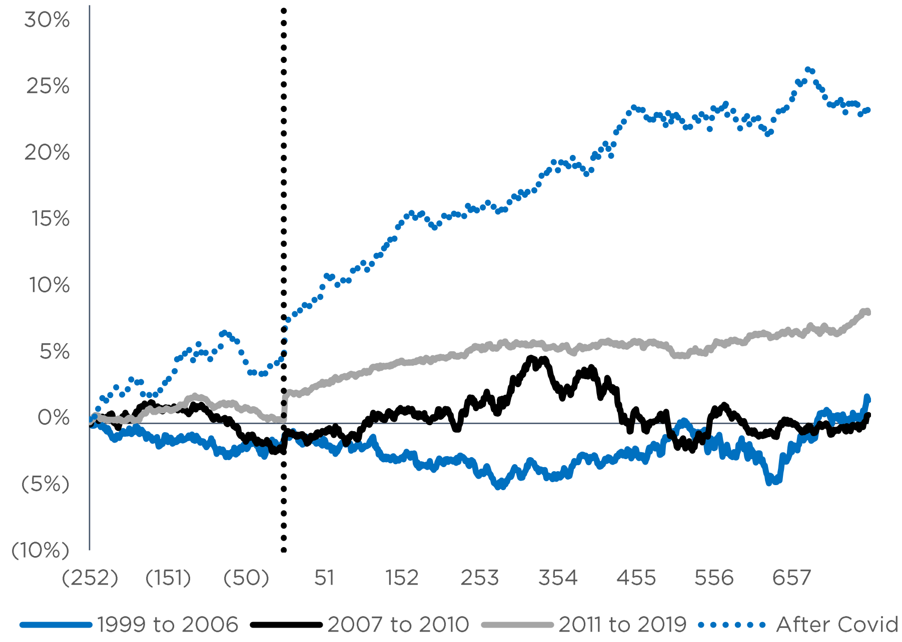
Companies engaging in ASRs often act poorly (about 2% on average) vs. their industry average prior to the ASR announcement then fully catch up on the announcement. Over the subsequent two years, the average company performing an ASR has beaten its industry group returns by 10% (left). Performance was not strong from 1999-2010 (right), as there was more of a perception that ASRs were tied to the variable compensation of the C-suite. **Since COVID however, companies performing ASRs have strongly outperformed their industry groups, by 15% on average after the first year.**

Accelerated Share Repurchase Program
Cumulative of Average Industry Group Relative Returns
Market Days 1yr Before and 3yrs After Announcement
1999 to End-December, 2024



Source: Trivariate Research

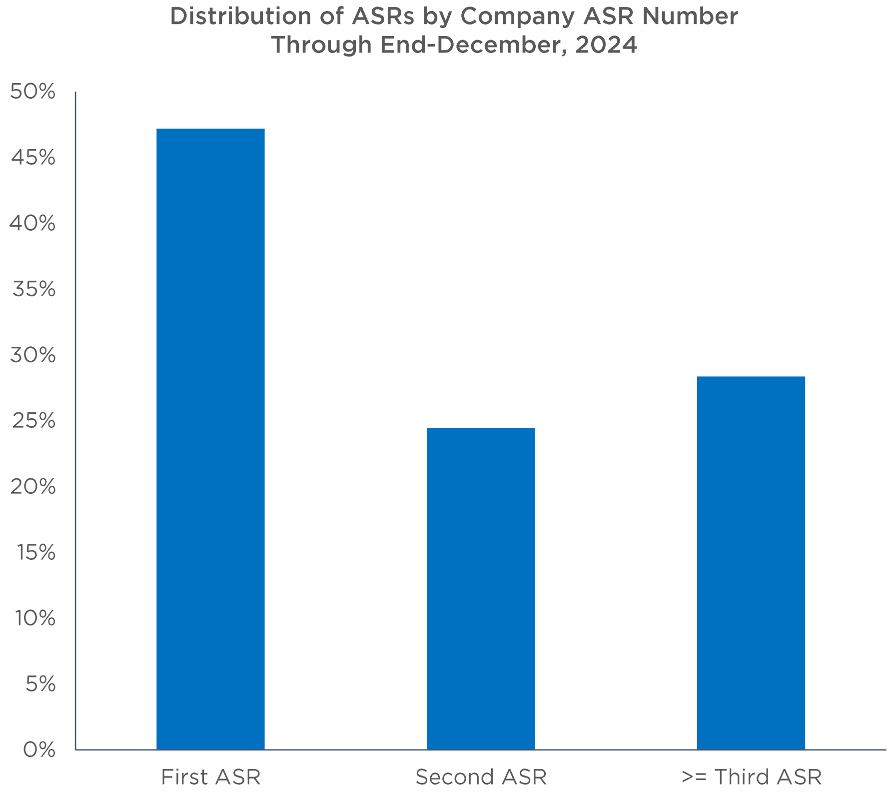
Accelerated Share Repurchase Program
Cumulative of Average Industry Group Relative Returns
Market Days 1yr Before and 3yrs After Announcement
1999 to End-December, 2024



