Regional Allocation: Stick to Cap-Weighted Indices

Aviral Utkarsh and Neill Nuttall

A comprehensive analysis suggests that a fundamental departure from a market-capitalization-weighted Strategic Asset Allocation (SAA) is unwarranted, as the high concentration and elevated valuations in the U.S. equity market present only a modest potential drag on future returns and do not invalidate the efficiency of such indices.

The forward-looking macroeconomic landscape, characterized by the U.S.'s superior potential GDP growth and its central role in the transformative Artificial Intelligence (AI) revolution, argues against reducing U.S. market allocation in our opinion. An allocation away from the U.S. would be an implicit bet against the primary beneficiaries of this significant technological shift.

We believe the most prudent course of action is to maintain a core strategic allocation to market-cap-weighted indices, while addressing concerns about short-term market dynamics – such as concentration and valuation peaks – through more effective tactical and dynamic asset allocation adjustments, thereby avoiding the higher costs and unintended risks of a major strategy overhaul.

INVESTOR CONCERNS ARE UNDERSTANDABLE

The sustained outperformance of United States equities, largely propelled by the technology sector since the Global Financial Crisis, has culminated in a significant concentration issue for global investors. This challenge is twofold, presenting a dual layer of concentration risk for those who benchmark against indices such as the MSCI World Index.

First, the US equity outperformance post-Global Financial Crisis has led to unprecedented geographic concentration, with the US now comprising nearly three-quarters of the MSCI

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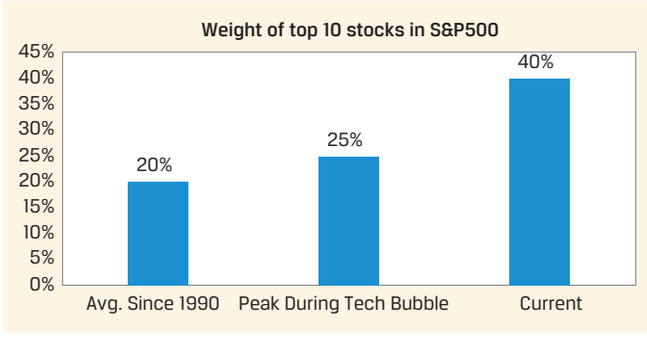
World Index. This level of geographic concentration means that the performance of a globally diversified portfolio is disproportionately influenced by the market dynamics of a single country.

Second, the U.S. equity market is, in its own right, exceptionally concentrated. As of August 2025, the top 10 constituents of the S&P 500 accounted for approximately 40% of the index's total market capitalization. A handful of mega-cap technology companies are the primary drivers of this trend. This internal concentration exacerbates the initial geographic imbalance, creating a scenario where global investors are exposed to the idiosyncratic risks of a small number of companies within a single market.

Figure 1
US stock market is more concentrated than it has ever been



Source: Bloomberg and Goldman Sachs Multi-Asset Solutions

Compounding these concentration concerns are the prevailing high valuations in the U.S. market and a paradigm shift in the global geopolitical framework.

As of late August 2025, the forward 12-month P/E ratio for the S&P 500 stood at 22.3. This figure is significantly above the 10-year average of 18.7, indicating that current valuations are stretched relative to recent history. While this valuation remains below the peak of approximately 25.6 reached during the dot-com bubble, it underscores a market priced for high expectations.

The investment landscape is also being fundamentally reshaped by a profound structural shift in the global geopolitical order. The international environment appears to be gradually moving towards a multipolar system, characterized by the growing influence of emerging economies and the formation of competing economic blocs.

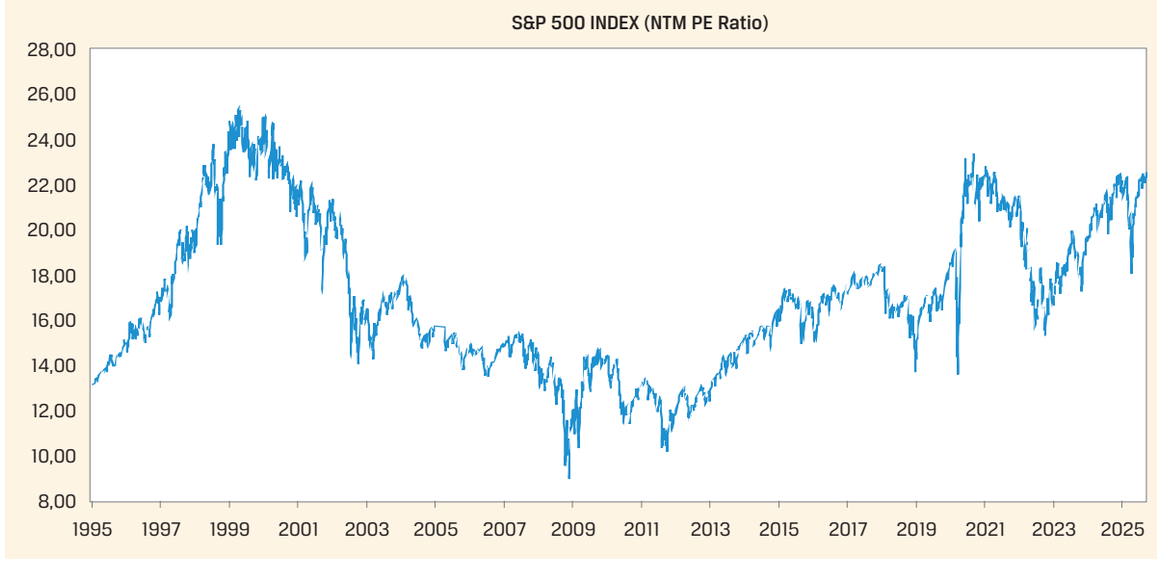
In light of all these factors, investors are understandably critically re-evaluating their strategic asset allocation (SAA) to market-cap weighted global equity indices.

