SFA
Santa Fe Advisors

April 9, 2021

How Diversified is Your Index?

Introduction

With the rise of the S&P 500 as the primary benchmark for US large company equity returns, we thought it would be useful to cast some light on exactly how diversified this index is….or is not. Why is this useful? Because many investment portfolios seek to replicate the performance of the S&P 500, and many other funds use that index as the standard of performance for their investment results.

While the S&P 500 is a useful and widely followed index, it is not necessarily an accurate representation of the broad stock market – the roughly 3,500 publicly traded US stocks, or even the 1000 companies generally regarded as "large capitalization" ($10 billion or more). We believe that it is important for clients to understand what the index does, and does not, represent so that they can "know what they own" and understand the principal drivers of the index's performance. As shown below, the S&P 500 is heavily weighted toward its largest constituents, especially technology companies. So, when these very large companies outperform the broad market, the S&P 500 will also tend to outperform. One consequence of such an outcome can be to reinforce the idea that indexes are always superior to actively managed portfolios. While this is often the case, it is certainly not always true.

History

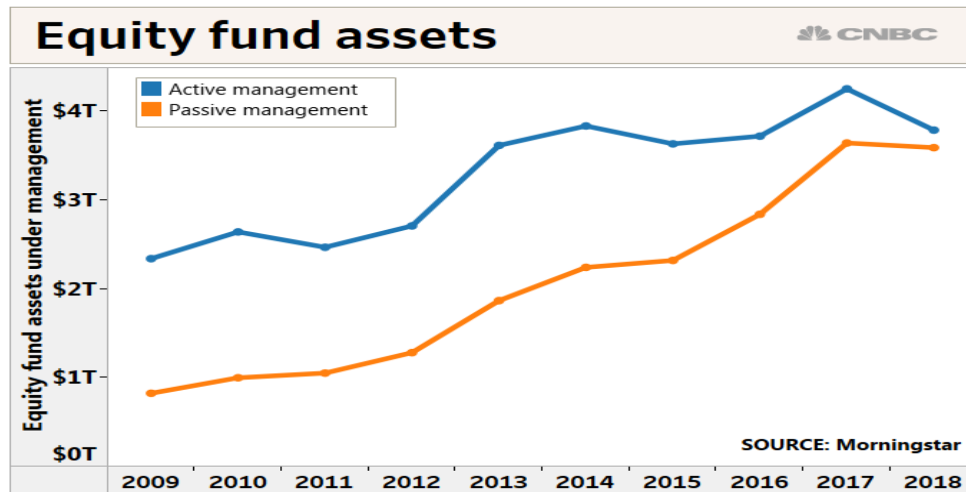
The S&P 500 was created in 1957 by Standard and Poor's Corporation, an important provider of data to the financial services industry. It was created in order to address some of the flaws in the Dow Jones Industrial Index, then the most popular measure of stock market performance and still widely followed today. Probably the most significant flaw in the Dow Jones index is its use of prices to determine index value, which means that a stock that moves from $200 to $202 will have the same impact on index performance as one that moves from $20 to $22, even though the percentage change of the latter is ten times as great.

The new S&P index attracted little interest during the first 20 years of the its existence – until John Bogle, founder of Vanguard, began his persistent and ultimately extremely successful advocacy of investing in passive index based stock portfolios. These portfolios were designed to match, rather than beat, a specific index. Bogle decided that the S&P 500 represented a good market proxy to replicate, and started the first index fund in 1975. That fund is now known as the Vanguard 500 Index and is the world's largest mutual fund.

More and more investors have bought into Bogle's idea (including SFA, which uses a mix of active and passive investments in client portfolios, for reasons we'll explain later). The percentage of equity mutual fund assets invested in passive strategies has exploded from about 5% in 1993 to nearly 45% in 2018.

208 Delgado St., #1, Santa Fe, New Mexico 87501
PO Box 1471, Santa Fe, New Mexico 87504-1471
www.santafeadvisorsllc.com, 505.501.6200

Graph 1



Unlike Dow Jones' simple price calculation, S&P decided to use an index weighted by market capitalization. This "market cap" approach means that the more valuable a company is, the bigger the effect it will have on the index value and movements. A company's weight in the index is solely determined by its market value, and not by things such as profitability or revenues – which may, in the case of some companies (e.g. Tesla) be quite small relative to their valuations. Because companies are not weighted by their revenues, or profitability, or number of employees, or any other measure that might relate to their importance to the US economy, the performance of the index may diverge from overall economic activity.

