S&P Dow Jones Indices

A Division of S&P Global

Research

Worth the Weight

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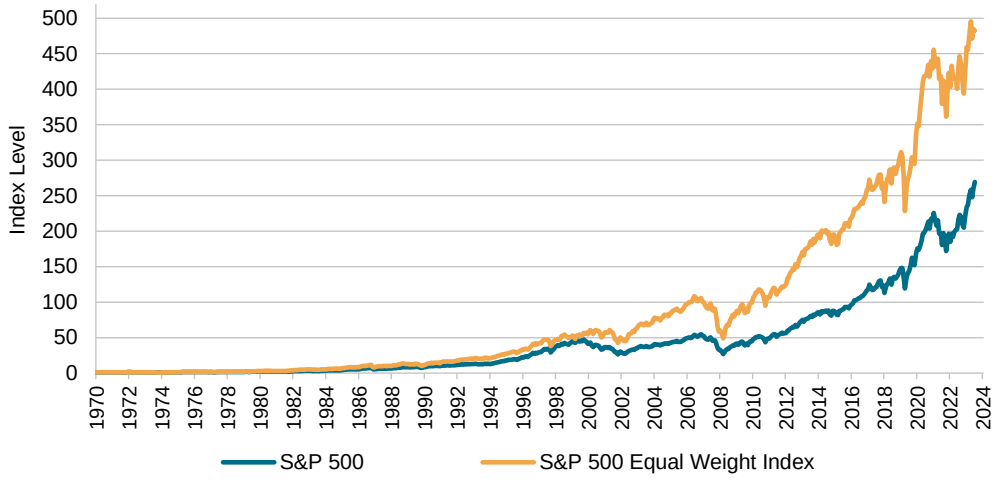
"It takes 500 small details to add up to one favorable impression."

Cary Grant

The S&P 500® Equal Weight Index has outperformed the S&P 500® over more than two decades of live history, with a similar long-term rate of excess returns observed over a hypothetical back-tested history extending back to 1970 (see Exhibit 1). These observations are not new, but an equal weight approach to large-cap U.S. equities may be of particular interest in times such as the present, when the equity markets are at high levels of market concentration relative to history.

In the context of the current market dynamics, this paper summarizes a wide range of observations on the potential sources and drivers of relative performance in the S&P 500 Equal Weight Index—ranging from market concentration to sector, factor and single-stock perspectives.

Exhibit 1: The S&P 500 Equal Weight Index Outperformed over the Long Term



Source: S&P Dow Jones Indices LLC. Data as of June 28, 2024. Index performance based on total return in USD. Indices were rebased to 1 on Dec. 31, 1970. The S&P 500 Equal Weight Index was launched Jan. 08, 2003. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

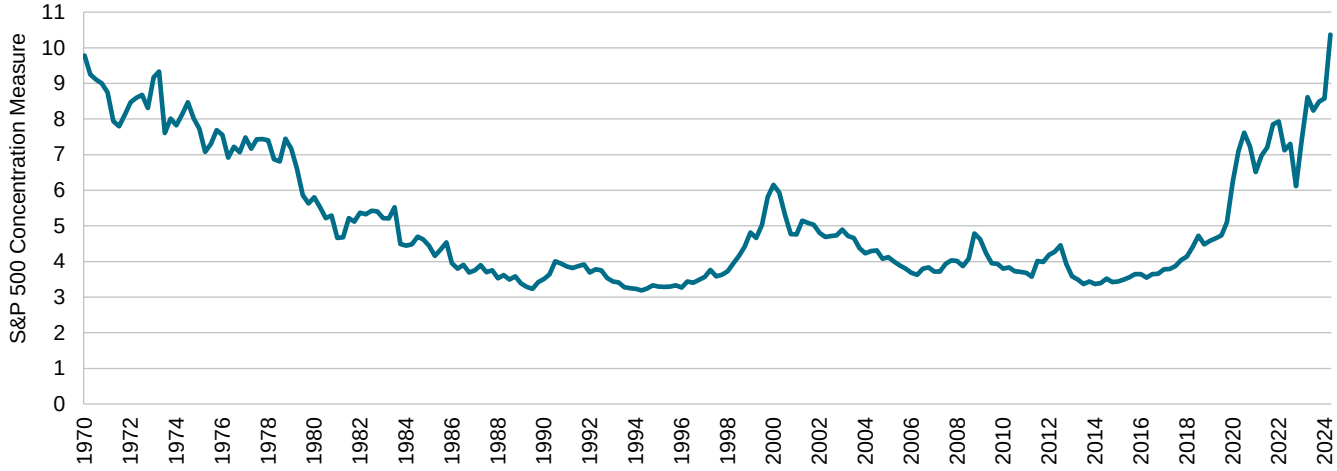
The Current Market Context

The U.S. equity market has, among other features, been recently characterized by strongly extended price trends and the relative dominance of a few mega-cap companies. This could make equal weight strategies particularly interesting because, first, trends in concentration and momentum tend to reverse at some point (even if it is hard to identify when that will occur) and second, because diversification strategies can be more important when markets are relatively concentrated.

There are numerous ways to see that the U.S. equity market is unusually concentrated at present.[1] Particularly germane to comparisons between equal- and market-cap-weighted indices is that as of June 28, 2024, the (unweighted) average market capitalization of the S&P 500 constituents was USD 96.3 billion dollars but, in contrast, the *index-weighted* average market capitalization was USD 998.6 billion dollars. In other words, a strategy tracking the S&P 500 would—on a portfolio-weighted basis—have an average market capitalization more than **ten times** larger than an equally weighted one.[2]

Using this ratio (between the weighted and unweighted average market cap) to represent "concentration," we can see that concentration has risen sharply over the past 10 years, recently reaching extremes not seen for more than half a century (see Exhibit 2a).

Exhibit 2a: U.S. Equity Market Concentration Reached the Highest in a Half-Century



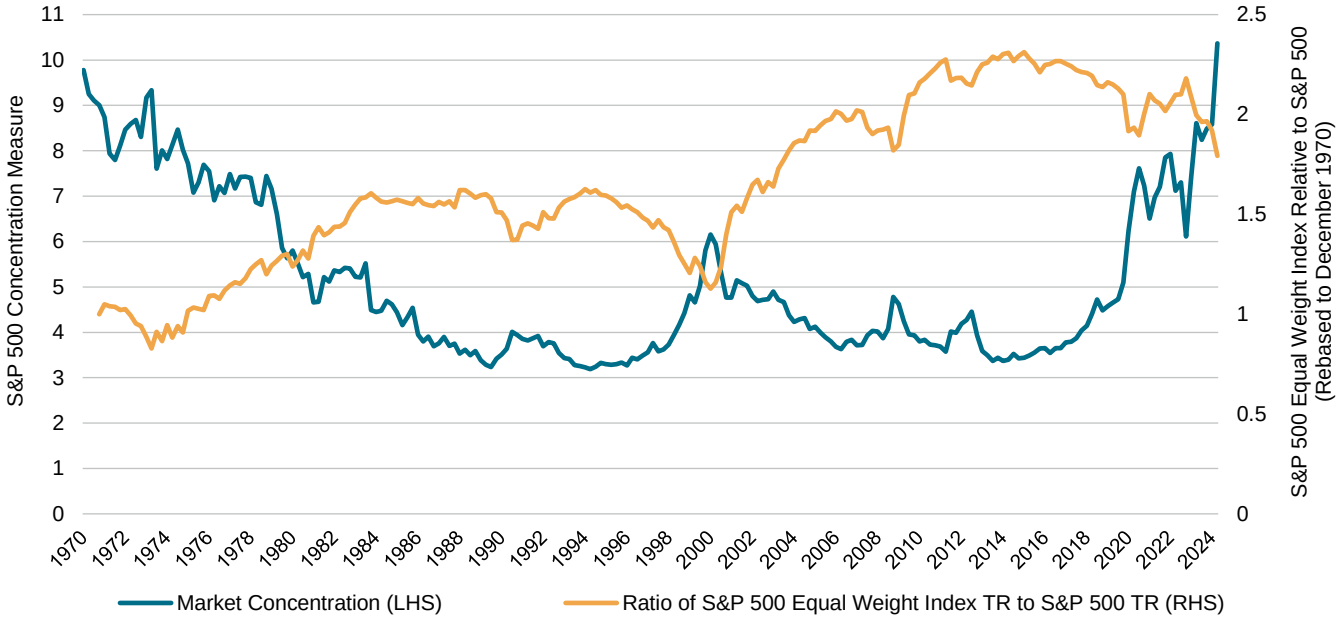
Source: S&P Dow Jones Indices LLC. Data as of June 28, 2024. Concentration is calculated as the ratio of index weighted average company total market capitalization to the (unweighted) average total market capitalization among constituents. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

