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The Disappearance of Diversification

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In brief

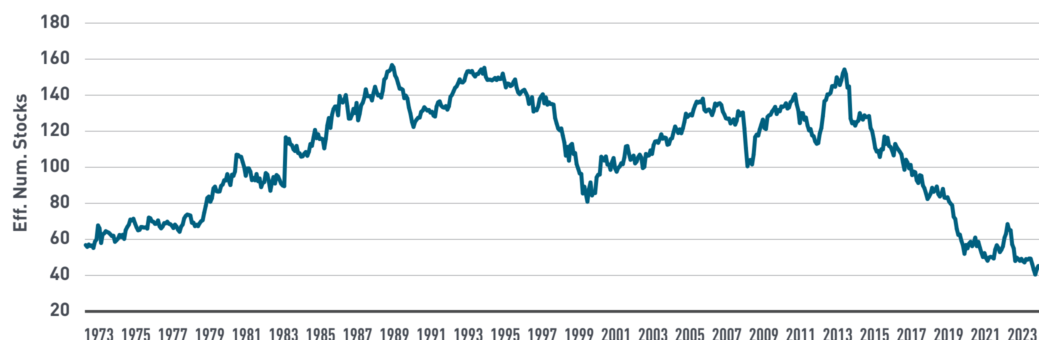
- Historically high market concentration has led to higher risk for those investors with portfolios that closely track the S&P 500 Index.
- Despite the index being composed of 500 companies, the current weighting makes it no more diversified than an equal-weight portfolio of 45 companies.
- As concentration decreases, the largest companies tend to lag the returns of the broader market.

For investors in US equities, it's hard to ignore the increase in market concentration that has occurred among the largest stocks. Due to the market-cap weighting of the S&P 500 Index (and other similarly tracked US equity market benchmarks), as the largest companies have gotten larger, so too has the index weight in these stocks. As of the end of August, the top 10 companies in the S&P 500 made up 36% of the index. Five years earlier, the top-10 companies made up only 23%, and ten years earlier it was 18%.

While this run has been beneficial to investors with portfolios that closely track the S&P 500, the increase in concentration has led to higher risk for those same investors. One way of measuring how concentrated the S&P 500 has become is to look at the "effective" number of stocks in the index. This metric shows how many stocks would be needed to create an equal-weighted portfolio with the same level of diversification. A lower number represents a less diversified index. The metric is also equal to the inverse of the Herfindahl-Hirschman Index (the sum of the squared index weights), the same index often used by antitrust regulators to measure concentration in an industry.

Today the effective number of stocks in the S&P 500 is just 45. In other words, despite the index being composed of 500 companies, the current weighting makes it no more diversified than an equal-weight portfolio of 45 companies. Five years ago, the effective number of stocks in the S&P was 83, and 10 years ago it was 125. In fact, it's recent level in the 40s is the lowest it's been since we began collecting data on this in 1973 (see Exhibit 1).

Exhibit 1: Effective number of stocks in S&P 500 Index



Source: FactSet. The effective number of stocks shows the number of stocks needed to create an equal-weighted portfolio with the same level of diversification as the index. A lower number represents a less diversified index.

