Under the Hood: What's in Your Index?

The New, Bigger, Better, Updated IT and AI 2023 Edition!

4 pages

A Look in the Mirror, Eight Years On

Back in 2015, our first Under the Hood publication started a conversation about the content label on your S&P 500 or bond index fund: what you thought was in it versus the actual composition. Was the allocation even close to what you presumed? Like buying an emerging markets ETF that actually raised—on a look-through basis to the holdings themselves—your *developed* markets exposure.

The impetus for the Under the Hood series was the arrival of a new phase for indexation. By amassing so much AUM and ever-increasing inflows, it ceased to serve its original function of passive participation in markets. Indexation had begun, paradoxically, to directly change clearing prices and the very character of the markets it purported to free-ride upon. Its inflows had become the marginal bid—the trade that determined the last price—because each dollar of the inflows required an immediate pre-programmed, valuation-indifferent purchase by the ETF.

Moreover, the weight of money flows became a kind of limitation (but a limitation with side effects). Indexation's marginal bid became focused on a narrower and narrower subset of the security universe, on those shares with the institutional-grade trading liquidity to absorb those flows. And, in a self-reinforcing cycle, that narrower subset of securities absorbed an ever-greater proportion of the ever-increasing inflows. This distorted valuations and index security and sector weights in ways that were de-linked from fundamental analysis and valuation. At least, those were some of the questions for debate at the time.

Eight years later, there is now an outcome, not just debate. Those trends have reshaped the profile of the S&P 500 itself. For instance:

- In 2015, only two of the top 10 S&P 500 companies were technology stocks. Today, the largest seven are "technology companies."[1]
- In June 2015, the top 10 accounted for 17.3% of the S&P 500 market value. As of June 20, 2023, just the seven IT companies—not all the technology companies in the index, just these seven—are 27.7% of the index.
- The top 10 are 31.7%.

Top 10 Holdings - S&P 500 Index

% Weights

	Jun-23		Jun-15
Apple Inc	7.45	Apple Inc	3.97
Microsoft Corp	6.84	Microsoft Corp	1.96
Alphabet Class A & C	3.71	Exxon Mobil Corp	1.91
Amazon.com Inc	3.06	Johnson & Johnson	1.48
NVIDIA Corp	2.95	General Electric Co	1.47
Tesla Inc	2.01	JP Morgan Chase & Co	1.45
Meta Platforms	1.71	Berkshire Hathaway Inc	1.38
Sub-total: IT companies*	***27.73***	Procter & Gamble Co	1.36
Berkshire Hathaway	1.64	Pfizer Inc	1.17
UnitedHealth Group	1.19	Verizon Communications	1.10
Johnson & Johnson	1.16		
Top 10 S&P 500 weights	***31.72***	***Top 10 S&P 500 weights***	***17.25***

Source: iShares, Morningstar. 2023 data as of June 20, 2023, using iShares Core S&P 500 ETF as a proxy for the Index. *Functional weightings, rather than S&P classifications.

New Sectoral Semantics

Now, a new set of factors is impacting the character of the major index constituents. The more extreme concentration at the top of the index was just noted. Another is the law-of-large-numbers limitation on the growth prospects of these companies, which is now showing up in revenue and earnings figures. The analytical exercise is to determine whether this slowdown is temporary or of a more permanent nature. That will be for the next Under the Hood. First, some classification clarification.

The preceding tables tally the top seven companies in the S&P 500 as Information Technology, and as being 27.7% of the index. That is technically incorrect. Standard & Poor's would put it at 17.2%, because it categorizes four of those companies differently. Alphabet and Meta Platforms are classified as Communication; Amazon and Tesla are assigned to the Consumer Discretionary sector. Inarguably, though, Alphabet is an IT company.

Amazon is a more subtle example. It's true that Amazon Web Services, which is the cloud services division, produces only 17% of the company's revenue. Yet AWS, which is unambiguously rooted in the IT sector, produces 107% of the corporate operating profit.[2]

In North America, Amazon's traditional retail business has an operating profit margin of just 1.11%, but the international division's operating margin is negative 5.39%. Overall, the online retail business is not

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[1] Not officially; more on this below.