[1] This is not solely a U.S. phenomenon, see Authers, John, "Market Herding Is Everywhere, Not Just the U.S." Bloomberg's Points of Return, February 2024. See also Inker, Ben and John Pease, "Magnificently Concentrated," GMO, Q1 2024.

[2] A little algebra and the definition of capitalization-weighted indices shows that this measure is almost identical to the "adjusted HHI" introduced by Anu Ganti & Craig J. Lazzara in "Concentrations within Sectors and Implications for Equal Weighting," S&P Dow Jones Indices LLC, February 2022—although Exhibit 2 is based on full market capitalization (opposed to free float).

Changes in market concentration naturally relate to the performance of equal-weighted indices, because when the largest stocks outperform, the market becomes more concentrated in those names, and, at the same time, outperformance by the largest names will mean that market-cap-weighted indices will outperform equal-weighted ones (all else being equal). Conversely, if market concentration were to decrease, then equal-weighted indices would be expected to outperform.[3] Evidencing this point, Exhibit 2b overlays the market concentration shown in Exhibit 2a with the ratio of the total return versions of the S&P 500 Equal Weight Index and S&P 500. Their negative association is starkly visible. (Note: when the series represented in blue is declining, the equal weight index is outperforming.)

Exhibit 2b: Equal Weight Relative Performance and Concentration Trends



Source: S&P Dow Jones Indices LLC. Data as of June 28, 2024. Index performance based on total return indices in USD. The S&P 500 Equal Weight Index was launched Jan. 08, 2003. All data prior to index launch date is back-tested hypothetical data. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

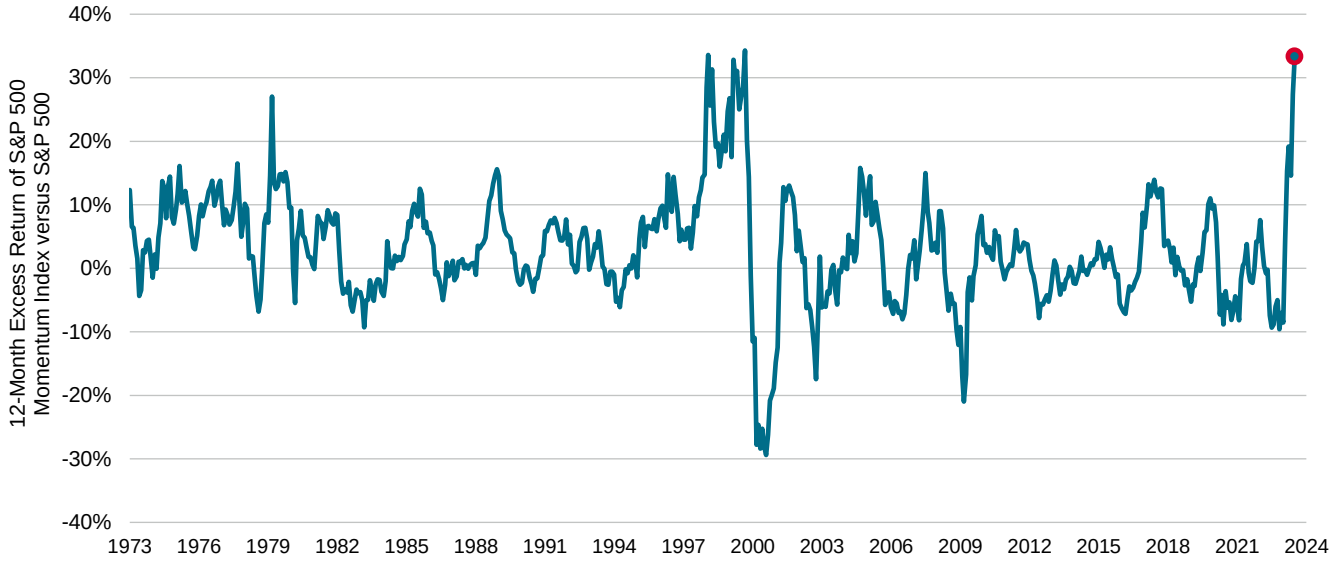
Whether and when these trends might in fact reverse may be connected to a wider phenomenon in U.S. equities, namely momentum. More specifically, the recent outperformance of the very largest stocks is part of a broader strength in the "momentum" factor in U.S. equity performances, particularly over the last year. To see how extreme the trends have become, Exhibit 3 shows the 12-month relative performance (vs the S&P 500) of the S&P 500 Momentum Index—an index comprising the top quintile of S&P 500 constituents with the strongest positive price trends.[4] The momentum index outperformed the S&P 500 by more than 30% in total return terms YTD as of June 28, 2024. This extreme level of relative

[3] See Edwards, Tim, "Higher Concentrations in the S&P 500 Could Lead To Equal Weight Outperformance," S&P Dow Jones Indices, September 2018.

[4] The full methodology for the S&P Momentum Indices is available on our website.

performance is only matched by the excess of exuberance that accompanied the “dot-com bubble” of the late 1990s and which, notably, not long thereafter saw a just as sharp reversal.