IN ABSENCE OF AN ACTIVE VIEW, MARKET CAP WEIGHTED PORTFOLIO REMAINS A ROBUST STARTING POINT

Before discussing the concerns of investors around index concentration and valuations in the US, we must understand why market capitalization-weighted index is the ideal starting point in absence of an active view and what a deviation from it implies.

The primary argument for capitalization-weighting stems from the Capital Asset Pricing Model (CAPM).[9,10] CAPM posits that the "market portfolio," which includes all available risky assets weighted by their market capitalization, is the most efficient portfolio in terms of risk and return. In theory, no other combination of risky assets can offer a better return for the same level of risk in a market that is efficient.

Figure 2
The headline valuation of S&P500 looks extremely stretched



Source: Bloomberg and Goldman Sachs Multi-Asset Solutions

Consequently, a cap-weighted index is considered the most accurate representation of a given market segment, reflecting the aggregate view of all market participants on the value of each constituent company. As a company's market capitalization grows or shrinks, its weighting in the index adjusts automatically, ensuring the portfolio continuously mirrors the market's composition.

Any alternative implementation choice implicitly embeds an active view on prospective returns, thereby diverging from the relative economic value assigned by the market; the magnitude of tracking error associated with this choice is indicative of the conviction underlying that active view.

INDEX CONCENTRATION AND VALUATION PRESENT A MODEST DRAG

Having established the context around the capitalization-weighted indices, let us investigate if elevated index concentration justifies deviating from it. As both concerns primarily stem from the US, we will analyse the impact of these factors on the US stock market efficiency and returns.

In the context of elevated index concentration, a critical line of inquiry is the mean-variance efficiency of the capitalization-weighted market portfolio. This question is foundational, as its answer carries significant implications for strategic asset allocation. If, at current levels of concentration, the null hypothesis that the cap-weighted index is mean-variance efficient cannot be rejected by empirical tests, then concentration in itself does not constitute a sufficient justification for implementing active deviations from such a benchmark.

A key tool for this analysis is the Gibbons, Ross, and Shanken (GRS) test,[7] which is a widely accepted, standard statistical method for testing the mean-variance efficiency of a given portfolio. The GRS test calculates whether the standardized α from CAPM regression is close to the Sharpe ratio of market portfolio.

Geometrically speaking, when the Capital Allocation Line of a test portfolio is geometrically close to that of the true tangency portfolio[1], the corresponding GRS χ^2 test statistic is small, leading to the conclusion that the test portfolio is statistically indistinguishable from being mean-variance efficient.

The graph in figure 3 shows the χ^2 statistic for GRS test performed on the 11 sectors of S&P500 index. The regression was performed on weekly returns with a rolling window of 52 weeks. It can be clearly seen that as index concentration increased in 2023 triggered by Nvidia rally, GRS test continued to reject the hypothesis that cap-weighted index was not mean-variance efficient.