[2] Q1 2023.

profitable. A counterargument in support of the retail business is that aggregate sales did expand by 8.15% in the past 12 months. Yet the retail business would lack the necessary funds for expansion were it not for Web Services; ergo, Web Services supports the business, not the online retail sales operations.

Consensus Earnings Growth Rate of Seven Technology Giants (next business cycle)

Company	Consensus Earnings Growth Rate
Apple	13.00%
Microsoft	15.44%
Amazon	59.71%
NVIDIA	44.04%
Alphabet	16.82%
Meta Platforms	19.90%
Tesla	27.50%
Average	**28.06%**

Source: Bloomberg as of June 2023. Estimated Compound Annual Growth Rate of Operating EPS over the company's next full business cycle (typically 3-5 years)

In any case, after more than a quarter-century of operating history—and having achieved whatever scale economies a few hundred billion dollars of annual retail sales can provide—the retail business will not produce high profit margins, even if aggregate profitability were to be achieved. Walmart has difficulty sustaining even a 2% after-tax profit margin on over $600 billion of revenue. Therefore, the retail operations should not contribute greatly to Amazon's stock valuation, even as the retail business approaches the size and scale of Walmart's.

Walmart has a stock market capitalization of $415 billion. Since the Amazon global retail business is about 80% of Walmart's and is still unprofitable, it should be worth less than Walmart, if it were rationally priced. Since Amazon has a market capitalization of $1.29 trillion, the bulk of the valuation must reflect the technology business. Yet, Amazon is not classified in the Information Technology sector.

Current Market Capitalizations of the Seven Largest Technology Giants

Company	Market Cap *($ in trillions)*
Apple	$2.91
Microsoft	2.51
Amazon	1.29
NVIDIA	1.08
Alphabet	1.57
Meta Platforms	0.729
Tesla	0.870
Total	**10.96**

Source: Bloomberg as of June 20, 2023

If Amazon were to be officially transferred to the IT sector, the S&P 500 weighting for that sector would rise to 31.3% from the current 28.23%. Correspondingly, the weight of the Consumer Discretionary sector would dip to 7.50% from the current 10.56%. Similar evaluations can be made for Tesla (also Consumer Discretionary) and Meta Platforms and Alphabet (both Communication).

P/E Ratios on Forecasted FY24 Earnings

Company	P/E Ratios
Apple	28.40x
Microsoft	30.13x
Amazon	49.28x
NVIDIA	54.15x
Alphabet	19.14x
Meta Platforms	19.09x
Tesla	52.41x
Average	**36.09x**

Source: Bloomberg as of June 2023

The S&P 500 sector weights are supposed to reflect the relative proportions of those sectors in the U.S. economy. It is difficult to accept the notion that consumer discretionary expenditures are only 7.50% (or less) of the U.S. economy.

This is just one example of the problems posed by the mere presence of the seven technology giants in the S&P 500 index at their current aggregate weight. At some point, their continued expansion would render them so large that their growth rate should not be dissimilar

from—that is, must converge downward toward—the growth rate of the overall economy, whether U.S. or global.

Nevertheless, these seven technology giants are forecasted to grow far more rapidly than either the U.S. or the global economies. Their consensus earnings growth rate, as a simple average, is 28.1%.

This projected growth rate cannot be separated from the context of their aggregate stock market value, which is $10.96 trillion. If they were to actually succeed in posting average earnings growth of 28% successively, this would far exceed that of almost all other companies.

The consensus estimated earnings growth for the S&P 500 is 10.43%The S&P 500 index concentration of these seven companies would continually rise above their already collective 28%.

Thus, if current growth rates continue, the S&P 500 index would become so concentrated as to be impossible to use as an index.

More realistically, though, the earnings data posted thus far in 2023 indicate that these companies are not growing at a 25% rate. Nevertheless, the P/E ratios on forecasted 2024 fiscal year earnings appear to presume that they are.

In the event that the earnings growth is not achieved, a contraction of the valuation multiples is possible.

So, the S&P 500 is in something of a bind. If the technology giants—whose index weight is far higher than is represented by the current sector classifications—continue to grow, the S&P 500 will indeed cease to be useful as an index. If the opposite happens, the index will embody a massive concentration of risk because there is no valuation margin of safety in the event of declining profits.

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