Exhibit 3: Momentum Was also Historically Extended in the S&P 500



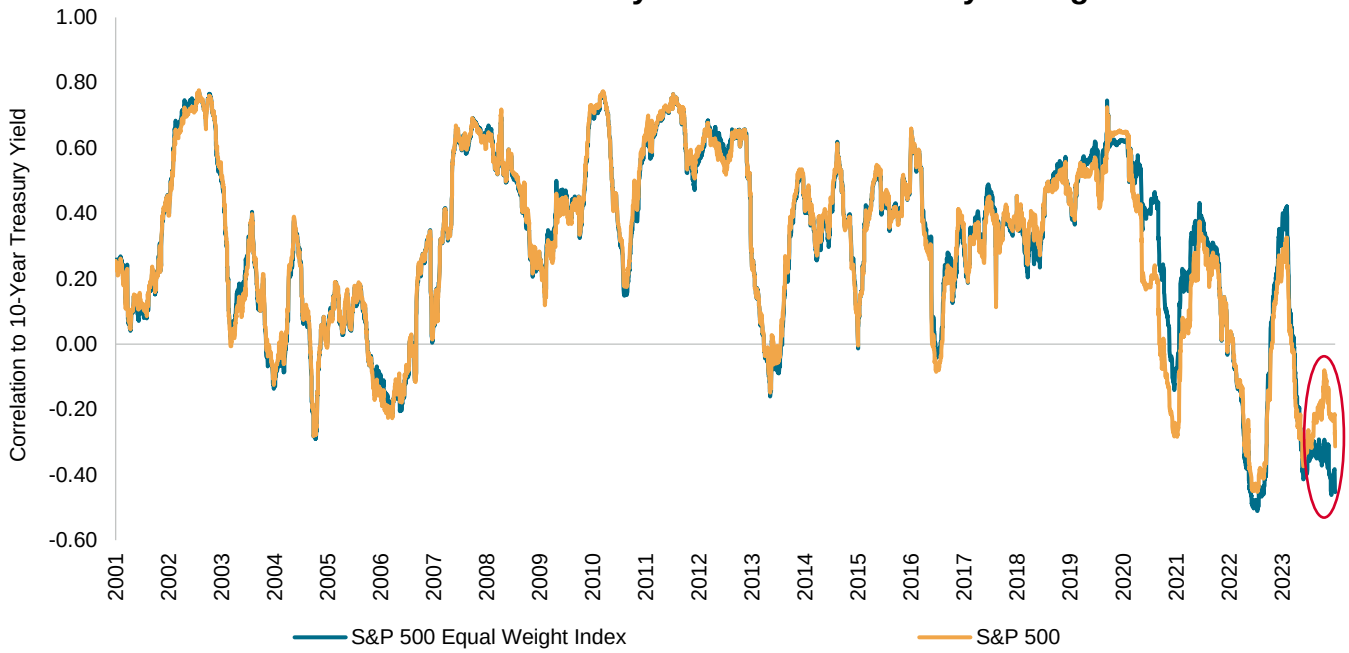
Source: S&P Dow Jones Indices LLC. Data as of June 28, 2024. Index performance based on total return in USD. The S&P 500 Momentum Index was launched Nov. 18, 2014. All data prior to index launch date is back-tested hypothetical data. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

In a later section, we will also show further evidence of the relationship between the momentum factor and the relative performance of equal weight indices; at present it suffices to say that they are also naturally and inversely related, which adds emphasis to the potential importance of monitoring the performance of momentum strategies when assessing the potential merits of an equal weight approach.

As a final remark on the potential relevance of an equal weight approach in the current environment, consider that if the S&P 500 continues to be driven almost exclusively by a select few large names, then the benchmark may begin to act more in line with the idiosyncratic (as opposed to systemic) risks that those large names are most sensitive to. One way in which this may already be manifesting can be found in the sensitivity to longer-dated interest rates. As pointed out recently in the Wall Street Journal,[5] the correlations between daily changes in the benchmark 10-year U.S. Treasury yield and either the S&P 500 or its equal-weighted version are normally near-equivalent, but they have diverged recently. Exhibit 4 shows the trailing 100-day correlations of each index to the benchmark yield from June 2001 to June 2024.

[5] Mackintosh, James, “Big Tech Companies Unplug Stock Market From Reality,” The Wall Street Journal, June 4, 2024.

Exhibit 4: Correlations to 10-Year Treasury Yields Have Recently Diverged



Source: S&P Dow Jones Indices LLC, Federal Reserve Bank of St. Louis. Data as of June 28, 2024. The S&P 500 Equal Weight Index was launched Jan. 08, 2003. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance

Taken altogether, we have an unusually high level of concentration in U.S. equities, accompanied by a range of unusually stretched trends in single-stock performance, and early signs of a potential divergence in the risk characteristics of the equal- and market-cap-weighted versions of the S&P 500. One way to manage the risks of market concentration in a few select mega-cap names is to rebalance away from these outperformers and reap the potential diversification benefits of an equal-weighted approach. Thus, an examination of the S&P 500 Equal Weight Index may prove timely. Any analysis of the current environment might be bolstered with further evidence from the next section on longer-term historical trends.

Historical Outperformance of Equal Weight

As introduced in Exhibit 1, the S&P 500 Equal Weight Index has demonstrated admirable performance in absolute and relative terms over the long term, rising by an annualized 11.58% since it launched in January 2003 to the end of June 2024.[6] It has outperformed not only the market-cap-weighted S&P 500, but also the smaller-cap S&P MidCap 400® and S&P SmallCap 600® during the full period. Exhibit 5 details the long-term degree of outperformance versus each index, as well as more recent statistics.

[6] Source: S&P Dow Jones Indices LLC as of June 28, 2024, based on total returns starting Jan. 31, 2003. See Preston, Hamish, "Celebrating 20 Years of the S&P 500 Equal Weight Index," S&P Dow Jones Indices LLC, January 2023.

Exhibit 5: S&P 500 Equal Weight Index Total Return and Comparisons

Index	Full Period	5-Year	10-Year	15-Year	20-Year
Total Return (Annualized, %)					
S&P 500 Equal Weight	11.58	11.57	10.92	14.23	10.25
Relative Total Return (Annualized, %)					
versus S&P 500	0.39	-3.19	-2.04	-0.38	0.05
versus S&P SmallCap 600	0.77	3.85	2.12	1.56	0.74
versus S&P MidCap 400	0.42	1.20	0.94	1.01	0.22

Source: S&P Dow Jones Indices LLC. Data from Jan. 31, 2003, to June 28, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

The relative underperformance of the S&P 500 Equal Weight Index versus the S&P 500 over shorter periods is connected to several of the themes covered previously. Over the longer term, the index's outperformance has historically motivated a range of analyses of the sources and drivers of relative performance of equal weight indices, which the next few sections will be dedicated to summarizing. We shall consider, in order:

- The role of sector weights;
- The factor perspectives of size and momentum;
- Single stock selection and the role of cross-sectional skew; and
- Comparisons with actively managed U.S. equity mutual funds.

Equal Weight and Sectors

The sector weights of an equity index can have significant explanatory power for its absolute and relative performance, particularly when sector performances are markedly different. Although it contains the same stocks from the same sectors, because it does not weight them in proportion to their market capitalization, the S&P 500 Equal Weight Index can have significantly different sector weights than the S&P 500.

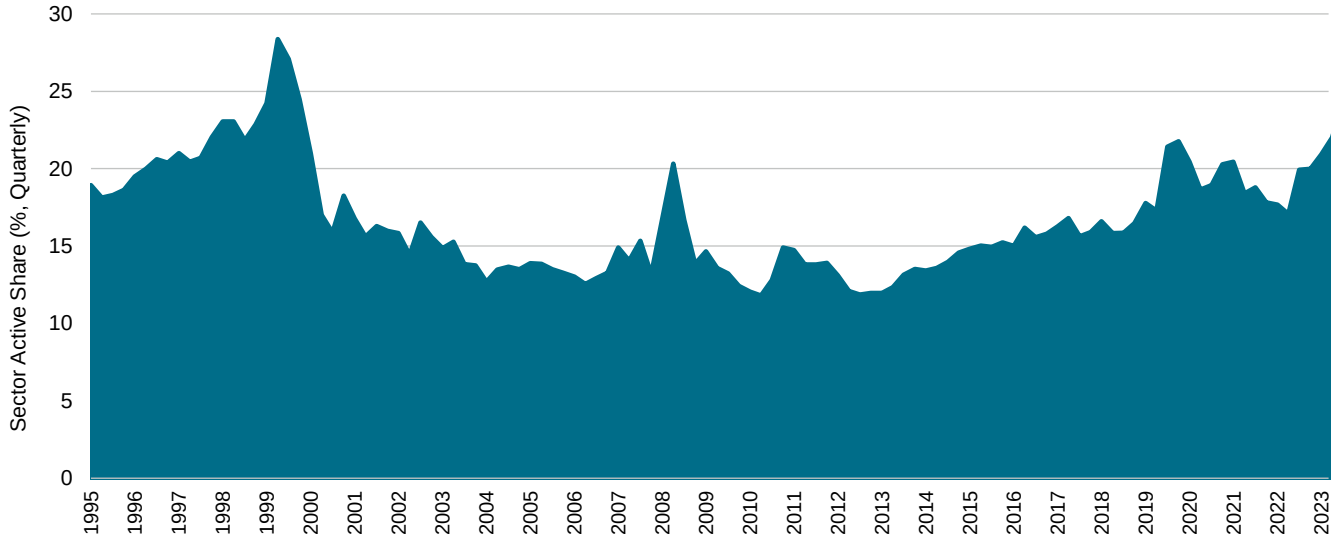
Exhibit 6 summarizes the current sector weights and the historical sector "active share"[7] in the S&P 500 Equal Weight Index compared to the market-cap-weighted S&P 500. Over its live history, the equal weight index had an average sector active share of 17%, of which the biggest relative overweight was in Industrials, where it had an average of 7% more than the benchmark, and the largest underweight was an average 6% differential in the Information Technology sector. The current sector active share (as of Q2 2024) was 25%, over one-half of