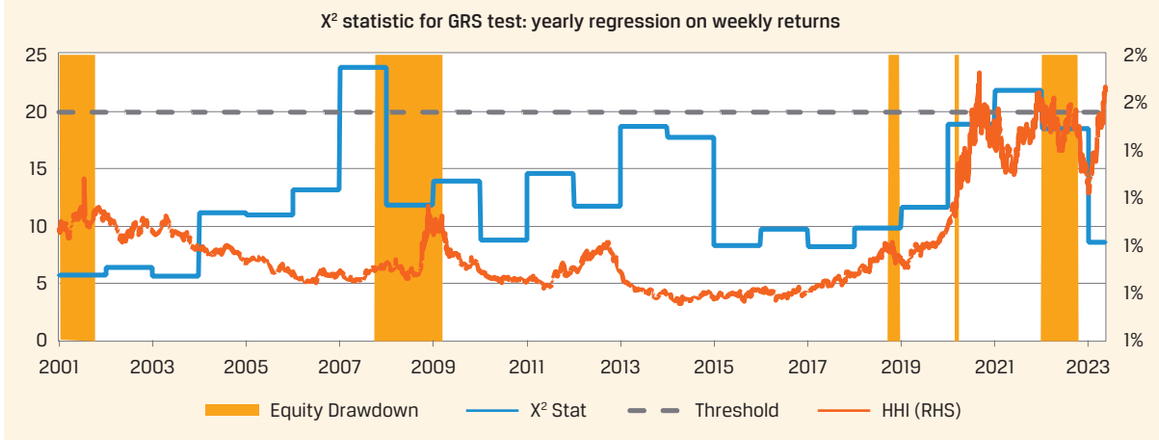
A complementary approach is to test the predictive power of index concentration on subsequent returns. Essentially, to evaluate the performance of a dynamic strategy that tactically overweighs an equal-weighted index relative to a market-capitalization-weighted index during periods of historically high concentration.

The Herfindahl-Hirschman Index (HHI)[8] quantifies market concentration by summing the squares of the market shares of constituent firms, with higher values indicating greater concentration. We used this widely recognized measure of market concentration, as the sole input to our historical similarity model to dynamically allocate between market capitalization-weighted and equal-weighted indices.

Our historical similarity model developed a strategy based on past observations that went short equal-weighted index vs cap-weighted index during periods of high market concentration and long during periods of extremely low concentration ('Contrarian' in figure 4). The performance of this strategy indicates that the equal weight index tends to outperform when concentration is extremely high but the overall Sharpe Ratio (SR) from such a strategy is significantly weaker than holding a cap weighted index while concentration is increasing.

In fact, the dynamic strategy that tactically overweights market-cap-weighted indices during periods of rising concentration and

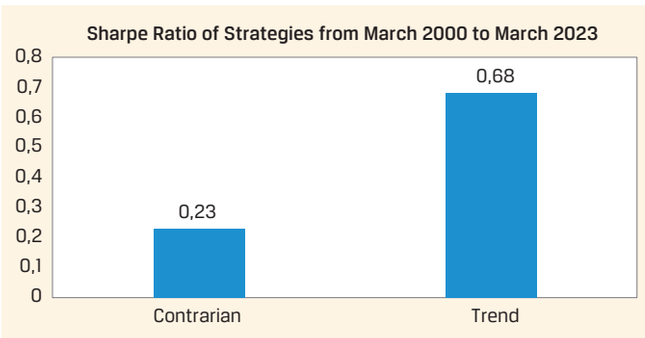
Figure 3
GRS test on 11 sectors of SP500 index (Higher $\chi 2$ stats indicates market portfolio is more likely to be inefficient)



Source: Bloomberg and Goldman Sachs Multi-Asset Solutions

equal-weighted indices during periods of declining concentration has demonstrated a superior track record over the last two decades ('Trend" in figure 4). This outperformance, coupled with the strategy's implied capital turnover, suggests that exposure to index concentration should be managed dynamically rather than through a static alteration of strategic asset allocation.

Figure 4
Performance of a strategy that goes long the cap weighted index while concentration is increasing and vice versa has generated better performance than contrarian strategy that takes short position when index concentration is at extreme



Source: Goldman Sachs Multi-Asset Solutions

To sum up, while market capitalization-weighted indices are theoretically mean-variance efficient, elevated US equity concentration may introduce a modest performance drag. However, a fundamental shift in Strategic Asset Allocation (SAA) in response to such short-term market characteristics is generally not optimal. SAA is a long-term framework designed to capture the broad equity risk premium and these mean reversions in concentration tend to take place over a much shorter time horizon. To deal with the potential drag coming from index concentration, we believe investors should make dynamic adjustments with shorter time horizon.

