28 Jul 2026 12:28:30 ET | 15 pages

US Equity Strategy

AI's Subtle S&P 500 Impacts

Scott T Chronert[AC]

Patrick Galvin, CFA

CITI'S TAKE

Our "cluster" approach to aligning the S&P 500 per Growth, Cyclical and Defensive components sets up for several important index considerations. First, historic economic sensitivity has diminished for now but could resurface later as a function of the AI influence. Second, the increasing Growth cluster weight implies higher beta but shows up more at the stock-specific level than at the index level. Third, a valuation regime change needs to be acknowledged whereby historic compares may be misleading. Overall, the underlying AI influence on US equities is testing conventional investment perspectives and related asset allocation decisions.

Clusters and Macro Implications — In previous work we noted that the Growth cluster has increased to 55% of the index from <20% thirty years ago. Yet, only since the Covid episode has the S&P 500 beta and correlation to nominal and real GDP fallen significantly. We suspect that as AI capex spending persists, along with stock market wealth effects, that correlation could begin to increase.

What About Beta? Average stock beta has been falling relative to the index, alongside a rising index weight in high beta stocks. This reflects increasing industry group dispersion, with counterbalancing effects. Interestingly, this shows up in a rising weighted S&P 500 beta relative to its equal weight index.

Which Valuation Compare? Investor conversations continue to focus on the valuation level for the S&P 500. We argue that historic valuation compares can be misleading as the index has evolved down this increasingly heavy growth focus. Restating the historical index PE with current earnings weights would increase the 30yr average index PE by 1.2 multiple turns.

Takeaways — We expect that the AI influence will continue to challenge many traditional fundamental, trading, and valuation approaches to navigating US equities (with cross asset implications to debt). There is no one right playbook to this at current. A heightened sensitivity to the changing nature of the indexes is an important starting point.

See Appendix A-1 for Analyst Certification, Important Disclosures and Research Analyst Affiliations.

Growth Cluster Implications

In our recent note emphasizing a cluster approach to the S&P 500, we observed that 55% of the index is now attached to the AI influence (see Framing the Growth Narrative). This analysis was predicated on an Industry Group buildup to each of three clusters: Growth, Cyclicals, and Defensives. This by no means is a precise description, but it establishes a defensible approximation. Further, the approach enables us to observe longer term trends and more recent trend inflections.

We are most focused on how the AI influence on underlying index construction is now starting to show up in ways that both question historic presumptions and complicate conventional portfolio management.

In this note we focus on several dynamics such as macro sensitivity, beta/realized volatility and valuation influences.

Most notable to us is the subtle change unfolding regarding beta considerations. Simply, as the Growth cluster weight in the index has increased, particularly in the past several years, investors need to allow for a changing beta/volatility regime.

All told, our purpose with this note is to identify AI-influenced forces at work within the S&P 500 that may be off the radar for more typical daily musings on market action but which have an important structural considerations.

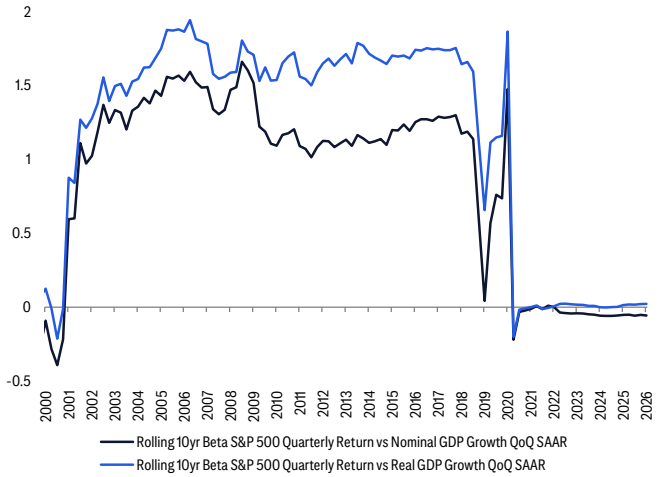
Declining Macro Sensitivity

Over the past couple of years, we have made the argument that Wall Street (i.e., the S&P 500) has diverged from Main Street (i.e., the broader US economy). This is an intuitive statement as one considers the growing influence of AI-related impacts.