[7] The sector "active share" is calculated at each point in time by summing the absolute differences in sector weights of the two indices and dividing the result by two. Two indices with no sector overlap will have a sector active share of 100%; two indices with the same sector weights will have a sector active share of 0%.

which was created by a 19% underweight in Information Technology and a 7% overweight in Industrials.

Exhibit 6: Current Sector Weights and Historical Sector Active Share of the S&P 500 Equal Weight Index and the S&P 500

Sector	Current Weights (as of Q2 2024, %)			
	S&P 500 Equal Weight Index	S&P 500	Difference	Absolute Difference
Communication Services	3.9	9.3	-5.5	5.5
Consumer Discretionary	10.4	10.0	0.5	0.5
Consumer Staples	7.5	5.8	1.8	1.8
Energy	4.6	3.6	0.9	0.9
Financials	14.4	12.4	2.0	2.0
Health Care	12.4	11.7	0.7	0.7
Industrials	15.6	8.1	7.4	7.4
Information Technology	13.4	32.4	-19.0	19.0
Materials	5.5	2.2	3.4	3.4
Real Estate	6.2	2.2	4.0	4.0
Utilities	6.1	2.3	3.8	3.8
Sum	**100**	**100**	**0**	**49**

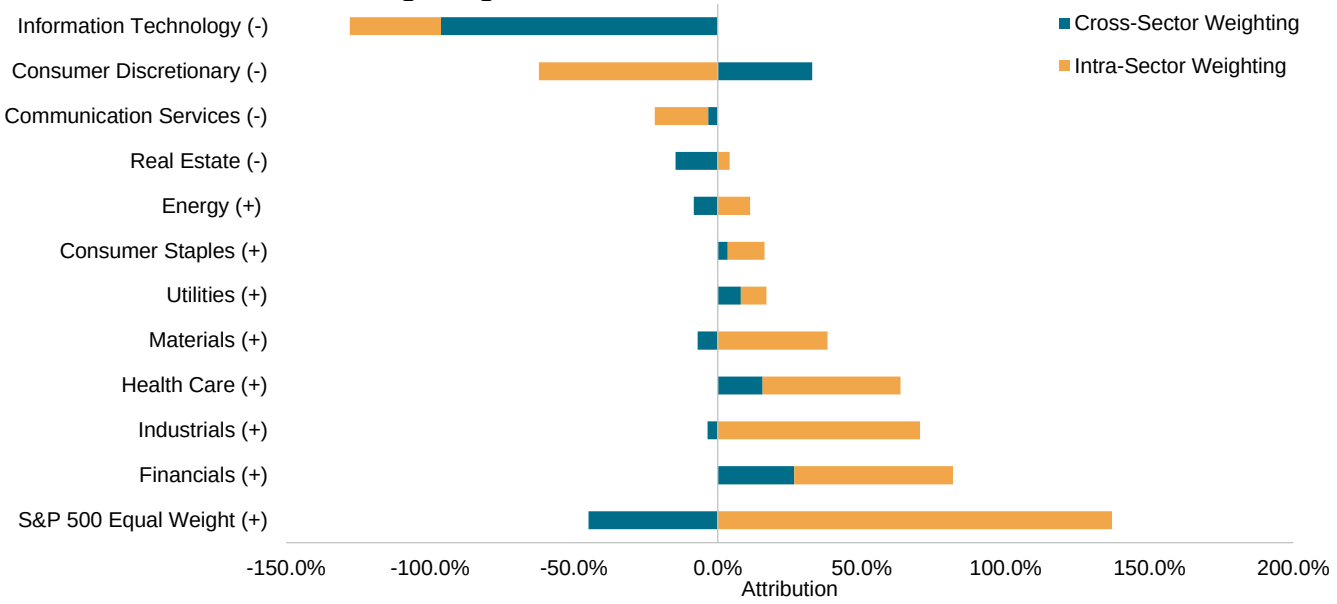


Source: S&P Dow Jones Indices LLC. Data as of June 28, 2024. The S&P 500 Equal Weight Index was launched Jan. 08, 2003. All data prior to index launch date is back-tested hypothetical data. Chart and table are provided for illustrative purposes and reflect hypothetical historical index weights. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested data.

Given the significant sector weight differences, it is tempting to suppose that they were a significant driver in the long-term outperformance of the S&P 500 Equal Weight Index. Surprisingly perhaps, while sector weightings have remained an important driver of short-term

relative performance, their importance was almost immaterial in the long term. Instead, a sector-based return attribution for the cumulative 92% excess return of the S&P 500 Equal Weight Index over its live history shows that *all* of its outperformance came from weighting equally within each sector (intra-sector weighting).[8] In fact, we might say "more than all" of the outperformance, since the impact from sectoral weightings (cross sector weighting) alone would have been expected to result in underperformance by a cumulative 45% over the same period. Exhibit 7 summarizes the contributions to outperformance from cross sectoral weightings, and within-sector weightings, respectively.

Exhibit 7: Intra-Sector Weighting Delivered the Most Benefit



Source: S&P Dow Jones Indices LLC, FactSet. Data from March 31, 2003, to June 28, 2024. Index performance based on total return indices in USD. Real Estate and Communication Services sectors underwent GICS® changes in August 2016 and September 2018, respectively. Data points for the Financials sector reflect the inclusion of Real Estate companies through Aug.31, 2016, and exclusion thereafter. Consumer Discretionary and Information Technology were affected as some stocks within these sectors moved to Communication Services. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

While the impact of equal weighting within each sector was positive in 7 of the 11 sectors, Information Technology was a notable exception, where the equal weight index's underweight in both the sector and the sector's largest names detracted from performance. Meanwhile, the index's equal-weighted approach within the Financials, Industrials and Health Care sectors was responsible for the lion's share of historical outperformance.[9]

[8] See also Preston, Hamish, "Equally Weighting within Sectors: Impact and Potential Applications," S&P Dow Jones Indices LLC, April 2023.