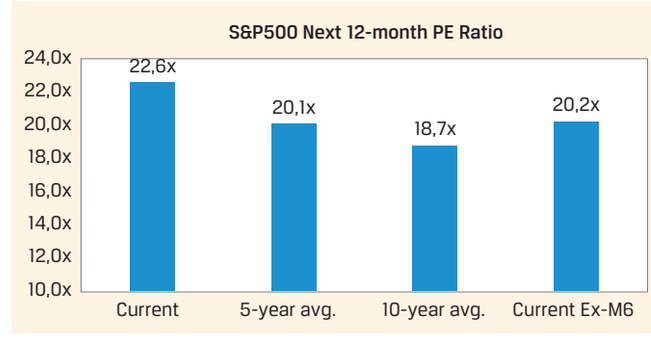
HEADLINE VALUATIONS IN THE US DO NOT TELL THE WHOLE STORY

The assessment of equity market valuations necessitates a granular analysis beyond headline aggregate metrics, particularly in the current environment characterized by significant concentration within the S&P 500 index. While the S&P 500's headline next-twelve-month (NTM) Price-to-Earnings (P/E) ratio of approximately 22.3x appears elevated compared to historical averages, a disaggregated view reveals a more nuanced picture. This apparent expensiveness is largely influenced by a select group of mega-capitalization technology and growth-oriented companies, "Magnificent Six" (M6) – Alphabet, Amazon, Apple, Meta Platforms, Microsoft and Nvidia. These companies collectively account for around 33% of the index's market value as of August 2025.

When the S&P 500 is segmented into M6 and the S&P 500 ex-M6, a different valuation landscape emerges. The remaining 494 names within the S&P 500, excluding these dominant technology giants, are trading at valuations that are only modestly higher (less than 10%) compared to their 10-year average. For instance, while S&P 500 might trade at a forward P/E of 22.3x, the S&P 500 ex-M6 is trading at a more reasonable 20.2x. This suggests that M7's higher multiples are an important factor driving the perceived "expensive" headline valuation.

The M6 names themselves, despite their high forward P/E ratios (average M6 P/E multiple is around 28x), are not only trading close to their own long-term averages but also their valuation premiums over S&P500 are below long-term averages. The current premium of 25% seems more than justified because these companies possess superior fundamental attributes, including market dominance, relentless technological innovation, significant earnings growth, higher profit margins, and strong balance sheets.

Figure 5
The valuations of US equities are not as elevated as the headline number suggests



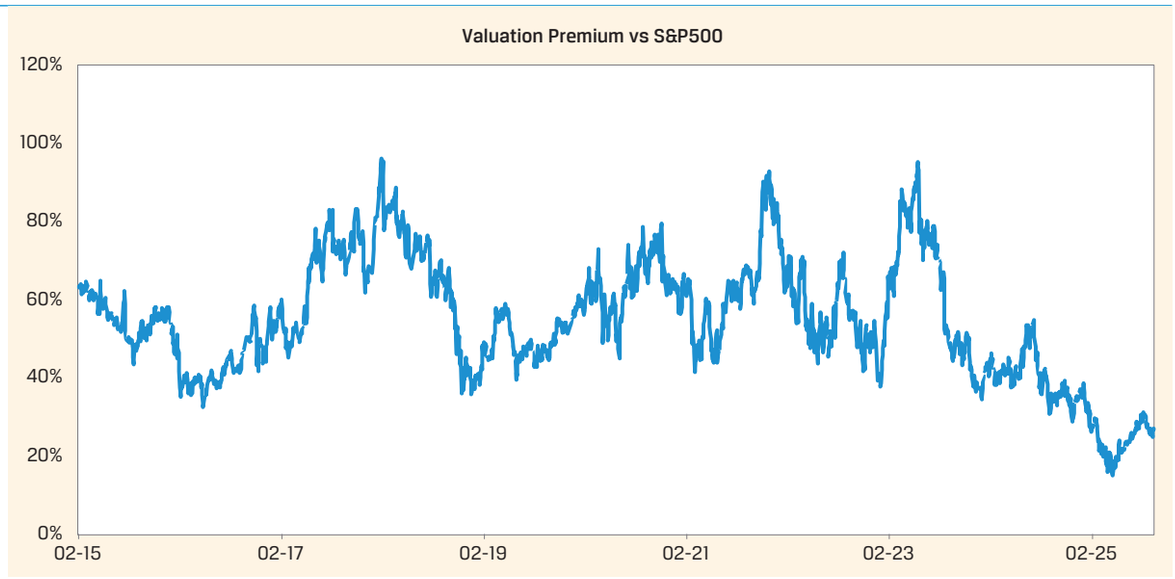
Source: Bloomberg and Goldman Sachs Multi-Asset Solutions

Two main insights come out of this analysis. First, after accounting for the fact that higher headline valuations of S&P500 are driven to a considerable extent by stocks deserving of higher multiples due to their superior quality and growth now account for a larger share of the benchmark, the extent of overvaluation seems modest implying only a modest drag on potential long-term returns. Second, the overvaluation is stemming from the remaining 494 names and not the large cap technology names suggesting that deviating from cap weighted index in the US will expose investors to higher valuation drag and not lower.

Examination of relative valuations across global equity markets, specifically comparing US equities to European and Japanese counterparts, will tell us if allocating to other developed market regions will help in mitigating modest valuation drag in the US discussed above.