A simple starting point is to look at the beta of the S&P 500 to each of nominal and real GDP growth (Figure 1). What jumps out is the inflection lower on the other side of the pandemic-influenced time frame in contrast to the nearly 20-year time span post the Tech bubble. Our “cluster” approach to categorizing the S&P 500 aligns with this per the rapid increase in the weight of the Growth cluster vis à vis declines in both Cyclical and Defensive cluster weights (Figure 2). Cluster correlations to main macro influences support this dynamic as Growth frequently carries a lower correlation (Figure 3). Further, per Figure 4, the Growth cluster earnings sensitivity to GDP is lower than that for Cyclicals, albeit higher that for Defensives.



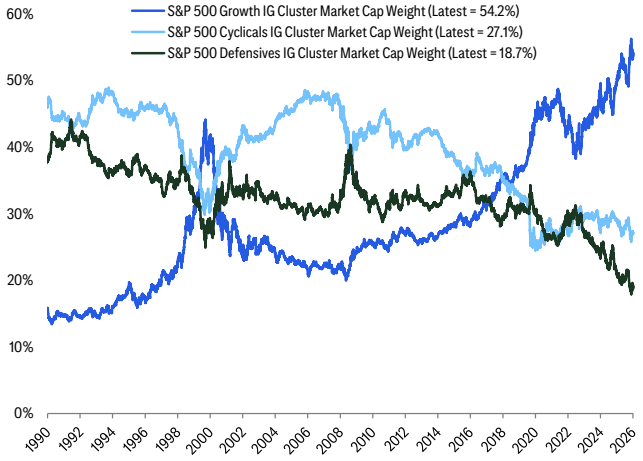
Figure 1. Rolling 10Yr Beta S&P 500 to Nominal & Real GDP Growth



© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.

Source: Citi Research, Bloomberg, FactSet

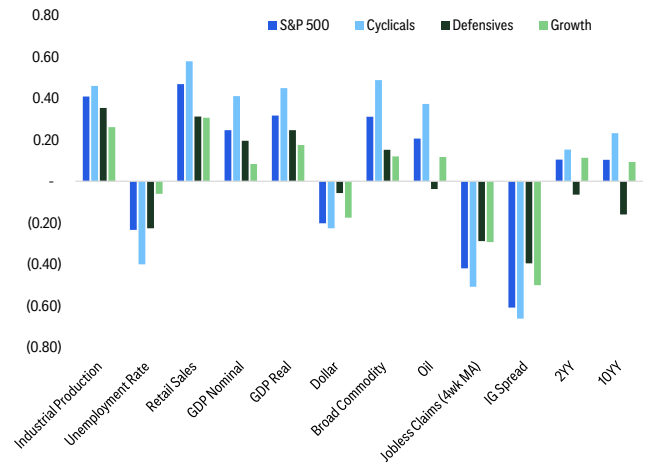
Figure 2. IG Cluster Market Cap Weights



© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.

Source: Citi Research, Bloomberg, FactSet

Figure 3. IG Cluster Macro Correlations

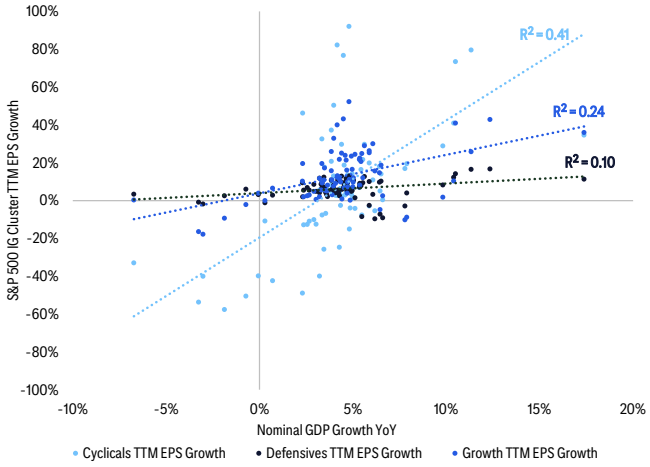


© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.