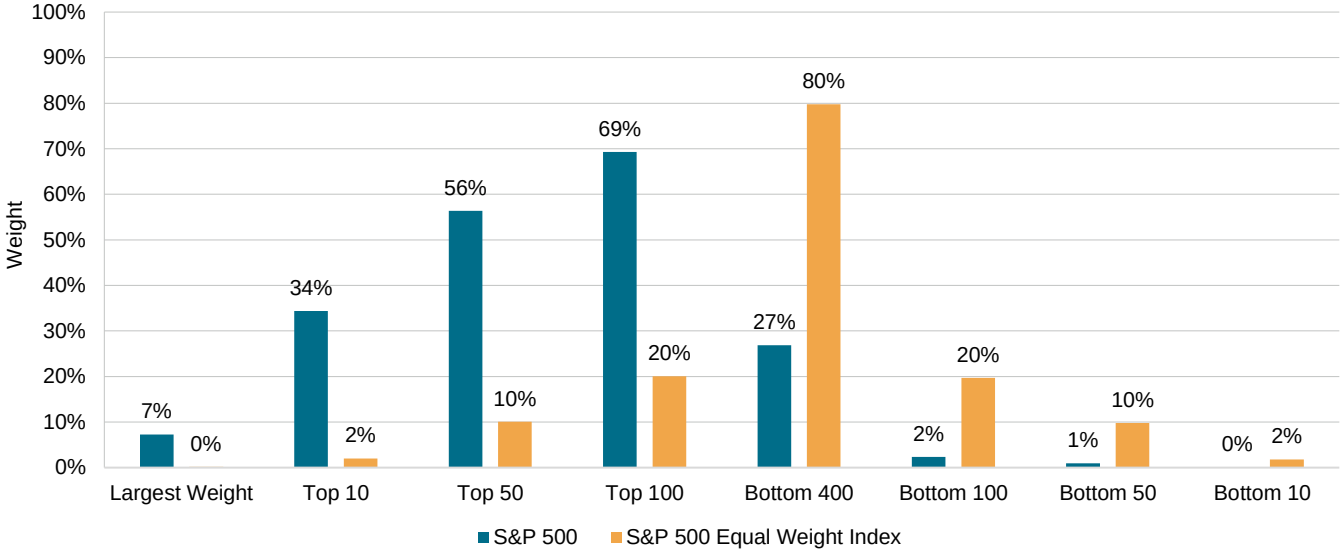
[9] For a more thorough investigation of the impact of equal weighting within and across U.S. equity sectors, see Ganti, Anu R., and Craig J. Lazzara, "Concentration within Sectors and Its Implications for Equal Weighting," S&P Dow Jones Indices LLC, Feb. 7, 2022.

Factors Driving Equal Weight Outperformance

Simple in nature, an equal weight index is defined by a rebalancing schedule determining the frequency at which its constituents should be rebalanced to equal weights.[10] This leads to two anticipated factor exposures: a higher exposure to smaller market-cap stocks (the "size" factor) and an anti-momentum factor exposure with a time horizon that is aligned with the rebalancing frequency.

Exhibit 8 illustrates the weight of companies of different sizes in each index. For example, somewhat intuitively, the equal weight index has close to 80% of its weight in the smallest 400 companies of the S&P 500, compared to only 27% for the market-cap-weighted benchmark.

Exhibit 8: The S&P 500 Equal Weight Index Had Smaller Size Exposure



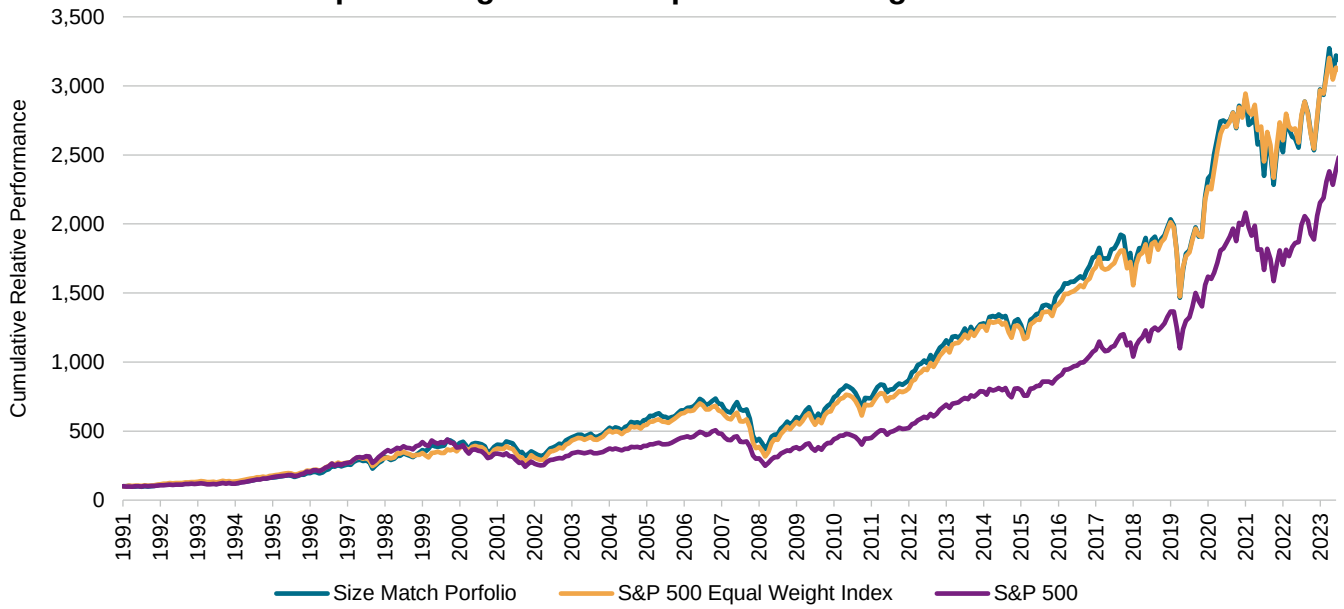
Source: S&P Dow Jones Indices LLC. Data as of June 28, 2024. Chart is provided for illustrative purposes.

In contrast to sectoral weightings, smaller size exposure has proved to be a predominant long-term driver of the Equal Weight's outperformance. One way to illustrate this is to compare the returns of the equal weight index to those of a hypothetical "Size Match" portfolio, constructed from the unique combination of the S&P 500 and S&P MidCap 400 that results in the same index-weighted average market cap as the S&P 500 Equal Weight Index.[11]

[10] The S&P 500 Equal Weight Index rebalances on a quarterly basis. For more details, see the methodology, available at https://www.spglobal.com/spdji/en/documents/methodologies/methodology-sp-us-indices.pdf

[11] Based on an annual rebalance of the "Size Match" portfolio. For details of the calculation, see Edwards, Tim, Craig J. Lazzara and Hamish Preston, , "Outperformance in Equal-Weight Indices," S&P Dow Jones Indices LLC, Jan. 5, 2018.

Exhibit 9: Size Can Explain a Significant Proportion of Long-Term Returns



The Size Match Portfolio is a hypothetical portfolio.
Source: S&P Dow Jones Indices LLC. Data as of June 28, 2024. Hypothetical Size Match portfolio reflects a combination of S&P 500 and S&P MidCap 400 such that the hypothetical portfolio's index-weighted average constituent size matches that of the S&P 500 Equal Weight Index. The hypothetical portfolio rebalances annually at each year-end. For more information, see "Outperformance in Equal Weight Indices," S&P Dow Jones Indices LLC. Indices were rebased to 100 on Dec. 31, 1991. The S&P 500 Equal Weight Index was launched Jan. 08, 2003. All data prior to index launch date is back-tested hypothetical data. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. See the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

As well as the similar long-term performance demonstrated above, the R^2 value between the equal weight index and hypothetical Size Match portfolio trailing 12-month excess returns was a significant 0.58. So, "size" may explain a reasonable proportion of the shorter-term returns, too.