While European and Japanese equities often present a seemingly more compelling valuation picture, trading at a significant discount to the US, this discount needs to be interpreted with caution. When accounting for the compositional differences and the inherent quality premium embedded within the US market, particularly within the M6, the relative valuation discount of

Figure 6
The valuation premium of M6 stocks is low compared to history

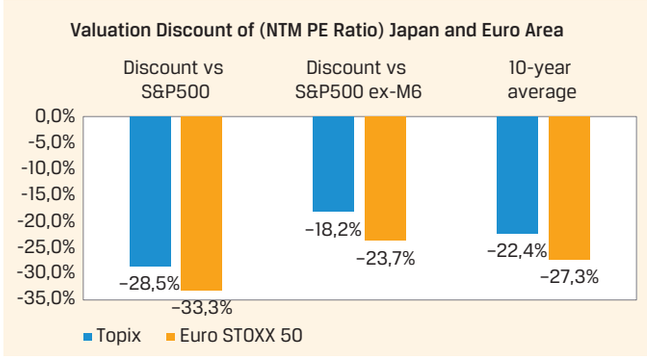


Source: Bloomberg and Goldman Sachs Multi-Asset Solutions

European and Japanese equities versus US equities (specifically the S&P 500 ex-M6) is largely in line with long-term averages.

This implies that the perceived "cheapness" of non-US markets diminishes once adjustments are made for sector biases and the higher growth and profitability profiles of leading US companies. Therefore, while headline P/E ratios might suggest a strong case for reallocating capital to non-US regions, a deeper analysis indicates that relative valuations alone do not provide a compelling argument for a significant strategic shift towards higher allocation to non-US regions.

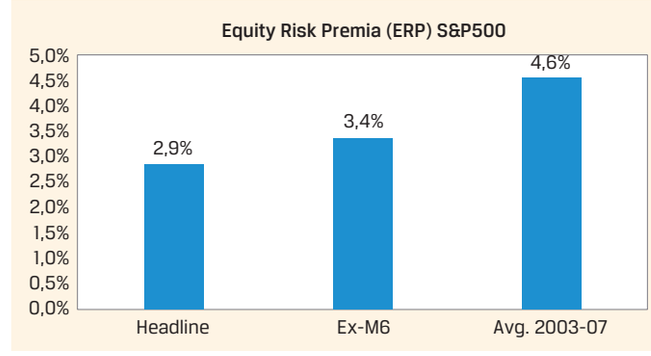
Figure 7
Relative valuation of Euro Area and Japan vs S&P500 Ex-M6 looks in line with long-term average



Source: Bloomberg and Goldman Sachs Multi-Asset Solutions

A fair criticism of the analysis of relative and absolute valuations so far would be that it does not take into account the higher interest rate environment compared to the last decade. However, even after taking long-term yields into account, the conclusions don't change. Equity risk premium, defined as NTM earnings yield minus the real yield, stands at 3.3% for S&P500 ex-M6 which is around 1.3% lower than average during 2003-07 when real yields were in the same ballpark. Thus, in the current interest rate environment, the US stock market indeed looks expensive. But we must bear in mind though that a 10% decline in valuations of S&P500 can increase the Equity Risk Premia (ERP) to around 3.9% and some reduction in real yields as FED embarks on a cutting cycle can offset the rest. Again, the conclusion remains that valuation should be a modest drag on the future returns of US stock market.

Figure 8
ERP suggests a modest valuation drag even after adjusting for M6 names



Source: Bloomberg and Goldman Sachs Multi-Asset Solutions

As far as the rest of the developed market is concerned, the long-term interest rates in Europe have also moved up but not as much as in the US while their relative P/E discount is in line with the historical averages. This may point to relative attractiveness, but Federal Reserve is at the beginning of the rate-cutting cycle while European Central Bank (ECB) is close to the end. Japan, on the other hand, is in a hiking cycle. Hence, the monetary policy outlook when combined with current relative valuations does not result in a different conclusion.

Finally, valuation corrections typically transpire over a considerably shorter time horizon than that of Strategic Asset Allocation (SAA). For instance, during the dot-com crash, S&P 500 valuations contracted by 42% over a period of 926 days, spanning from March 2000 to October 2002. Notably, this period represented the longest duration for an S&P 500 valuation correction to unfold. The second longest valuation correction occurred during the Stagflation era, where S&P 500 multiples declined by 47% over a 638-day period, commencing in December 1972 and concluding in September 1974.