6M Return against 6M Chg or Pct Chg in Macro Variable, Last 35yrs

Source: Citi Research, Bloomberg, FactSet

Figure 4. EPS Growth vs Nominal GDP Growth by IG Cluster



© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.

Last 20yrs, TTM EPS Growth YoY vs Nominal GDP Growth YoY

Source: Citi Research, Bloomberg, FactSet

Going forward, we will need to be aware of an unfolding circular macro development. That is, expectations for ongoing and steady increases in AI-related capex, along with the wealth effect impact of a higher stock market, set-up for more notable impacts on econ activity in the years ahead.

Watch Your Beta

Under index surface, we note that the index impact of the steady increase in Growth cluster weight is beginning to manifest in beta-like characteristics.

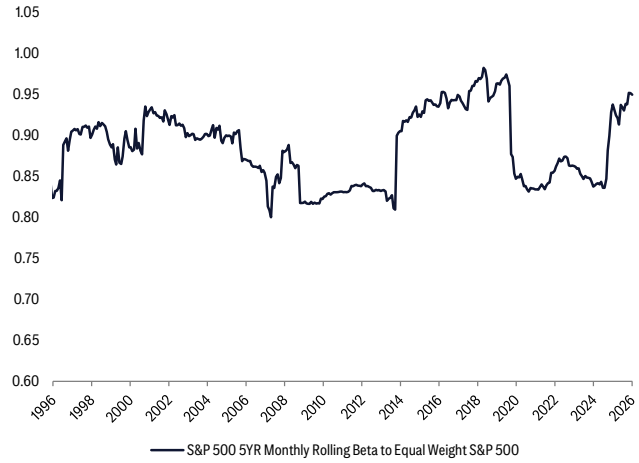
Generally, we think of growth stocks as having a higher "beta" as a function of market pricing of three critical variables. First, short- to intermediate-term growth

drivers set the stage. Second, valuation follows. Third, longer term duration of growth influences terminal value/multiples. By contrast, cyclicals and defensives should, intuitively, be more focused on the first two, with less susceptibility to bigger shifts in terminal value discussions. In any event, the point to emphasize is that the market response to shifting fundamental inputs is more likely to be higher for stocks with a stronger "growth" association than for those with a steadier compounding path.

It follows that as the weight of growth stocks in the S&P 500 increases as it has, investors need to adjust their perspective as to beta influences on portfolios.

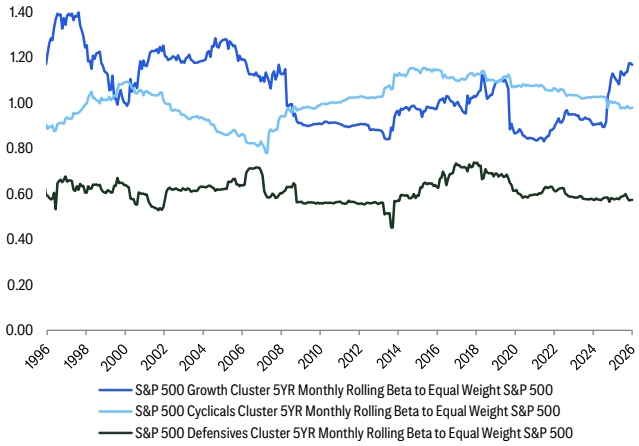
The index beta to equal weight is rising, pushing to the high end of the last 30 years (Figure 5). This is as result of the Growth cluster beta increasing, as well as it being a larger weight in the index. It is subtle but this is an indication that the index, in aggregate, is getting "riskier" (Figure 5). This is a trend which should continue.