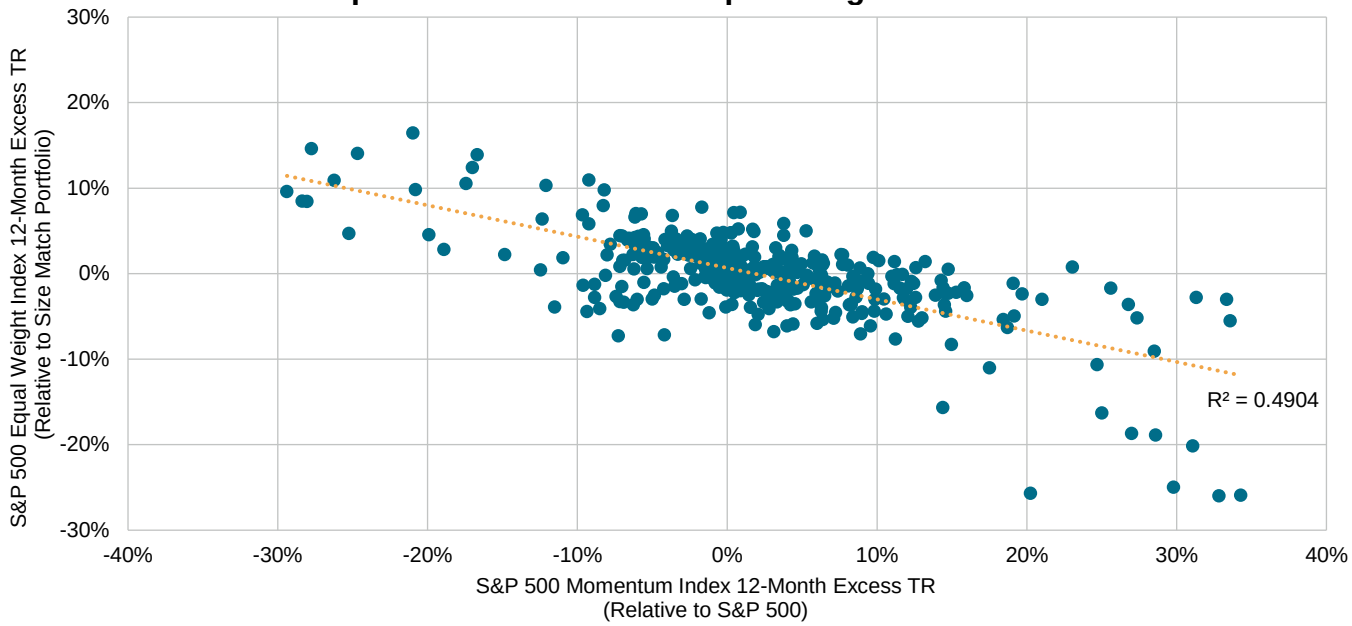
However, size was not the only factor determining Equal Weight's outperformance; the long timescale of the chart above, combined with the fact that two of the series ended in very similar places, risks disguising a genuine return differential in the short and medium term. For example, the equal weight index's 12-month total return relative to the Size Match portfolio over the period ranged from -26% to 16%. In other words, even if the size factor might explain around one-half of excess returns, that still leaves plenty of explaining left to do. The impact of one other factor is particularly clear in the data. It arises through the act of regularly rebalancing, which requires equal-weight indices to sell relative winners (which will have grown in weight) and purchase relative losers (which will have fallen in weight) at each rebalance. This is the opposite of momentum-based strategies, which buy winners and sell losers.[12]

Exhibit 10 demonstrates that a significant proportion of the unexplained performance may come from a negative association to momentum, with a statistical R^2 value of 0.5 between the

[12] See Ganti, Anu R., "Mean Reversion and Momentum," S&P Dow Jones Indices LLC, May 11, 2021.

excess returns of the S&P 500 Equal Weight Index relative to the Size Match portfolio, and the excess returns of the S&P 500 Momentum Index relative to the S&P 500. In other words, momentum effects might explain around one-half of the variation in Equal Weight's relative performance that was not explained by size effects.

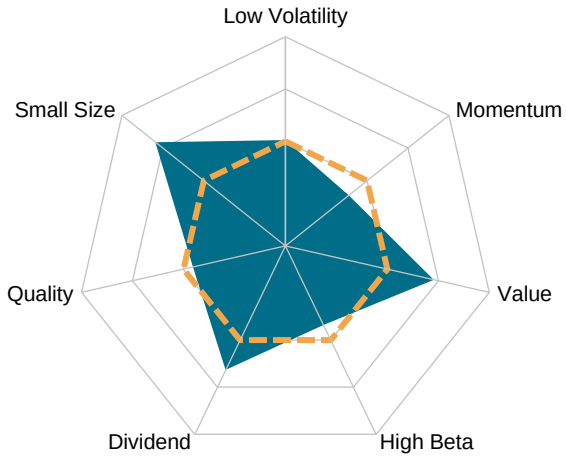
Exhibit 10: Residual Impact of Momentum on Equal Weight Performance



The Size Match Portfolio is a hypothetical portfolio.
Source: S&P Dow Jones Indices LLC. Data as of June 28, 2024. Index performance based on total return in USD. The S&P 500 Equal Weight Index was launched Jan. 08, 2003. The S&P 500 Momentum Index was launched Nov. 18, 2014. All data prior to index launch date is back-tested hypothetical data. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

As well as the expected size and anti-momentum characteristics, Equal Weight has additional factor tilts that can vary over time. Historically (and presently, see Exhibit 11), the index has also tended to have a tilt toward value and a related tilt toward stocks with higher dividend yields relative to the S&P 500.

Exhibit 11: The S&P 500 Equal Weight Index's Factor Tilts Relative to the S&P 500



Source: S&P Dow Jones Indices LLC, FactSet. Chart reproduced from the June 2024 edition of the monthly S&P 500 Equal Weight Sector Dashboard. Data as of June 28, 2024. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Stock Selection and Equal Weighting

"Big things have small beginnings."

T.E. Lawrence

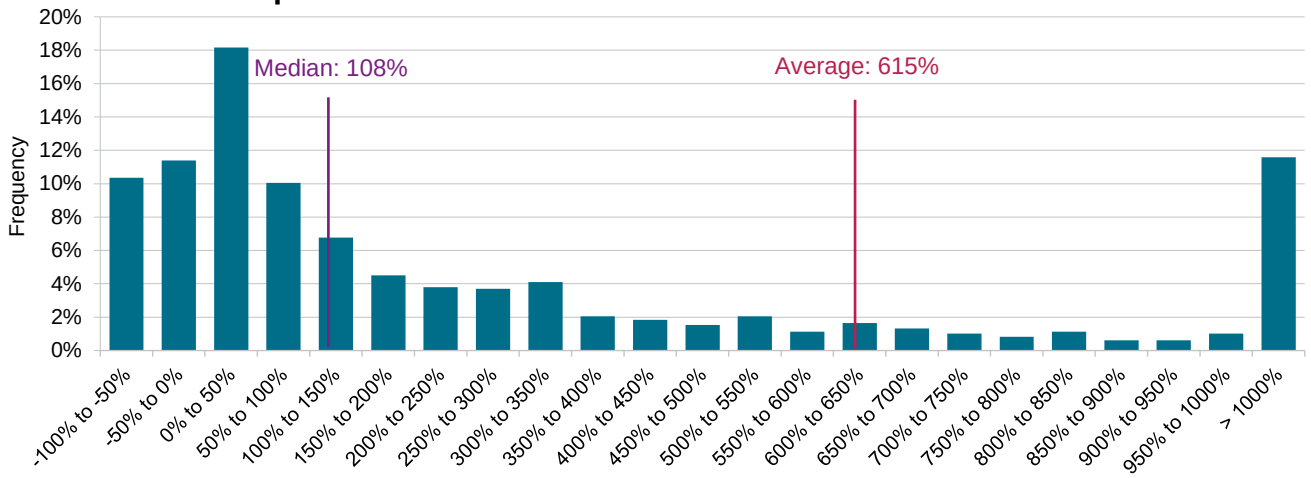
Single-stock performances may also offer a deep perspective on the long-term performance of equal weight indices, based on the following intuition: single stocks can decline by up to 100%, but their gains are unbounded. Moreover, the history of the stock market shows that just a rare few of the tens of thousands of listed companies will go on to deliver outsized returns.[13] Absent an uncommon degree of foresight as to which among the multitude of companies will do so, a bias toward equal weighting at least ensures a proportional degree of participation, which might be under-represented in market-cap-weighted indices.