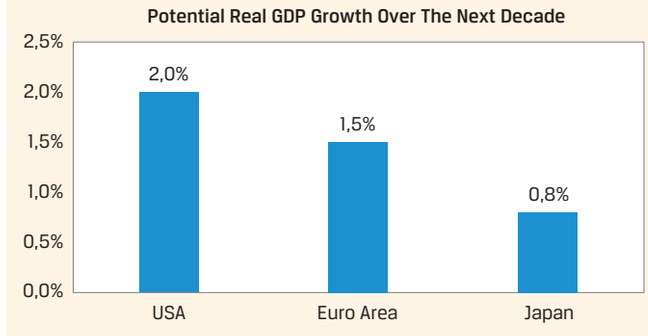
US ECONOMY HAS HIGHER POTENTIAL ECONOMIC GROWTH OVER THE NEXT DECADE

The relative economic growth trajectory between countries serves as a critical determinant when forecasting the prospective performance of their respective equity markets. Over the past decade and a half, the United States economy has demonstrably outpaced its developed market counterparts, notably the Euro Area, a phenomenon largely attributable to a substantially faster rate of productivity growth and a more favourable demographic profile contributing to labour force expansion.

A significant disparity persists between the labour productivity in the United States and its developed market counterparts. According to data from The Conference Board, covering the period from 1990 to 2022, American workers demonstrated a 73% productivity growth.[5] This figure, based on GDP per hour worked adjusted for purchasing power parity (using 2022 international dollars), notably surpasses the growth rates observed in other major developed economies. Over the same period, the Euro Area recorded a 39% increase in productivity, while both Britain and Japan experienced a 55% growth. The underpinnings of this divergence are structural in nature and are likely to persist in absence of major structural reforms in Europe and Japan. These include continued higher non-residential investment (including both physical infrastructure such as equipment and intangible such as software) in the US, higher business dynamism indicated by much higher rate of business creation and dissolution, and higher labour market churn enabled by a more flexible labour market.

Furthermore, while the US labour force growth is projected to slow to an average annual rate of 0.6% over the next decade[4] due to an aging population and declining fertility rates, it remains a relatively more robust contributor to economic expansion compared to many developed peers, particularly Europe and Japan, where demographic headwinds are more pronounced. As per Congressional Budget Office (CBO) estimates[3], the real potential GDP growth for the next decade (2025-35) stands at around 2.0%. This is roughly in line with our estimates. For Euro area, even after accounting for the sustained boost from German fiscal stimulus plan, the real potential GDP growth over the next decade should be around 1.5% according to our analysis. Our estimates are higher than consensus of international institutions but still well below the US. For Japan, we arrive at an estimate of around 0.8% well below the expectations for the US. In summary, the combination of superior productivity gains and a comparatively healthier labour supply should translate into stronger US GDP growth.

Figure 9
Different approaches of capping US weight at 50% (around GDP weight) result in relatively high tracking error



Source: Congressional Budget Office (CBO), Bank of Japan (BoJ), European Central Bank (ECB), International Monetary Fund (IMF), European Commission and Goldman Sachs Multi-Asset Solutions

Even though the companies on European and Japanese equity markets derive a large chunk of their revenue from abroad, it is the US equity market that gives you the highest exposure to the US economy. Therefore, the growth outlook does not provide a fundamental justification for structurally allocating more to non-US regions.

ARTIFICIAL INTELLIGENCE (AI) CAN BE A DOUBLE-EDGED SWORD

The link between GDP growth and earnings growth is not one on one. The outperformance of the US since the global financial crisis has been driven by large cap technology companies that have helped S&P500 deliver much higher earnings growth than nominal GDP growth would imply. The extremely scalable and highly profitable business models of these companies resulted in higher earnings growth for S&P500 as their weight in the index increased. AI is a developing theme which can lead to divergence between GDP growth and earnings growth. If it leads to overexuberance and impacts valuation, it could also lead to divergence between relative earnings growth and performance.

AI is no longer just a buzzword it is a technological development driving commercial results. Open AI's ChatGPT reported having 700 million weekly users in July 2025 and reported an annualized revenue run rate of $12bn.[11] The company projects that their annualized revenue run rate will reach $20bn by the year end. Another US AI model company Anthropic that has found success with coders through its Claude AI product expects to reach $9bn in revenue by the end of 2025. The companies aren't profitable by any means yet, but the revenue growth and adoption rate are unprecedented. It has been less than three years since ChatGPT 3.5 with 175 billion parameters was launched in November 2022.

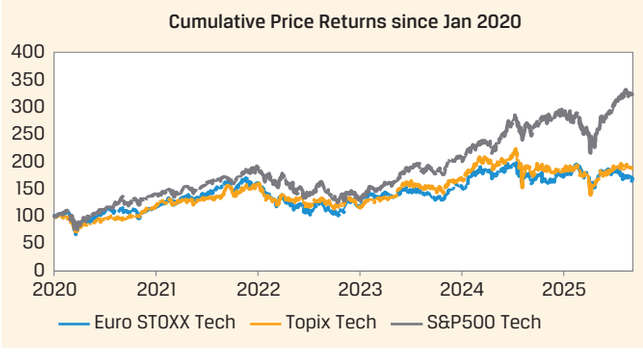
The impact of AI theme is now also visible in macroeconomic data particularly in the US since that is where three-quarters of the AI compute is deployed at the moment. In the first two quarters of 2025, the impact of AI on US GDP growth was higher than personal consumption expenditure. With AI capex from US cloud companies set to exceed $500bn in 2026, we estimate the US GDP impact of all the AI spending to be in the range of 0.75% to 1% in 2026.