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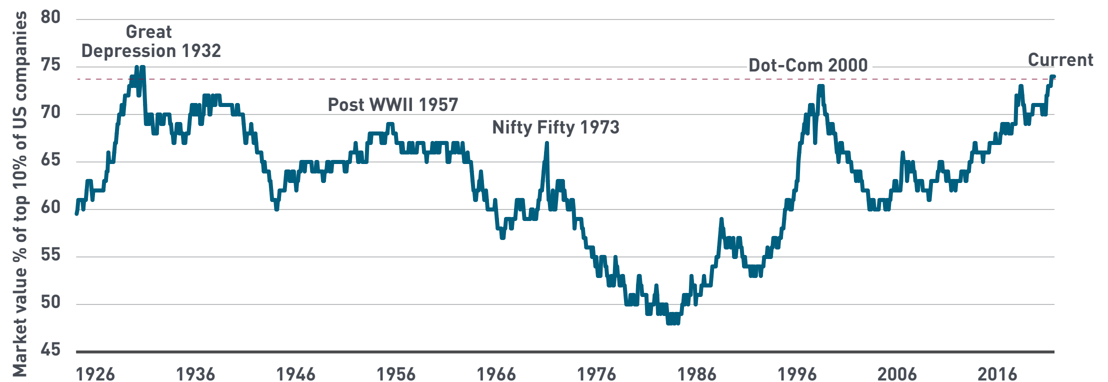
The market moves in cycles, and these periods of extreme concentration are typically followed by an unwind. Fortunately, we don't just have to theorize about this concentration risk as we can observe what actually happened to the S&P 500 and the largest companies during similar historical episodes of high market concentration. In our previous paper, "The Other Side of Market Concentration Peaks," we looked at the top-10 companies (in terms of percentage of total market value) and identified four notable peaks in concentration that have occurred previously (see Exhibit 2). What's interesting is that the cause of these concentration peaks was not always the same. Some peaks, such as those associated with Nifty Fifty era and the dot-com bubble, were due to rallies in the largest companies of the time, as is happening now. However, we also observed the opposite: concentration increases during downturns. The Great Depression was one example of this. Many smaller companies went out of business, leading to a higher market concentration among the largest companies that were able to survive. While the events leading to concentration peaks have differed, the pockets of the market that have outperformd following the peak have been the same. As we noted in our previous paper, following concentration peaks, small caps have outperformed large caps, value stocks have outperformed growth stocks, and equal-weighted market portfolios have outperformed cap-weighted market ones.

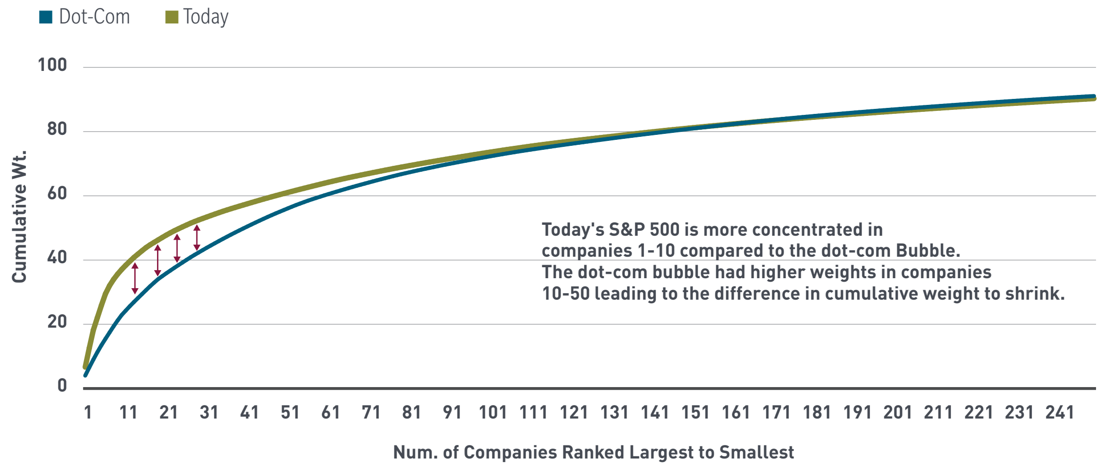
Exhibit 2: Market concentration peaks



Source: Copyright 2024 Kenneth R. French. All Rights Reserved. Market value considers data from NYSE, American Stock Exchange, and Nasdaq.