Turning from intuition toward evidence, Exhibit 12 shows a more than 20-year frequency distribution of the total returns of all the individual constituents of the S&P 500, measured for each constituent during the period of its inclusion. The distribution is highly positively skewed, exemplified by the fact that the average return was 615%, compared to a median return of 108%. This is not a unique occurrence; the average return exceeded the median return among S&P 500 constituents in 29 of the 33 years between 1991 and 2023.[14]

[13] One celebrated study identified that just 4% of companies generated all of the wealth in the U.S. stock market in excess of what might have been achieved with U.S. Treasury Bills. See Bessembinder, Hendrik; "Do Stocks Outperform Treasury Bills?" Journal of Financial Economics Vol. 129, Issue 3, September 2018.

[14] Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2023.

Exhibit 12: Consequences of Skewness – Distribution of S&P 500 Constituent Returns



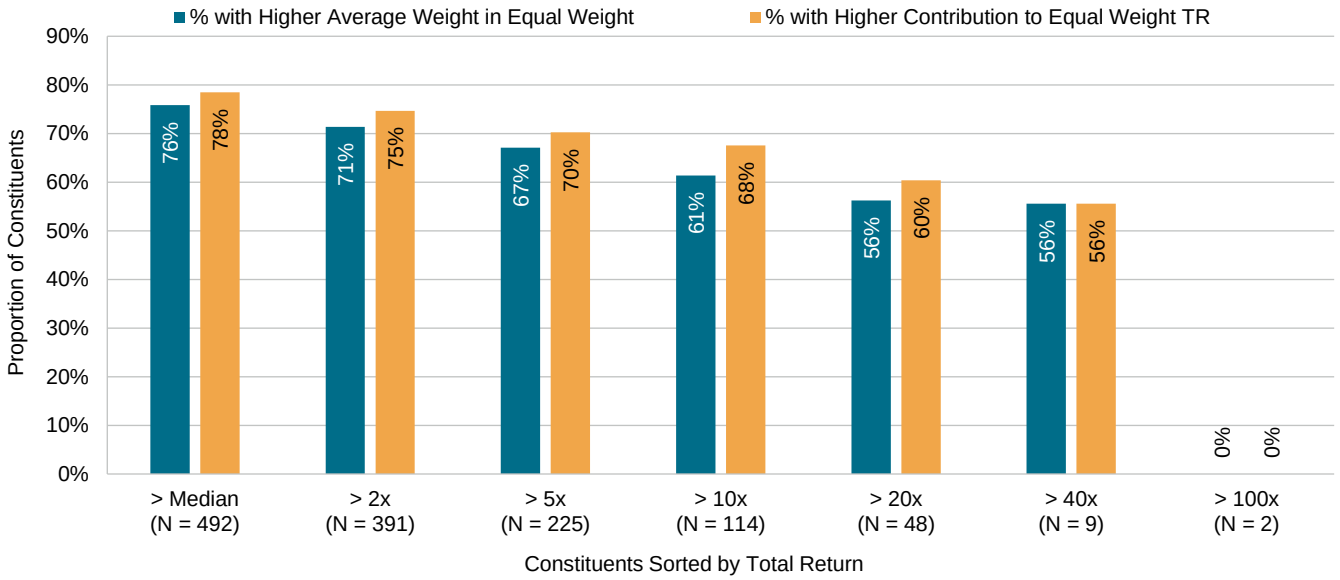
Source: S&P Dow Jones Indices LLC, FactSet. Data from March 2003 to June 28, 2024. Index performance based on total return in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Such positive skew matters to the relative returns of market-cap- versus equal-weighted strategies because market-cap-weighted benchmarks tend to have above-average weights in very few stocks and below-average weights in the majority of stocks.[15] If most stocks have below-average returns, but an extremely rare few have extremely high returns then, all else being equal, a market-cap-weighted benchmark would be likely to hold below-equal weights in those rare few extreme performers. In other words, an equal weight approach may potentially benefit from such positive skewness by having higher weights in the select few stocks with above-average returns, as compared to a market-cap-weighted approach.

To illustrate the real-world implications, Exhibit 13 shows the percentage of the constituents of Exhibit 12 with total returns that were above the median—or greater than 2x, greater than 5x, and so on—that were allocated a higher average weight by the equal weight index, and those that contributed more to the equal weight index's total return, respectively, in comparison to the S&P 500 and over the same period of Exhibit 12. We show both series because it is possible for a stock to have a higher average weight in the equal-weighted S&P 500 and yet a higher contribution to the market-cap-weighted S&P 500—for example, if the stock grew at a moderate pace until it was already among the largest stocks, and subsequently grew at a much faster pace.

[15] This is already demonstrated for the S&P 500 in Exhibit 8 but to be explicit, as of June 28, 2024, the S&P 500 had above-average weights in 99 out of 500 constituent companies, and below-average weights in 401.

Exhibit 13: Constituent Contributions and Average Weights



Source: S&P Dow Jones Indices LLC, FactSet. Data from March 2003 to June 28, 2024. Index performance based on total return indices in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

The results *mostly* confirm the intuition: the equal weight index maintained a higher average weight and captured a greater share of performance in a majority of the constituents with above-median returns and in the smaller fraction of stocks that had greater than either 2x, 5x, 10x or 20x returns. Among the nine stocks with greater than 40x performance, it was evenly split. But for the two stocks with greater than 10,000% total return, the equal weight index held a relative underweight, on average, in comparison to the S&P 500. These two constituents—Apple and NVIDIA—had full period returns of close to 1,000x over the period, both rising from their S&P 500 weights of 0.07% and 0.03%, respectively, in March 2003, to a weight of 6.6% each in June 2024.

At the risk of stating the obvious, it would be difficult for those *exact* two stocks to outperform by a similar relative degree over the next 20 years—they are already two of the largest companies in the world and would likely overwhelm the entire U.S. economy if they were to outperform by a similar amount again. A balanced perspective might be therefore advisable: every analysis is sensitive to the particular time period studied, and the latter part of our data series was coincident with an unusual degree of relative outperformance by the very largest stocks. But, as we highlighted in the first section, these very same dynamics have made the current market environment an unusually interesting one in which to evaluate equal weight approaches.

Active Funds and Equal Weight

Equal Weight's exposure to the positive skewness of equity returns may offer insight into the challenges of beating the index as a benchmark.[16] However, it also raises another question. If the key putative advantages of an equal weight approach are more exposure to single stock performances, avoidance of the largest names and participation in the discipline of rebalancing, all with the putative goal of long-term outperformance, then, are these also not all cases that might be made in favor of an actively managed fund instead?

Certainly, while it is not necessary for actively managed funds to do so, it is not uncommon to find actively managed funds that are underweight the very largest stocks—at least in comparison to a market-cap--weighted benchmark. Moreover, the performance of an "averagely" skilled stock picker over a particular period is usefully benchmarked by the "average" return among the stocks they are picking from—in other words, an equal weight index return.[17] For these two reasons, and because actively managed strategies often rebalance regularly like equal weight indices, the latter can sometimes be a useful benchmark for judging the performance of active and "stock-picking" strategies.[18]

As a result, we might expect the relative returns of Equal Weight to echo that of actively managed mutual funds. As it happens, in aggregate, they do—at least in the short term. But the long-term statistics are different.[19] Indeed, given Equal Weight's long-term outperformance and parallels to active performance, the fact that over 90% of large-cap active funds underperformed the S&P 500 over the past 20 years[20] may be surprising. But when we compare active funds to the S&P 500 Equal Weight Index as a benchmark, the results show that few active funds were able to outperform the equal weight index in most years (see Exhibit 14).