Figure 5. S&P 500 Index Rolling Beta to Equal Weight S&P 500



© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.
Source: Citi Research, Bloomberg

Figure 6. Cluster Rolling Betas to Equal Weight S&P 500

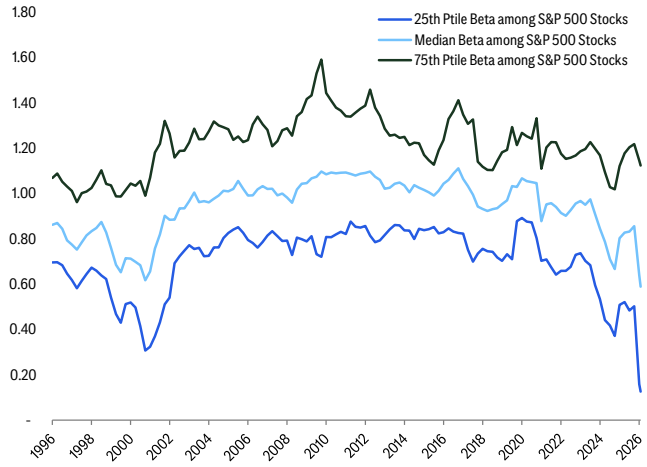


© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.
Source: Citi Research, Bloomberg

Another way to visualize this is by looking at the median Beta or the average Beta of a stock in the S&P 500. The average stock beta to the index is declining, indicating the index itself is getting riskier relative to the average stock. What is happening here is as described above. Namely, as the index weight in high beta stocks increases, per that Growth cluster description, the index beta reflects this, making the index "riskier".

Figure 7 denotes this falling beta for the average stock, in contrast to Figure 8, which shows the index weight ascribed to higher beta components.

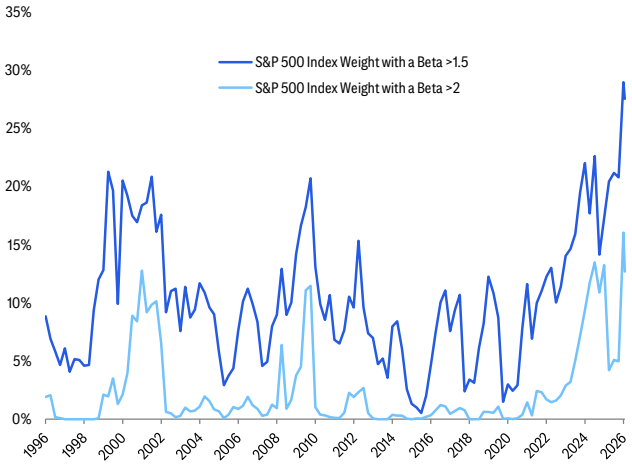
Figure 7. Average Stock Beta is Falling Relative to the Index



© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.

Source: Citi Research, Bloomberg

Figure 8. S&P 500 Index Weight in High Beta Stocks is Growing

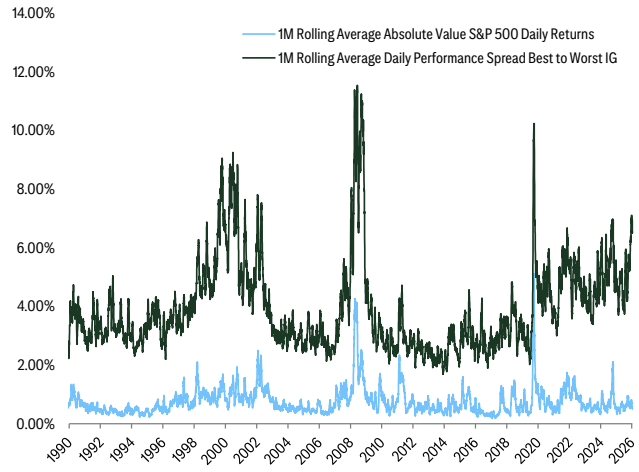


© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.

Source: Citi Research, Bloomberg

This is important but also undersells the story. The single stock volatility has been immense under the index surface. This year we have observed a number of days where the index is relatively flat, yet there is a 6+% performance spread between the best and worst performing industry groups. This is not abnormal during earnings reporting periods, but it has become a stable theme day by day (Figure 9). This ultimately ties back to the increase notable in VIXEQ vs VIX particularly since early April. Figure 10 is somewhat noisy but shows that the performance spread between the top and bottom performing Industry Groups on a daily basis has been persistently higher post-2020 than prior.