In addition to private capex, there are nascent signs of AI influence in the labour market data. A recent report from the Stanford Digital Economy Lab,[2] titled "Canaries in the Coal Mine? Six Facts About the Recent Employment Effects of Artificial Intelligence," indicates a significant decline in employment for young adults aged 22 to 25 in professions highly exposed to AI automation, such as software engineering and customer service. However, the report also suggests that AI more readily substitutes the "book knowledge" of recent graduates, which often involves tasks like coding or responding to customer queries, than the "tacit knowledge" and experience of seasoned professionals, who possess judgment, interpersonal skills, and contextual insight that AI cannot yet replicate.

With technology improving rapidly and costs declining at a similar pace, the AI theme is poised to be a big driver of the macroeconomic outlook as well as the equity market return expectations over the next 2-3 years. If history is any guide, then equity markets should rally first, productivity improvements should follow later and potential negative impact on the labour market should materialize at the end (most likely gradually).

Past examples also suggest that new technologies lead to euphoria at some point and result in overbuild and bubbles. However, the discussion on current valuations in prior section suggests that we are not there yet. So, in effect, an allocation away from US equities at this point will be an implicit bet on underperformance of AI theme and technology names which seems unlikely to materialize in the short-term. As the AI theme moves from those benefiting from build out of infrastructure to those who provide compute and enable AI adoption, the value accretion may continue to be concentrated in the US as such companies are hardly present in Europe and Japan. Thus, the implicit underweight on AI theme cannot be offset by increasing allocation to European and Japanese technology sector. The performance of the technology sector in the three regions illustrates the same.

Figure 10
The tech sector in Euro Area and Japan also does not offer as much AI exposure as the US

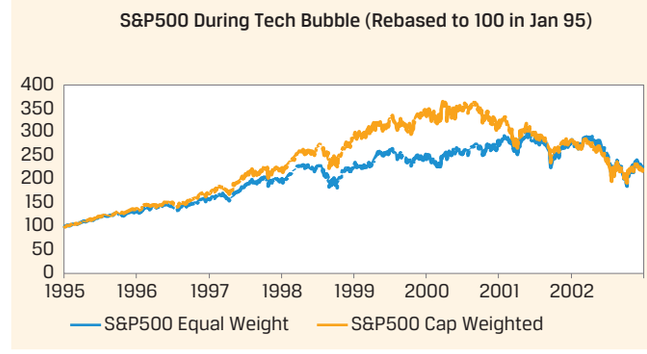


Source: Bloomberg and Multi-Asset Solutions

Even if AI theme follows the same pattern as the dot com boom of the 1990s – first a bubble inflates and then deflates – changing SAA is not optimal. It must be noted that from 2000 till 2002 when dot com bubble was collapsing the equal weight S&P500 did outperform but the overall performance starting from build-up to bubble, followed by burst (1995-2002) was still similar across both equal weight and market cap weighted indices.

In essence, SAA allocation to market cap weighted index would have resulted in similar performance with lower turnover, lower costs and higher liquidity during the whole episode. Therefore, even if an investor has such a view they should handle it through a dynamic asset allocation process instead of SAA.

Figure 11
From buildup till the end of the dot-com bubble equal weighted and market cap weighted index had almost identical cumulative performance



Source: Bloomberg and Multi-Asset Solutions

PRACTICAL CONSIDERATIONS WHEN SOURCING EQUITY BETA THROUGH NON-MARKET-CAP WEIGHTED INDICES

We have talked in detail about the implicit assumptions behind reducing allocation to US or large cap technology names that drive concentration in S&P500. Last but not the least, it is important to touch upon practical considerations which typically do not receive enough attention when discussion of a different choice of benchmark arises.