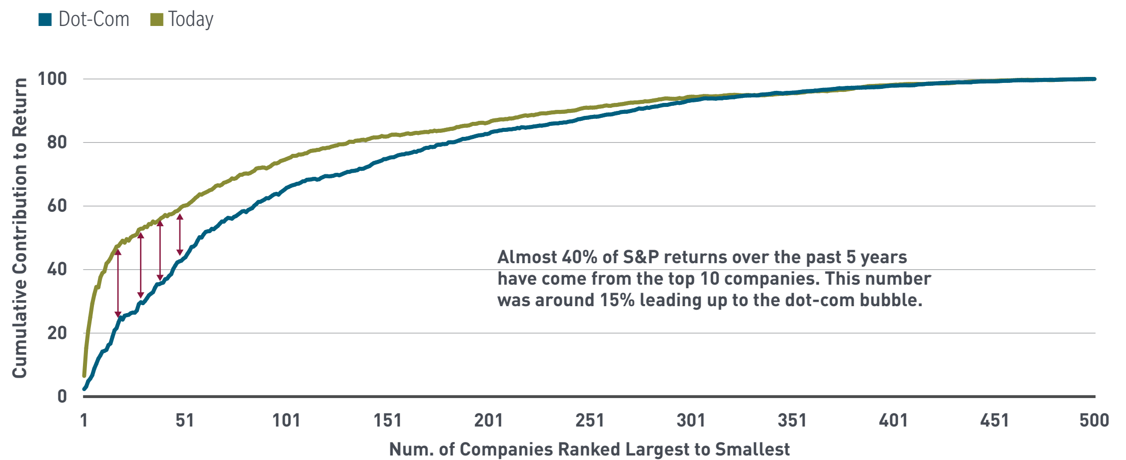
What's made the current environment unique is not just the growth in large caps, but how much it has been driven by the largest of the large caps, the Magnificent Seven, for example. When compared to the dot-com bubble, today's concentration is in a much narrower group of stocks than during that period. This is true when measuring concentration both in terms of weight in the index and contribution to index returns. Exhibit 3 below shows the cumulative weight of companies (ranked largest to smallest) in the S&P 500 today and during the dot-com bubble peak identified shown in Exhibit 2. Today, the S&P 500 has a much higher weight in the top-10 companies. However, as the number of companies increases, the cumulative weight of the index in the dot-com bubble "catches up" as weights in the next largest companies beyond the top-10 were higher in 2000. Exhibit 4 shows the cumulative contribution to S&P 500 returns over the past five years (as a percentage of index returns) coming from companies sorted by market cap and the difference is even more dramatic. Almost 40% of S&P 500 returns over the past five years have come from the top 10 stocks compared to only 14% during the dot-com bubble.

Exhibit 3: S&P 500 cumulative weight of companies



Source: FactSet.

Exhibit 4: Contribution to 5-year S&P 500 returns



Source: FactSet. Past performance is no guarantee of future results.

Given this particularly narrow concentration, in this paper we are digging down to the company level, taking a closer look at the ten largest companies during the "Nifty-Fifty" (see below) and dot-com peaks and then evaluating how these companies performed in the period following the peak.[1]

The Nifty Fifty era

During the Nifty Fifty bubble of the late-1960s and early-1970s, a group of roughly 50 large blue-chip stocks were thought so stable and high in quality that many investors considered them safe investments even as multiples grew to excessive levels. By the mid-1970s, the bubble had burst. Exhibit 5 shows subsequent returns for the 10 largest companies starting at the peak in market concentration in June 1973. While a few stocks such as AT&T and Exxon continued to grow, most suffered major losses in the first three to five years.

We also show the returns of the S&P during that time as well as a cap-weighted portfolio made up of just the top-10 stocks and an equal weighted portfolio of the US stock market.[2,3] The top-10 portfolio underperformed the S&P 500 throughout every return horizon we considered. In the first three years after the peak, none of the top-10 companies had outperformed the S&P 500 and only two were able to outperform the S&P 500 during the entire peak-to-trough diversification cycle that lasted over 12 years. Not a single company outperformed the equal-weighted market portfolio over any of the return horizons we considered. As it's unrealistic to perfectly time the peak in market concentration, we also looked at the same analysis starting one year before the peak. The results are similar, with the top-10 portfolio underperforming the S&P 500 over the next five and 10 years and both the top-10 portfolio and S&P 500 underperforming our equal-weight market portfolio.