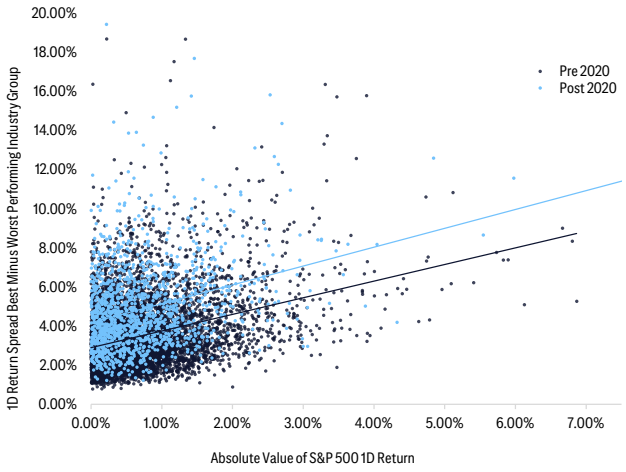
Figure 9. 1D Move in the S&P 500 vs IG Dispersion



© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.

Source: Citi Research, Bloomberg

Figure 10. Pre and Post 2020 Scatter



© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.

Source: Citi Research, Bloomberg

The Growth cluster has been rising in market cap weight concentration for a decade, so this part of the story is not new. However, what has changed is the risk factors driving the Growth cluster. Previously, the large mega cap weights in the

Growth cluster were still beating to different idiosyncratic drums. Large secular fundamental themes were generally diverse across the cluster. Social media growth, ecommerce, transition to digital advertising and advertising technology solutions, smart devices, software, and electric vehicles are all examples of how the mega caps have been attached to diverse thematic influences. Essentially, the index was getting more concentrated into the Growth cluster yet there was still diversity in the risk factors powering this cohort.

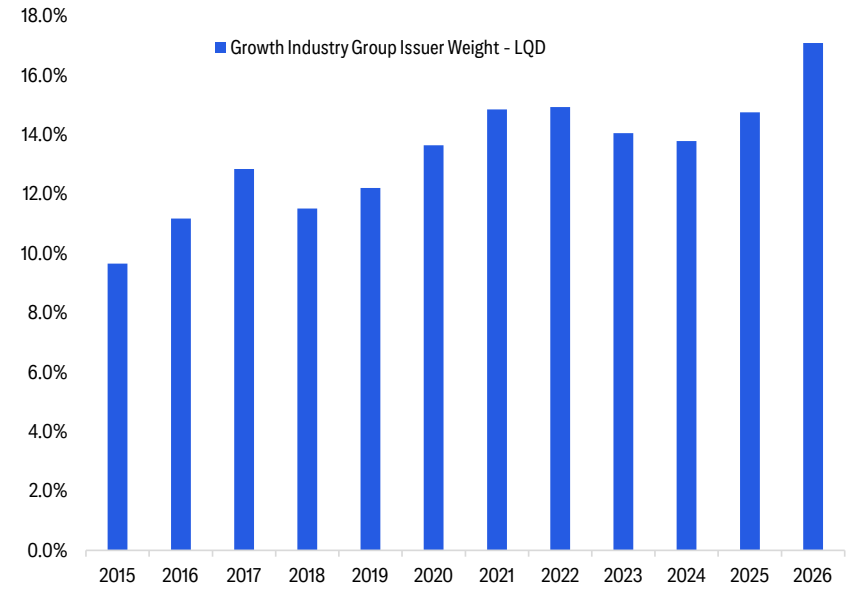
What has changed is that in the last two years or so, mega cap business models have pivoted to focus on AI. These other secular themes are still around but taking a backseat in terms of performance drivers for individual stocks within the growth cluster. What this means is the index is still getting more concentrated in the growth cluster, but this cohort is now getting more concentrated to a single risk factor.

Investors may be intuitively aware of this evolution, but it is worth calling out anyway. This is, in essence, a regime change that requires a fresh approach to identifying portfolio-level exposure to the risk factor it entails.

