

DIVERSIFICATION DASHBOARD

Research Insights from Outside the Box



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The Anatomy of Record Market Concentration Original research, actionable insight

A note from the CIO desk...

The rise of mega-cap tech stocks in the US since 2015 started a new cycle of significant market concentration. In 2021, a number of factors contributed to making the already high market concentration rise drastically. The strong increase in market concentration was not simply a US specific phenomenon. Concerningly, almost all the cap-weighted equity indices suffered from the market concentrating at increasing rates.

It is difficult to say whether it is passive investing, retail investor participation, the low rate environment or a combination of other reasons that have led to this situation. However, we can analyze what we call “The Anatomy of Record Market Concentration”. We do this from a purely empirical point of view, to identify how increased market concentration has shaped the structure of cap-weighted equity indices today and the potential consequences for investors.

As cap-weighted indices tend to exacerbate the impact of large bets (positive as well as negative), we find it important to monitor these bets. As investors are typically subject to representativeness bias, they tend to extrapolate the recent past into the future. It is therefore important to remember how very special the current market context is and that the future could bring important changes.

We hope you will find this note insightful and look forward to your feedback.

Yves Choueifaty
President & Chief Investment Officer

out-of-the-box thinking

noun. Thinking that moves away from established convention to incorporate alternative perspectives and which sometimes leads to novel ideas and solutions.

I. Dissecting market concentration

A small number of stocks have experienced a tremendous momentum over the last few years in cap-weighted indices across the world. This led cap-weighted indices to record high levels of concentration.

This trend has been a global phenomenon observed in many regions. In the US equity market, the increase of market concentration (due to mega-cap tech stocks) has clearly been the highest.

In the following analysis, we focus mostly on the US market while also providing some insights on the situation in other regions. Another important reason for focusing on the US market is that the US mega-cap led market concentration has caused the MSCI World and MSCI All Countries World to have a significant US bias. The weight of US represents 60% and 70% of the MSCI World and MSCI All Countries World indices, respectively. As of the end of 2021, the ten largest stocks of the 1544 in the MSCI World and the ten largest stocks of the 2964 in the MSCI All Countries World represented more than 20% and 16% of their indices respectively.

Another interesting statistic that highlights how narrow markets are today:

Table 1: Overview of weight and return contribution from large stocks to cap-weighted indices across the world (12/30/2020 - 12/30/2021)

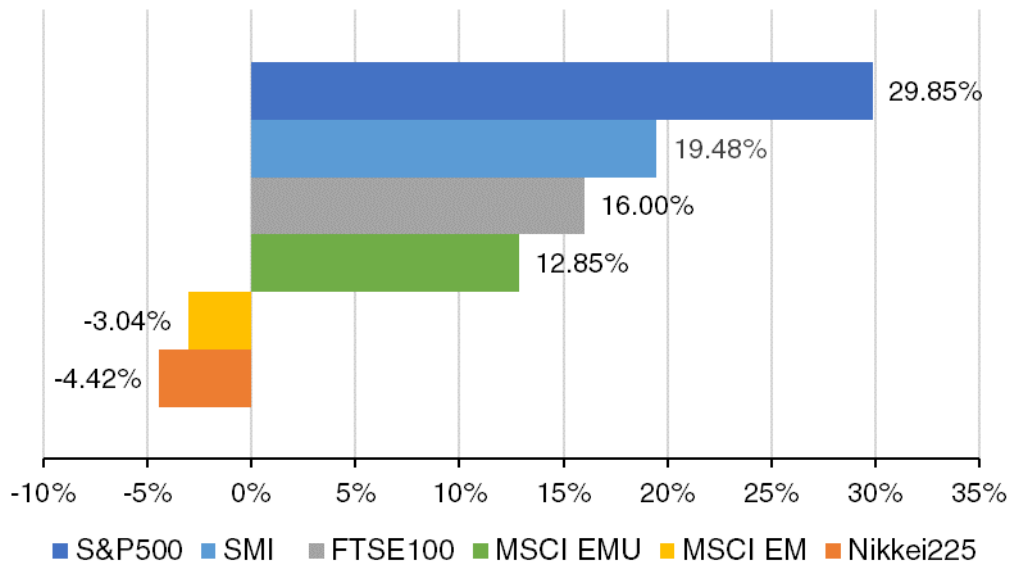
MSCI Index Region	Largest Tercile of stocks index weight	Largest Tercile of stocks return contribution in 2021
ACWI	89%	113%
World	82%	113%
USA	81%	105%
EMU	76%	113%
United Kingdom	76%	107%
Japan	76%	118%
Switzerland	93%	101%
EM	63%	83%

Source: Bloomberg, TOBAM.