Exhibit 5: The Nifty Fifty era

Annualized	IBM	ATT	Exxon	Kodak	GM	Sears	Xerox	GE	MMM	Texaco	Mkt	MktEq	SPX	Top 10 Cap	Top 10 EQ
3 Year	-4.40%	3.46%	2.03%	-9.81%	0.99%	-12.09%	-26.62%	-0.15%	-10.91%	-6.36%	4.49%	12.06%	4.21%	-4.21%	-5.62%
5 Year	-3.05%	5.49%	-0.39%	-16.46%	-0.77%	-12.63%	-18.73%	-1.25%	-5.67%	-4.80%	4.55%	14.59%	2.66%	-3.61%	-4.74%
10 Year	7.44%	8.16%	8.69%	-3.89%	4.76%	2.45%	-8.17%	10.17%	3.76%	5.47%	11.92%	20.10%	10.09%	5.57%	5.00%
Cycle (12.3 years)	6.90%	15.05%	12.37%	-3.21%	4.32%	0.99%	-5.00%	9.29%	3.03%	6.41%	10.79%	16.46%	9.70%	7.84%	6.88%

Cumulative	IBM	ATT	Exxon	Kodak	GM	Sears	Xerox	GE	MMM	Texaco	Mkt	MktEq	SPX	Top 10 Cap	Top 10 EQ
3 Year	-12.62%	10.76%	6.22%	-26.65%	-3.01%	-32.06%	-60.48%	-0.44%	-29.28%	-17.88%	14.08%	40.73%	13.16%	-12.09%	-15.94%
5 Year	-14.37%	30.65%	-1.93%	-59.32%	-3.81%	-49.10%	-64.55%	-6.10%	-25.32%	-21.82%	24.89%	97.57%	14.00%	-16.81%	-21.57%
10 Year	104.95%	119.04%	130.19%	-32.73%	59.27%	27.43%	-57.36%	163.48%	44.64%	70.32%	208.43%	524.37%	161.46%	72.03%	62.92%
Cycle (12.3 years)	127.74%	463.49%	321.42%	-33.11%	68.53%	12.91%	-46.90%	199.22%	44.58%	115.09%	253.71%	555.09%	213.12%	153.59%	127.30%

Source: Single-stock and top-10 portfolio data from FactSet. Equal market data from Ken French website. S&P data from Bloomberg. Past performance is no guarantee of future results. Individual securities mentioned are for illustrative purposes only and may not be relied upon as investment advice or as an indication of trading intent on behalf of any MFS product.

Among the largest companies at the time, Xerox provides a particularly cautionary tale. After creating a technological breakthrough in photocopying, the company quickly grew in the 1960s and through patents on their design, obtained 95% market share. However, after an FTC antitrust case, Xerox was ordered to license its patents to other companies and its market share plummeted to 13% by 1982, with its stock plunging as well. With continuing headlines around antitrust probes into the current big tech companies, today's investors must be aware of antitrust risks as well.

The dot-com runup

The dot-com bubble of the late '90s occurred as the growth of the internet led to enthusiasm and rapid rises in valuations for tech-related businesses. This rise in valuation also led to increased concentration in the stock market as the market cap for dot-com companies ballooned, with concentration peaking at the end of 2000.[4] Exhibit 6 shows return figures similar to the top-10 Nifty Fifty companies. The results are similar. The top-10 portfolio underperforms the S&P 500 over every return horizon. It meaningfully underperforms the equal-weighted market, and again we see that not a single member of the top-10 companies outperformed the equal-weighted market across any of the four return horizons we considered. As we did with the Nifty Fifty, we looked at the data one and two years prior to the peak in concentration. Those data show that even if you were invested as the market moved up to the peak in concentration the more diversified equal-weight portfolio significantly outperformed the S&P 500 and the top-10 portfolio in this scenario.