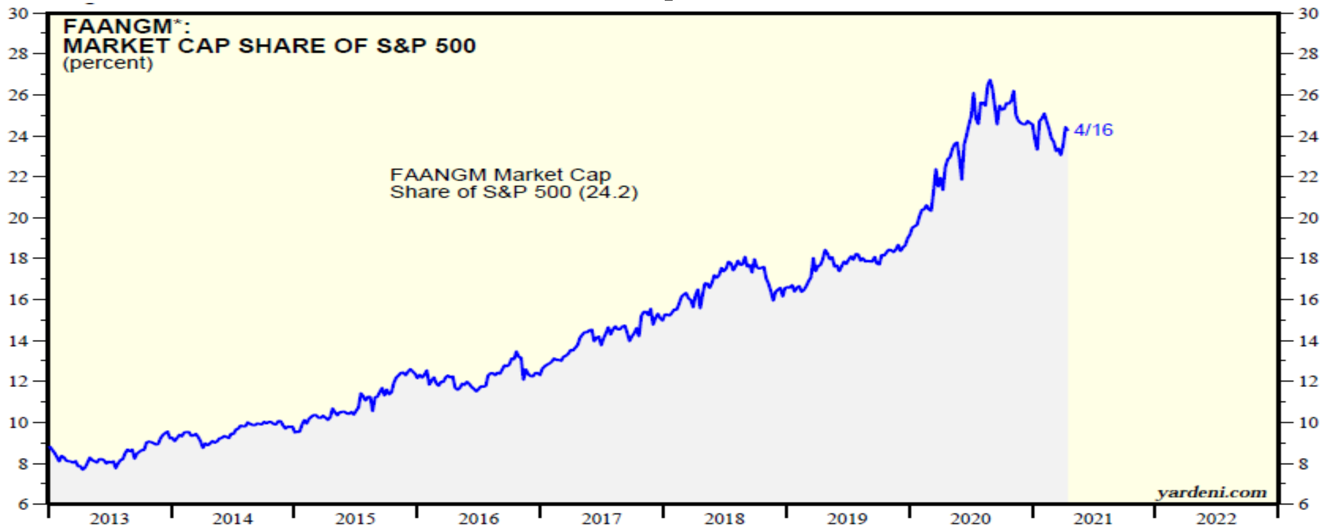
When you buy an index fund, you are buying the component companies at whatever the market thinks their value is. For example, during the 1999-2000 dot-com bubble, when tech companies – some brand new and unprofitable – were valued at absurd prices, index investors were buying in at these high levels. As companies get more and more valuable, an index fund is forced to own more and more of their stock, whether or not this value is attractive or not. Of course, the whole point of the index fund is to provide broad, low-cost market exposure, while eliminating the need for judgement about the fair value of a specific company. This approach has a very rational basis: even professional investors don't have a great track record in assessing an individual company's relative value, and using a mechanically derived portfolio allows fund companies to offer index funds at very low costs. On balance, indexing tends to be a pretty good system, but when it doesn't work (and, sadly, no system works all the time), it can lead to significant underperformance. For example, the S&P declined about 50% from early 2000 to late 2002 because of the gross overvaluation of some of the largest index component stocks, while many active managers that avoided those massively overpriced stocks did much better during this period.

Biggest Companies in the Index

The biggest company currently in the index (Apple) accounts for 5.7% of the index's value and the smallest (News Corporation) accounts for less than .01%. The five biggest components of the index are Apple, Microsoft, Amazon, Google, and Facebook, all of which are classified both as "growth" and as "technology" companies. These five companies alone make up 21% of the index value, and the top 30 companies comprise over 45% of the index value. These 5 plus Netflix (currently #23) are often referred

to as the FAANGM group. The chart below shows how the FAANGMs have grown to dominate the index in recent years.