In the chart above, if contribution figure of the largest tercile is higher than 100%, it means that the total return contribution of the other stocks in the index has been negative. Emerging Markets had a different experience in 2021 because of the difficulties related to Covid lockdowns and the Chinese tech crack down. In all other indices, the “market recovery” was actually not a broad-based phenomenon and only a very limited number of stocks exhibited positive returns. The performance of these stocks was so massive that they pushed some markets to double digit returns.

In fact, the positive performance of many indices in 2021 and in previous years around the world has NOT been broad-based. Since the end of 2009, the weight of the US in the MSCI All Countries World has risen from 44% to 61% in terms of weight, this represents an increase of more than 40%. The great disparity in regional returns and the increase in concentration due to the weight of US mega-cap stocks with, at the same time, a strengthening USD is extremely visible in 2021’s MSCI index returns plotted in Figure 1 in USD.

Figure 1: Comparison of MSCI regional indices' returns in USD for 2021 (12/30/2020 - 12/30/2021)

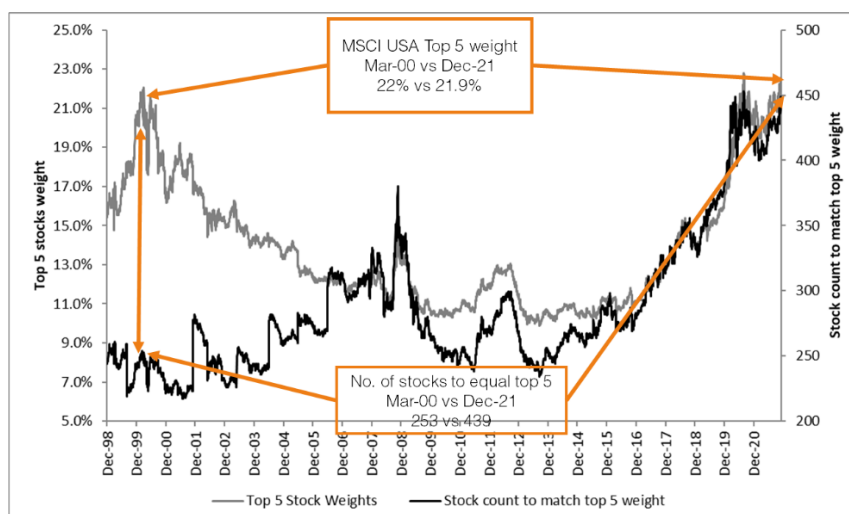


Source: Bloomberg, TOBAM.

Cap-weighted indices increase exposure to appreciating assets and reduce exposure to what is getting cheaper. As such, they experience cycles of concentration and deconcentration, which implies that fewer or more risk drivers contribute to the benchmark's performance.

The great concentration cycle which was due to the excessively increasing valuations of Telecom, Media and Technology stocks started in the 90's; it reached its highest point in March 2000. Similar to today, the five largest stocks of the MSCI USA represented more than 20% of the index, as highlighted in Figure 2.

Figure 2: Evolution of weights for the 5 largest stocks in the MSCI USA and the number of smallest stocks needed to get to the same weight (12/30/1998 - 12/30/2021)



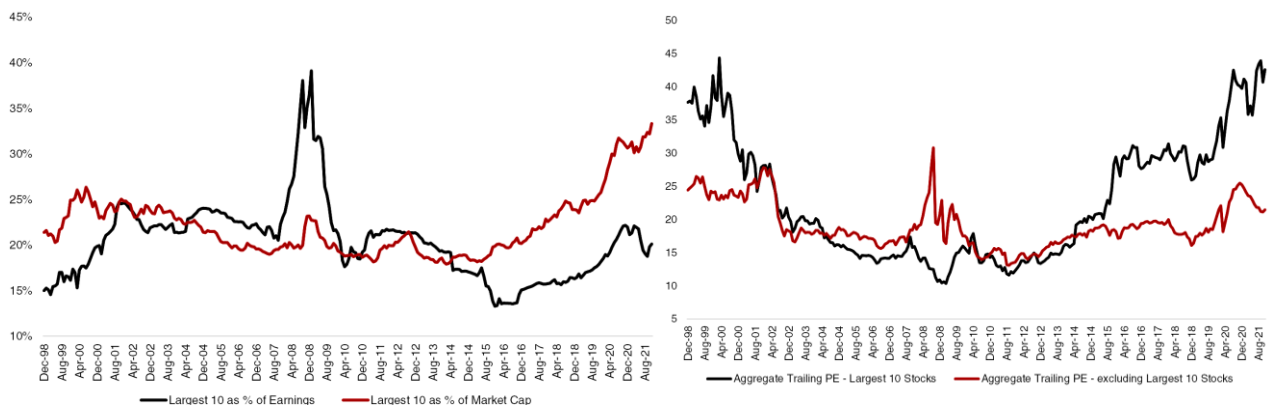
Source: Bloomberg, TOBAM.