Exhibit 6: The dot-com era

Cumulative	GE	Exxon	Pfizer	Cisco	Citi	Walmart	Microsoft	AIG	Merck	Intel	Mkt	MktEq	SPX	Top 10 Cap	Top 10 EQ
3 Year	-30.82%	1.62%	-19.78%	-36.65%	7.75%	1.63%	27.31%	-32.17%	-43.86%	7.69%	-7.88%	38.21%	-11.68%	-13.50%	-11.73%
5 Year	-17.71%	45.43%	-44.29%	-55.24%	15.81%	-8.37%	37.36%	-29.27%	-57.81%	-14.49%	9.36%	76.47%	2.72%	-12.62%	-12.86%
10 Year	-48.06%	110.27%	-46.76%	-47.11%	-87.00%	16.15%	60.37%	-96.89%	-41.09%	-17.84%	27.21%	131.99%	15.08%	-20.44%	-19.80%
Cycle (12.3 years)	-18.18%	64.19%	-38.94%	-45.23%	21.72%	-11.51%	27.28%	-32.21%	-53.84%	-31.22%	16.44%	95.41%	8.48%	-10.78%	-11.79%

Sources: Single-stock and top-10 portfolio data from FactSet. Equal market data from Ken French website. S&P data from Bloomberg. Past performance is no guarantee of future results. Individual securities mentioned are for illustrative purposes only and may not be relied upon as investment advice or as an indication of trading intent on behalf of any MFS product.

A few stocks stand out. Cisco is an example of a stock whose valuation got caught up in the bubble. As the popularity of the internet was growing in the late 1990s, so too was the use of Cisco's networking equipment, which was widely used to access the internet. This caused the company's valuation to soar. At one point in 2000, it held the spot as the highest valued company in the S&P 500 and its P/E ratio got as high as 395. Five years after the concentration peak in late 2000, its stock had decreased 55%, and as much as 86% from its peak price.

While Cisco's valuation never got back to its dot-com peak level, equally as notable are some of the companies that did remain among the top weights in the S&P 500. Microsoft's stock peaked in December of 1999 and then fell 63% through December of 2000 (coincidentally the same date as our peak in market concentration). Microsoft then lagged market returns for many years. Despite this, Microsoft has experienced massive price rises this year and has at times been the highest-valued company in the S&P 500. Exxon and GE are also notable as they were top-10 companies during both the Nifty Fifty and dot-com bubbles. They spent decades as two of the largest US companies and are both still among the top-50. We aren't saying, however, that the largest companies will experience a price drop like Xerox and Cisco did but only that historically as concentration decreases, the largest companies tend to lag the returns of the broader market and greatly lag an equal-weighted market portfolio.

The takeaways for investors

1. The S&P 500 is the least diversified it has been since 1973.

   This level of concentration is rare. But what makes today's S&P 500 stand out even more is how much of the index weight is constituted by the top-7 stocks. A Herfindahl-Hirschman measure shows that the current makeup of the S&P 500 is the least diversified the index has been since we began collecting data on it in 1973 and thus we believe it presents a higher risk for investors tracking the benchmark.

2. We believe that there are large benefits to owning a more diversified portfolio after concentration turns.

   What we can gather from examining other periods of concentration is that investors historically benefit from holding a more diversified portfolio outside the top-10 stocks once concentration does decrease. In such an environment, active managers could stand to gain as they have the flexibility to hold weights in the large names that differ from concentrated benchmarks.

3. Performance in the largest stocks after concentration peaks varies greatly, which can create opportunities for skilled active managers.

   Furthermore, the events we examined showed wide dispersion in performance among the top-10 stocks. Some of these stocks were able to continue to grow through the diversification cycle whereas other stocks suffered enormous losses. A skilled active manager can potentially differentiate these winners from losers leading to less downside risk and higher returns in the long run. As has been the case with the current environment, these concentration periods can persist for a while — investors with an active long-term focus may be best able to capitalize when the market eventually turns.

Endnotes

[1] Single-stock data unavailable for previous peaks.

[2] Our top-10 cap-weighted portfolio does not account for stock issuance and buybacks in its weighting while the S&P 500 weights do. We don't believe this slight difference has a material impact on results.

[3] Our equal weight portfolio uses a broader stock universe than the largest 500 stocks as data on the S&P 500 equal weight index are limited. For periods with overlapping data, we compared to the S&P 500 equal weight index and an additional large cap equal weight portfolio and found thematically similar results for all three.

[4] Note that the peak in market concentration didn't occur at the same time as the market peak but rather nine months earlier, in March 2000.

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