Cross Asset Implication

A related example is unfolding in the investment grade debt market. Here the credit sleeve of an end investor portfolio is also tilting more significantly to this same risk factor as the debt issuance to finance the datacenter buildout increases the aggregate weight of the growth cluster issuers in various investment grade indices. YTD, the weight of growth cluster issuers in LQD has increased by 2-3pp. This should continue to increase alongside the datacenter buildout and our IG Credit Strategy colleagues are a great resource for more on this (see The High-Grade Beat - Hyperscaler High Tide). So, at the portfolio level, the concentration to a single risk factor is building and it may make sense for some investors to balance this out by adding to non-AI exposed equity holdings.

Figure 11. LQD Weights by Issuer Industry Group Cluster Classification



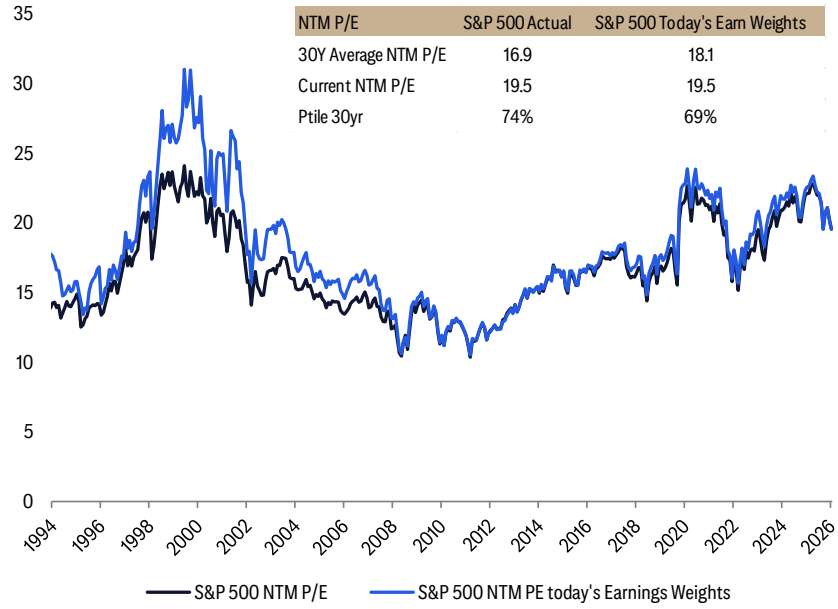
© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.
Source: Citi Research, Bloomberg

Valuation Regime Change

We wrap up with a quick section on valuation implications. No one will be surprised that growth stocks will frequently trade with higher PEs relative to the broader index. Still, we frequently have client discussions where the focus is on how expensive the current market is versus history. The point here is that the risk is drawing a conclusion on current valuations but relative to a historic construct that is no longer in place.

To put numbers behind this, we take a monthly series of the index NTM PE going back over the last 30 years and restate it with current IG cluster earnings weights and historical IG cluster NTM PEs. This gives us an indication of what the historical index valuations would look like if the current index composition was in place over the whole lookback period. What we find is the 30-year average index NTM PE would have been 1.2x multiple turns higher with the current composition (Figure 12). As we continue to emphasize, it is not the current valuation dynamic that is of concern. Rather, it is the magnitude and persistence of growth drivers which underscore it.

Figure 12. Restated Index P/E with Current Cluster Weights



© 2026 Citigroup Inc. No redistribution without Citigroup's written permission.

Source: Citi Research, FactSet, Bloomberg

In conclusion, we have long argued that understanding index construction is critical to informed views. No doubt, the AI influence continues to be an important component of this. Over the past three years, association with the AI buildout, capex trend, and capability was sufficient to drive mega cap outperformance. But that changed during '26, with the AI-influenced price action becoming more idiosyncratic. Still, there have been subtle changes at work related to the macro influence, valuation set up and, most interestingly, the beta dynamic. Industry Group performance dispersion has widened, thus keeping index volatility low but with more pronounced swings under the surface.