In March 2000, one would have needed approximately half as many stocks (253) of the smallest caps in the MSCI USA as today (439) to get to the same weight as the top five stocks. This remarkable observation indicates that market concentration today is even more extreme.

Stocks with a very high market capitalization dominated most of the benchmark's dynamics. All of the facets of the economy that are represented by the other companies remain underrepresented in the cap-weighted index. It is difficult to say whether it is passive investing, retail investor participation, the low rate environment or a combination of other reasons that have led to this situation. What is clear is that cap-weighted indices have accumulated an even smaller number of even larger growing risks and that investing in the equity market premium is lost more than ever before for investors in cap-weighted indices.

Clearly the mega cap valuations today will only stay justified for as long as investors continue to believe that these companies are able to reach the high growth expectation that investors have currently priced in. To highlight this point, Figure 3 plots the proportion of earnings and market capitalization of the ten largest stocks in the S&P 500 over time (left-hand side) and the historical aggregate trailing PE ratio of the ten largest stocks vs the rest of the universe excluding the top ten (right-hand side).

Figure 3: S&P 500 – Historical valuations of the ten largest stocks (12/30/1998 - 12/30/2021)



Source: Bloomberg, TOBAM.

The figure above makes it clear that the relative valuation of the top ten stocks is only explainable by the fact that investors price very long-term growth expectations that are significantly higher than what they expect from the rest of the stocks.

Economists call this a high duration bet and it could revert when investors reassess their anticipations of future earnings... or rates and longer-term high inflation! Another reason could be that stocks that are currently the "big elephants in the room" become less innovative. This would also put their high valuations into question. Who would have thought in the year 2000 that 20 years later IBM, Intel or Cisco have only about one tenth of the weight in the MSCI USA that they used to have? Table 2 on the next page illustrates what has happened to the weights of the top stocks in the MSCI USA from the highest point of the market in March 2000 until December 2021.

Table 2: Weights of the top stocks of the MSCI USA in March 2000 and their respective weights in December 2021

Top Stocks March 2000	Weight Dec 2021
Microsoft	5.30%
Cisco Systems	4.98%
General Electric	4.91%
Intel Corp	4.26%
Exxon Mobile	2.60%
Wal-Mart	2.39%
Oracle	2.15%
IBM	2.06%
Citigroup	1.93%

Source: Bloomberg, TOBAM.

Given that market concentration seems to have reached historically high levels, the obvious question for investors is what this may mean for portfolios that have allocations to cap-weighted or low tracking-error strategies.

In the next section we analyse historical cycles of market concentration/deconcentration. We attempt to quantify what it would mean in terms of performance if large cap stocks in 2021 reverted to December 2020 levels.

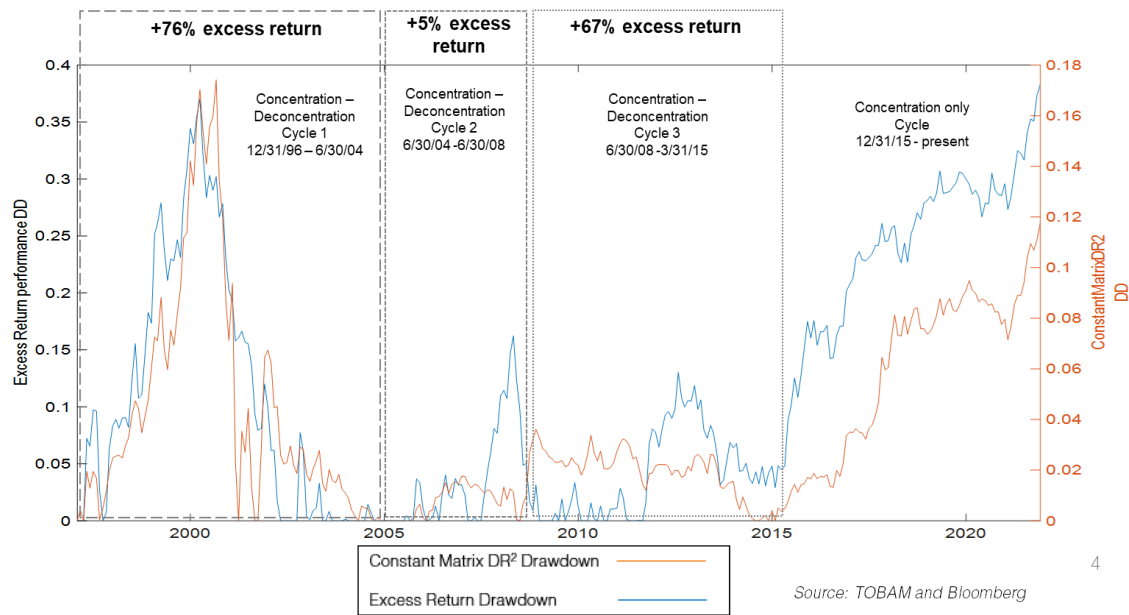
II. Concentration cycles and consequences on performance