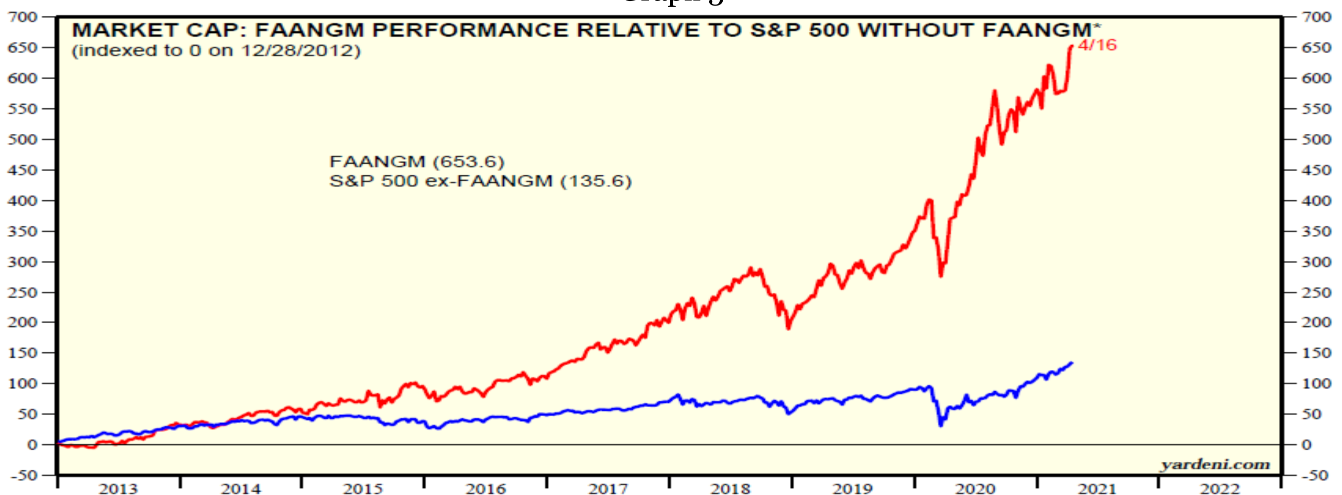
Graph 2



Naturally, the composition of the largest index constituents has changed considerably over time. In 1980, seven of the ten largest components of the index were oil companies. In 1990, the top 5 were IBM, Exxon, GE, Philip Morris, and Royal Dutch/Shell, none of which are even in the top 10 now. In 2000, Cisco, Microsoft, and Intel were on the list, but after the dot-com bust only Microsoft remained on the 2010 list. So the relative importance of companies can change greatly over time, as their stock market fortunes rise or fall.

The chart below shows by how much the performance of the FAANGM stocks has outpaced the index, and how modest the returns of the other 494 stocks in the index have been since 2013. In short, if you did not own the FAANGM stocks in at least a market weight, then your portfolio almost certainly underperformed.