[16] See Ganti, Anu R., and Craig J. Lazzara, "Shooting the Messenger," S&P Dow Jones Indices LLC, Nov. 22, 2022.

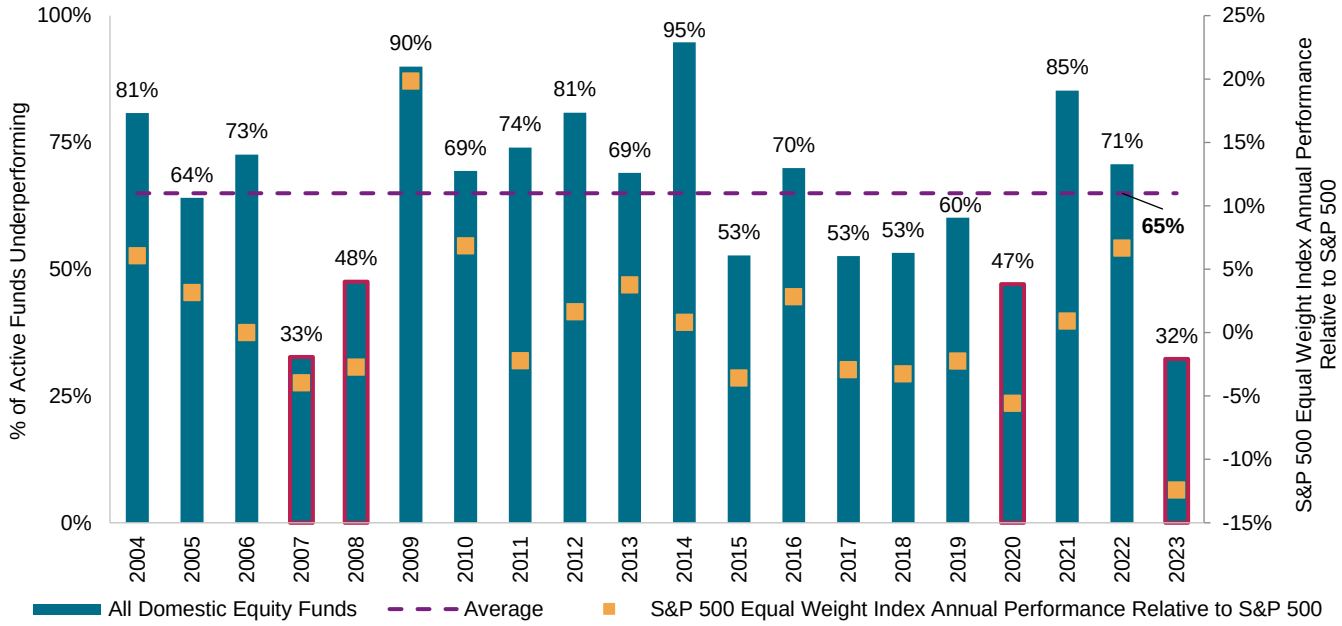
[17] Here, we are ignoring any impact from rebalances—or equivalently, we can assume they will be replicated by the "stock picker."

[18] This concept was outlined in more detail here: Edwards, Tim, and Craig J. Lazzara, "Equal-Weight Benchmarking: Raising the Monkey Bars," S&P Dow Jones Indices LLC, May 2014. See also Chan, Fei Mei, and Craig J. Lazzara, "Degrees of Difficulty: Indications of Active Success," S&P Dow Jones Indices LLC, Jan. 24, 2022.

[19] See Edwards, Tim, Grace Stoddart and Davide Di Gioia, "More Equal than Others: 20 Years of the S&P 500 Equal Weight Index," S&P Dow Jones Indices LLC, June 14, 2023. The results were extended to cover 2023 performances in Ganti, Anu, "Diversification, Equity & Indices," S&P Dow Jones Indices LLC, May 20, 2024.

[20] See Ganti, Anu, Davide Di Gioia, Tim Edwards, Sabatino Longo and Joseph Nelesen, "SPIVA U.S. Year-End 2023," S&P Dow Jones Indices LLC, March 6, 2024.

Exhibit 14: Percentage of All Actively Managed Domestic U.S. Equity Funds Underperforming the S&P 500 Equal Weight Index Annually



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

As Exhibit 14 illustrates, more than 50% of actively managed domestic U.S. equity funds underperformed the equal weight index in 16 of the past 20 calendar years. The long-term statistics are more emphatic. In a recent study conducted to accompany the 20th anniversary of the launch of the S&P 500 Equal Weight Index, this figure rose to nearly all (99%) of actively managed funds underperforming over a 20-year period.[21]

[21] "More Equal than Others: 20 Years of the S&P 500 Equal Weight Index," *op. cit.*

Conclusions

The S&P 500 Equal Weight Index has recently displayed underperformance in comparison to the S&P 500, driven primarily by historical extremes of performance in the market's largest names. Moreover, concentration in the broader U.S. equity market has increased to its highest in many years, while single-stock momentum trends are showing unusual signs of extension. Historically, such periods have tended to eventually revert toward their historical means, with such reversion accompanied by stronger relative performance by equal weight indices.

While we cannot predict when an inflection point for the equal weight index's relative performance will occur, major turning points have historically coincided after extremes in mega-cap performance and in the performance of momentum stocks.[22] The possibility that such a turn in the markets may occur, and be an important driver of overall risk, suggests that an evaluation of an equal weight approach to large-cap U.S. equities may prove timely. Furthermore, the long-term record and sources of return in the S&P 500 Equal Weight Index suggest that such an investigation might be productive for more than just short-term or tactical reasons.

These are not just theoretical considerations; there may be practical applications, too. As well as monitoring and potentially replicating the S&P 500 Equal Weight Index directly, there are now exchange-traded funds (ETFs) and index funds licensed to track this index across a range of markets—including the U.S., Europe, Australia, the U.K., Canada and Israel. More recently, listed futures tied to the S&P 500 Equal Weight Index also began trading at the Chicago Mercantile Exchange (CME).[23] These licensed products may provide a practical context for market participants who wish to engage with an equal weight index in ways that extend beyond the theoretical perspectives presented here.

[22] See Ganti, Anu R., "An Elevating Effect on Equal Weight?" S&P Dow Jones Indices LLC, Nov. 20, 2023; also see Exhibits 2b and 3.

[23] A full list of licensed products is regularly updated on the S&P DJI website.

Performance Disclosure/Back-Tested Data

The S&P 500 Equal Weight Index was launched on January 8, 2003. The S&P 500 Momentum Index was launched on November 18, 2014. The S&P MidCap 400 was launched on June 19, 1991. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at www.spglobal.com/spdji. Past performance of the Index is not an indication of future results. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results. Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations. Back-tested performance is for use with institutions only; not for use with retail investors.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate S&P DJI's ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using "Backward Data Assumption" (or pulling back) of ESG data for the calculation of back-tested historical performance. "Backward Data Assumption" is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as "product involvement") were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on "Backward Data Assumption" please refer to the FAQ. The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used.

Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices maintains the index and calculates the index levels and performance shown or discussed but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US $100,000 investment for a 12-month period (or US $10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US $1,650), the net return would be 8.35% (or US $8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US $5,375, and a cumulative net return of 27.2% (or US $27,200).

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