We plot the effect of concentration/deconcentration cycles in the US equity market as an example (Figure 4) and try to link this to the performance of a maximally diversified portfolio. We have segmented the period into concentration/deconcentration cycles.

The orange line on the Z-Axis depicts the cumulative changes of the square of the “constant matrix diversification ratios” for the MSCI USA, for as long as these changes were negative. When the orange line increases, the cap-weighted index is concentrating. Conversely, when the orange line decreases, it indicates that the cap-weighted index becomes less concentrated (more diversified).

The blue line represents the cumulative negative gross excess returns of the implementable version of a maximally diversified portfolio. This means that whenever this line increases, the strategy underperforms the MSCI USA and when it decreases, the MSCI USA underperforms. At the top of the graph in Figure 4, we have noted the cumulative gross outperformance of the strategy that investors could have earned had they invested right in the very beginning of the respective concentration/deconcentration cycle and had they stayed invested until the very end of the cycle.

Figure 4: MSCI USA cycles of concentration/deconcentration and gross excess returns of a simulated maximally diversified portfolio (12/30/1996 - 12/30/2021)



The figure above allows us to make the following inferences:

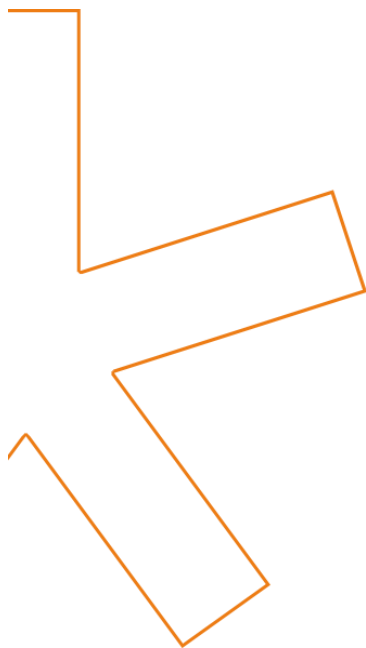
- Cap-weighted indices experience cycles of concentration/deconcentration that are driven by bets increasing and decreasing over time.
- A diversified portfolio, that does not take bets, tends to underperform during the periods of time when concentration grows.
- As soon as the concentration starts to deflate and new market trends emerge, the diversified portfolio outperforms significantly.
- Not being exposed to the concentration cycles would not only have reduced volatility but would have also resulted in higher returns historically.
- The current concentration cycle started approximately in 2015 and persists today as the longest and most extreme concentration cycle in recent history. The return implications of the deconcentration phase are yet to be seen.

What could be the consequences of a mean reversion of the current concentration cycle in terms of returns? To answer this question, we produced an analysis for the year 2021 in the US market. As mentioned earlier, in 2021 the concentration of the cap weighted index has increased more than in any other year before. What would happen if equity prices for the MSCI USA as of end of December 2021 would only fall back to their levels of end of December 2020? Our simulation shows that in such a case a hypothetical investible maximally diversified portfolio would outperform the MSCI USA by 17%, which would imply a final outperformance of 6% for the year. This emphasizes that any mean reversion that might lead to a deconcentration of the index back to a more balanced level of risk, can have substantial return consequences. This would be significantly detrimental for all of those who believe that they are not taking any bets by investing into passive portfolios.

III. Conclusion

While we do not know whether we have reached the tipping point in global market concentration or whether markets will continue to concentrate even more on even fewer risk factors, it seems very evident that the longer it takes, the more violent the reversion to the mean will be.

There is plenty of hot air in financial markets today, fueled by cheap central bank money, investor craze and government interventions, while at the same time there is more money invested than ever before into equity market cap and debt issue weighted index tracking. This pushes the concentration to further extremes rather than questioning the valuations. So even if perfect timing is not possible, it seems to be a very good entry point for more diversification.



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