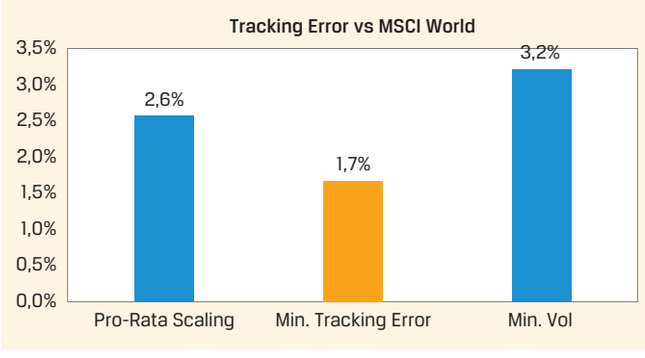
Sourcing equity beta through indices that deviate from market-capitalization weighting introduces a distinct set of practical considerations for portfolio construction, primarily revolving around elevated costs, increased tracking error, and the complexities of achieving genuine diversification. Unlike market-cap-weighted benchmarks, which naturally adjust with market movements and typically exhibit lower turnover, non-market-cap-weighted strategies necessitate frequent rebalancing

to maintain their prescribed allocations. This systematic rebalancing, whether for equal-weighting, fundamental weighting, or other smart beta approaches, generates significant transaction costs due to higher portfolio turnover. These costs, often hidden, can materially erode net returns, underscoring the importance of thoughtful index design to minimize their impact.

Furthermore, departing from a market-cap-weighted benchmark inherently leads to substantial tracking error (TE), defined as the standard deviation of the difference between the portfolio's returns and its benchmark. Even systematic approaches designed to minimize TE, such as optimizing against the MSCI World index, can still result in a notable divergence (e.g., 1.7%). Other non-market-cap-weighted strategies, like equal-weighting, exhibit higher tracking errors. This increased TE implies that the portfolio's performance will likely diverge from the broad market, which can be a significant concern for investors focused on benchmark-relative returns.

Paradoxically, efforts to reduce regional concentration in the US while minimize tracking error results in increased allocation to countries that exhibit similar macro and style exposures to the US, such as Israel, the Netherlands, and Canada. This can limit the intended diversification benefits, as these countries may themselves have even higher concentration risk than US. For instance, the top 3 names in AEX, the Dutch benchmark equity index, account for more than 40% of the total weight.

Figure 12
Different approaches of capping US weight at 50% (around the weight in GDP-weighted MSCI World) result in relatively high tracking error



Source: MSCI and Goldman Sachs Multi-Asset Solutions

Consequently, the adoption of non-market-cap-weighted equity strategies often requires a high-conviction active view to justify the increased tracking error and results in higher turnover, higher costs and lower liquidity. While systematic reallocation options exist – such as pro-rata scaling to other developed market countries or minimizing overall equity basket volatility – these approaches do not eliminate the fundamental trade-offs between managing transaction costs, controlling tracking error, and achieving robust diversification. Investors must carefully weigh these practical implications against the potential benefits of such strategies, recognizing that the pursuit of alternative equity beta exposures necessitates a clear understanding of their operational complexities and performance characteristics.

CONCLUSION

In conclusion, while investor concerns regarding the unprecedented concentration and elevated valuations within the U.S. equity market are understandable, a comprehensive analysis suggests that a fundamental departure from a market-capitalization-weighted Strategic Asset Allocation (SAA) is unwarranted. The evidence indicates that these factors, while notable, present only a modest potential drag on future returns and do not invalidate the underlying efficiency of market-cap-weighted indices.

A granular look at valuations reveals that the headline expensiveness of the S&P 500 is to a large extent attributable to a handful of mega-cap technology leaders, whose premium multiples are supported by superior growth, profitability, and innovation. The rest of the U.S. market is somewhat expensive but not as expensive as the headline number suggests. Hence, valuations like index concentration point to only a modest drag on US equities at this point. Moreover, relative valuation discounts in Europe and Japan appear justified by differing sector compositions and weaker fundamental profiles. Comparing current valuation multiples to the current yield levels results in the same conclusion.

The forward-looking macroeconomic landscape argues against reducing U.S. allocation. The United States is positioned for stronger potential GDP growth over the next decade compared to its developed peers, driven by superior productivity and more favorable demographics. Crucially, the U.S. is the undisputed epicenter of the burgeoning Artificial Intelligence (AI) revolution, a transformative theme poised to drive significant earnings growth. An allocation away from the U.S. market would be an implicit bet against the primary beneficiaries of this technological shift which is just starting to have real world impact now. Importantly, even if eventually the AI theme ends up being yet another technology driven equity bubble, changing SAA is not the right approach. Such views should be handled through a dynamic asset allocation process.

Finally, practical considerations of cost, tracking error, and liquidity cannot be overlooked. Deviating from market-cap weighting introduces higher turnover and expenses, and may lead to unintended risk exposures, requiring a high degree of conviction to justify.

Therefore, while the current market environment presents clear challenges, the most prudent course of action is to maintain a core strategic allocation to market-capitalization-weighted indices. Concerns about short-term market dynamics, such as concentration and valuation peaks, are more effectively addressed through tactical and dynamic asset allocation adjustments rather than a disruptive overhaul of a long-term investment framework.

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