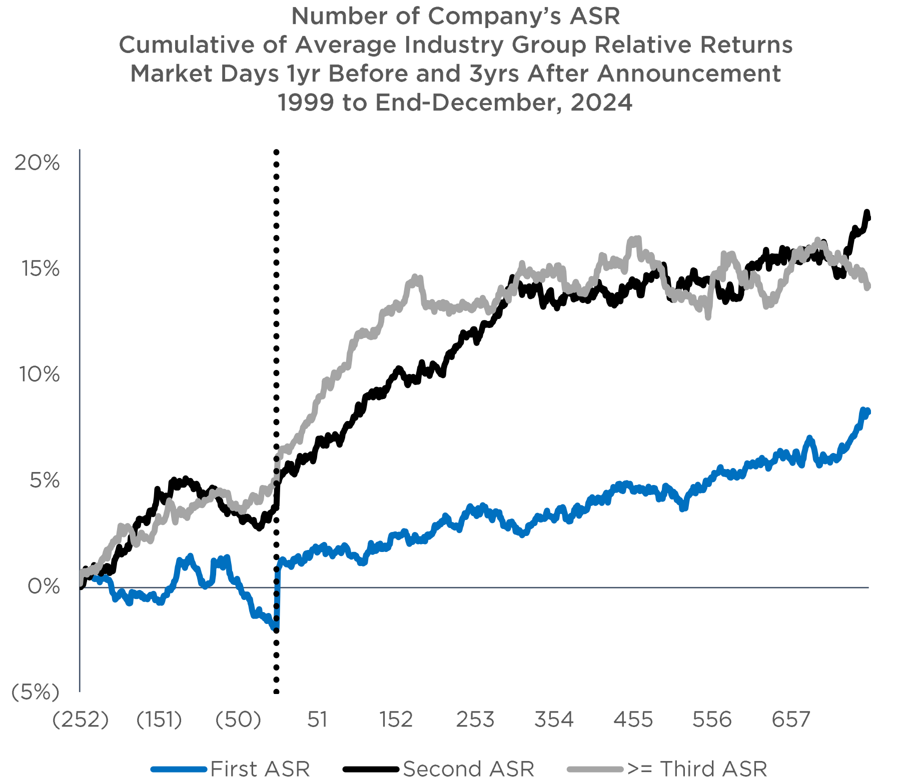
Source: Trivariate Research

THE SECOND ASR IS BETTER THAN THE FIRST

About half the ASRs over the last 25 years were a 'first' ASR for the company, and the rest were companies who were executing a second or more ASR (left). The performance of the second and third or more ASR was on average better than the first (right). **Companies who have previously executed a successful ASR and believe their stock is cheap should consider a new ASR in 2025.**



Source: Trivariate Research



Source: Trivariate Research

CANDIDATES TO ANNOUNCE AN ADDITIONAL ASR PROGRAM

Below we show companies which are candidates to announce another accelerated share repurchase program. These include companies with a 1-year industry relative return following the previous ASR announcement of 5% or greater, net debt-to-market cap. below 30%, and days since the last announcement is between the 25th and 75th percentiles.

Quantitatively Derived Candidates to Announce Another Accelerated Share Repurchase Program
As of End-December, 2024

Ticker	Company Name	Sector	Last ASR Announcement Date	Years Since Last Announcement	Last ASR 1 Year Industry Relative Return	Market Cap. (US $Bn.)
WEX	WEX Inc.	Financials	08/23/2022	2.4	7.5%	6.97
GWRE	Guidewire Software, Inc.	Information Technology	09/22/2022	2.3	24.6%	14.08
JBL	Jabil Inc.	Information Technology	09/27/2022	2.3	97.7%	16.24
AZEK	The AZEK Company Inc.	Industrials	05/10/2022	2.6	38.7%	6.79
AZTA	Azenta, Inc.	Health Care	11/14/2022	2.1	29.5%	2.28
RTX	RTX Corporation	Industrials	10/24/2023	1.2	18.4%	154.03
SPB	Spectrum Brands Holdings, Inc.	Consumer Staples	06/20/2023	1.5	22.1%	2.37
ATGE	Adtalem Global Education Inc.	Consumer Discretionary	03/15/2022	2.8	38.7%	3.41
CACI	CACI International Inc	Industrials	01/26/2023	1.9	8.0%	9.05
CEG	Constellation Energy Corporation	Utilities	02/16/2023	1.9	68.0%	69.97
CDNS	Cadence Design Systems, Inc.	Information Technology	06/21/2022	2.5	34.2%	82.41
EXE	Expand Energy Corporation	Energy	12/02/2021	3.1	9.1%	23.01
KLAC	KLA Corporation	Information Technology	06/16/2022	2.5	13.0%	84.28
HAE	Haemonetics Corporation	Health Care	08/10/2022	2.4	43.7%	3.92
WING	Wingstop Inc.	Consumer Discretionary	08/17/2023	1.4	106.0%	8.30
SNPS	Synopsys, Inc.	Information Technology	12/10/2021	3.1	39.6%	75.03
HALO	Halozyme Therapeutics, Inc.	Health Care	12/09/2021	3.1	118.7%	6.08

Source: Trivariate Research

PART 5: SUMMARY OF MANAGEMENT DECISION-MAKING

- IPOs: The IPO market is likely to be strong in 2025. IPOs in the bottom 40% of industry-relative IPOS and those that lose money underperform their industry-group average meaningfully over the next year. The strategy of shorting IPOs on Day 2, which worked well in 2021 and 2022, no longer seems efficacious.
- Spin-offs: We have seen relatively few spin-offs over the years, but we think recent high-profile successes, like GEV, will catalyze more. High-quality companies should not do spins, as their remain-cos lag. Spins into a different industry than the remain-co on average are 1000bps more successful over the first six-to-nine months than spins into the same industry.
- **Capital spending and inventory:** Companies with the lowest capital spending-to-sales growth and the lowest inventory accruals average 240bps higher gross margins a year later. Those in the highest 40% of capital spending-to-sales growth and in the highest 40% of inventory-to-sales accruals end up with declining gross margins. For stock selection, capital spending-to-sales level and change in inventory-to-sales matter.
- **ASRs/ buybacks:** On average buybacks are not a good use of capital. Accelerated share repurchases (ASRs) are far better. Only 21 companies did an ASR in 2024, and we think far more should do it in 2025. Companies doing their 2nd ASR do even better than those doing their first.

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