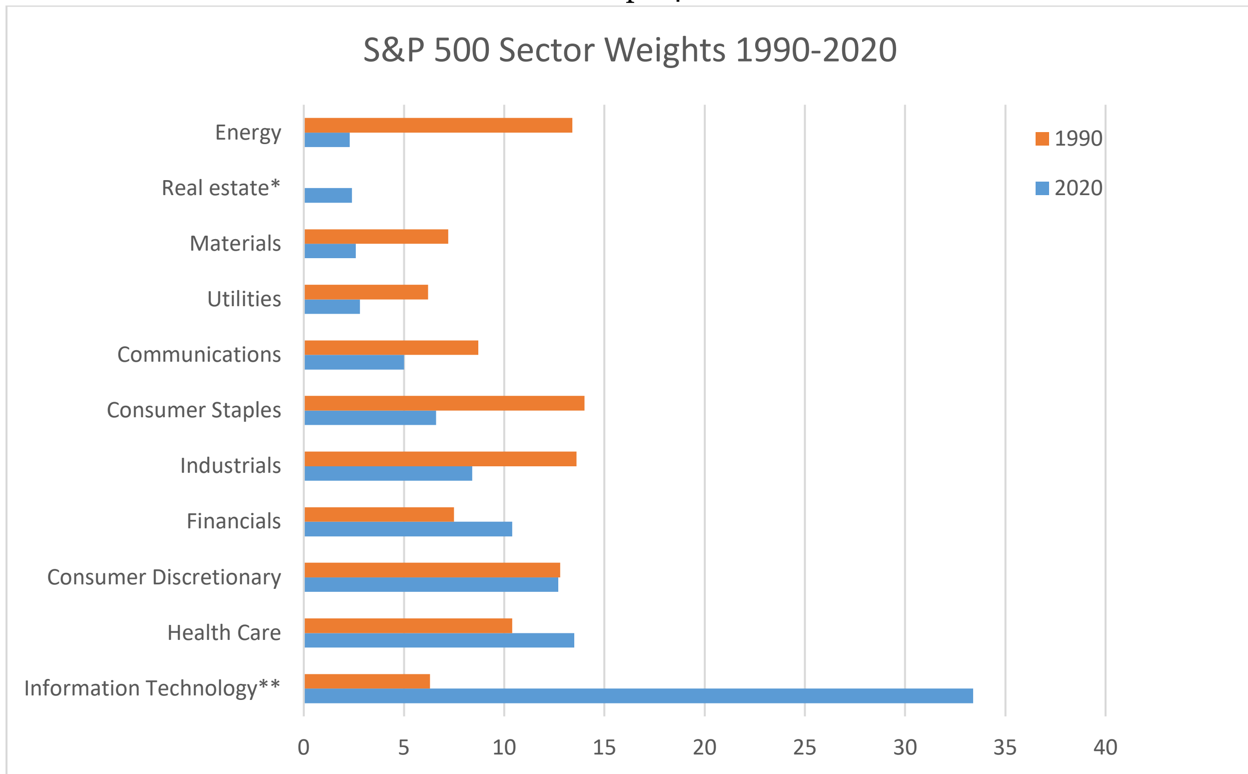
Graph 3



Source: Yardeni Research (both FAANGM charts)

Sector Weightings
The S&P 500 is divided into 11 sectors. At one time, the sectors were more or less evenly represented in the index, but that has not been true for a while. The 11 index sectors and their respective weights as of 12/31/ 2020 are shown below, with the weights from 12/31/1990 shown for comparison.

Graph 4



*Real estate was only added as a separate category in 2016
**Alphabet and Facebook are technically classified as Communications but are included in Technology for this chart.
Source: Seeking Alpha

Information Technology is by far the largest sector, comprising 33% of the index, and the four largest sectors comprise 70% of the index. The four smallest segments – Utilities, Materials, Real Estate, and Energy – together make up just 10% of the total index. How about Industrials, the basis of the famous Dow Jones Index that we all hear about regularly? Only 8% of the total. Sector weighting differences explain much of the frequent wide divergence between the returns of the S&P 500 and the Dow.

You can see that the landscape looked totally different in 1990. Other than the massive rise in technology stocks, one of the most striking things about the 1990 figures is the relative parity of the sectors. The difference between Technology and the 4 smallest sectors is over 10x today, compared to about 2.2x between the largest and smallest in 1990. That means that the index is much less diversified than it once was.

SFA
Santa Fe Advisors

Summary
What do you get when you buy and own the S&P 500? Right now, you get an index that is dominated by a relative handful of large companies, with 30 holdings making up roughly half the index and the other 470 making up the other half. You get an index where technology stocks comprise about one-third of the index and the traditional bedrock of the US economy – industrials, materials, energy – together account for less than one-seventh. So when technology and health care outperform the broad market, as they have done recently, you will get a reinforcement of the idea that active management cannot beat passive management. When those large and highly valued sectors stumble – as they did most notably from 2000 to 2002 – that will no longer be the case. That is one of the reasons why SFA has elected to use both active and passive strategies in its portfolios…like all investment strategies, indexing does well some of the time and poorly at other times, so using both active and passive strategies is consistent with SFA's policy of diversification across asset classes, managers, and investment approaches.

David Kantor, Partner

The information contained within this letter is strictly for information purposes and should in no way be construed as investment advice or recommendations. Investment recommendations are made only to clients of Santa Fe Advisors, LLC on an individual basis. The views expressed in this document are those of Santa Fe Advisors as of the date of this letter. Our views are subject to change at any time based upon market or other conditions and Santa Fe Advisors has no responsibility to update such views. This material is being furnished on a confidential basis, is not intended for public use or distribution, and is not to be reproduced or distributed to others without the prior consent of Santa Fe Advisors.