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THE MYTH OF MARKET CONCENTRATION

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Recently, there have been a number of articles discussing concentration of the S&P 500 Stock Index. Particular focus has been on the FAANG stocks - Facebook, Apple, Amazon, Netflix and Google (Alphabet) – as well as the Technology sector. Some of the articles outline parallels with the tech bubble of 2000. A natural question is whether or not some action should be taken to adjust portfolios. To answer this question, we evaluate the composition and performance of the S&P 500.

In aggregate, the FAANG stocks represent more than $2 trillion of market cap while the S&P 500's Technology sector represents more than $4.5 trillion of market cap. Both are significant in size on an absolute and relative basis. By comparison, U.S. small cap stocks (Russell 2000 Stock Index) and emerging market stocks (MSCI Emerging Markets Index) have markets caps of $1.9 trillion and $4.7 trillion, respectively.*

Historically, the S&P 500's top 10 holdings typically represent about 20% of the index (see Table 1). Currently, the top 10 holdings represent 18.7% of the index's market cap, which is relatively unchanged over the past seven years and less concentrated than the index in 2000 and 2005.

The constituents of the top 10 holdings, however, have changed materially in the past 15 years. Apple, Amazon, Facebook, Berkshire Hathaway, Alphabet and JP Morgan Chase are all new to the top 10 listing.

The S&P 500's top three sectors by weight typically represent about 50% of the index (see Table 2 on next page). Technology and Financials are the two largest index sectors, followed closely by Healthcare. While the Technology sector's allocation has grown to 22%, it is much lower than the peak of about 33% during the dot.com bubble.

The Technology sector's allocation (about 20% of the S&P 500) closely tracks the operating earnings contribution of the Technology sector, which according

Table 1: S&P 500 Composition

12/31/2000		12/31/2005		12/31/2010		12/31/2015		6/30/2017	
Company	% of Index	Company	% of Index	Company	% of Index	Company	% of Index	Company	% of Index
General Electric	4.1%	General Electric	3.3%	Exxon Mobil Corporation	3.2%	Apple Inc	3.3%	Apple Inc	3.6%
Exxon Mobil Corp	2.6%	Exxon Mobil Corp	3.1%	Apple Computer, Inc.	2.6%	Microsoft Corp	2.5%	Microsoft Corp	2.6%
Pfizer, Inc	2.5%	Citigroup Inc	2.2%	Microsoft Corporation	1.8%	Exxon Mobil Corp	1.8%	Amazon.com Inc	1.8%
Cisco Systems	2.4%	Microsoft Corp	2.1%	General Electric Company	1.7%	General Electric Co	1.6%	Facebook Inc	1.7%
Citigroup Inc	2.2%	Procter & Gamble	1.7%	Chevrontexaco Corporation	1.6%	Johnson & Johnson	1.6%	Johnson & Johnson	1.7%
Wal-Mart Stores	2.0%	Bank of America Corp	1.6%	Int'l Business Machs	1.6%	Amazon.com Inc	1.5%	Exxon Mobil Corp	1.6%
Microsoft Corp	2.0%	Johnson & Johnson	1.6%	Procter & Gamble Co (the)	1.6%	Wells Fargo & Co	1.4%	JPMorgan Chase & Co	1.6%
American Int'l Group	2.0%	American Intl Group	1.6%	AT&T Inc.	1.5%	Berkshire Hathaway Inc	1.4%	Berkshire Hathaway Inc	1.5%
Merck & Co	1.8%	Pfizer Inc	1.5%	Johnson & Johnson	1.5%	JPMorgan Chase & Co	1.4%	Alphabet Inc (Class A)	1.3%
Intel Corp	1.7%	Altria Group Inc	1.4%	JPMorgan Chase & Co.	1.4%	Facebook Inc	1.3%	Alphabet Inc (Class C)	1.3%
	23.2%		20.1%		18.4%		17.7%		18.7%

Source: Standard & Poor's
*As of June 30, 2017

to Standard and Poor's, is between 20% and 25%. This suggests the current technology allocation is reflective of the growing influence and consumption of technology in our economy.

According to the WSJ, during the first quarter of 2000, when tech represented 33% of the S&P 500, Technology sector earnings represented about 17% of S&P 500 earnings[1]. So, in 1999, the Technology sector weight was nearly twice its contribution from earnings (see Table 3).

Headlines suggest that market breath has become alarmingly narrow, with the top 10 stocks in the S&P 500 accounting for a large part of the S&P 500's return. In reality, the S&P 500 stocks with the most positive impact each year account for a large portion of the index's return.

AQR Capital Management (AQR) analyzed the impact of removing the stocks with the most positive impact on return (ranked from 1 to 20) in each year from 1994 through 2015. The results are outlined in Table 4 on next page. On average, from 1994 to 2014, removing the top

Table 2: Sector weights

GICS Sector Weights	3/31/2000	12/31/2000	12/31/2005	12/31/2010	12/31/2015	6/30/2017
Consumer Discretionary	8.2%	7.6%	10.1%	11.6%	12.9%	12.3%
Consumer Staples	9.9%	11.3%	9.5%	10.6%	10.1%	9.0%
Energy	5.4%	6.4%	9.4%	11.4%	6.5%	6.0%
Financials	12.9%	17.3%	21.5%	16.4%	16.5%	14.5%
Health Care	8.9%	14.0%	13.5%	10.4%	15.2%	14.5%
Industrials	8.2%	9.0%	11.5%	11.6%	10.0%	10.3%
Information Technology	33.5%	21.9%	15.2%	18.3%	20.7%	22.3%
Materials	2.6%	2.4%	3.0%	3.5%	2.8%	2.8%
Telecommunication Services	7.6%	5.5%	3.0%	2.9%	2.4%	2.1%
Utilities	2.3%	3.9%	3.4%	3.5%	3.0%	3.2%
Other	0.6%	0.7%	0.0%	0.0%	0.0%	0.0%
Real Estate	-	-	-	-	-	2.9%
Top 3 Sectors	56.3%	53.2%	50.2%	46.2%	52.3%	51.3%

Source: Standard & Poor's

Table 3: Operating earnings contribution

	Dec-18	Sep-18	Jun-18	Mar-18	Dec-17	Sep-17	Jun-17	Mar-17	Dec-16
Energy	4.2%	4.5%	4.5%	4.2%	3.4%	3.5%	3.1%	4.1%	0.4%
Materials	2.4%	2.5%	3.3%	3.3%	2.4%	2.5%	3.1%	3.3%	2.0%
Industrials	9.9%	10.5%	10.8%	9.3%	10.2%	11.0%	10.8%	9.4%	10.1%
Consumer Discretionary	11.5%	11.3%	11.3%	10.7%	11.4%	11.0%	11.3%	11.6%	12.7%
Consumer Staples	7.8%	8.1%	7.8%	7.6%	8.0%	8.4%	8.2%	8.1%	9.3%
Health Care	14.9%	15.6%	15.9%	16.2%	14.9%	15.7%	15.9%	13.9%	14.2%
Financials	18.2%	18.4%	18.6%	18.9%	17.8%	18.2%	19.4%	20.4%	18.1%
Information Technology	24.9%	20.9%	20.6%	22.0%	25.3%	20.8%	20.5%	20.6%	25.7%
Telecommunication Services	2.6%	2.9%	3.0%	3.1%	2.7%	3.2%	3.3%	3.1%	3.1%
Utilities	2.3%	4.0%	2.8%	3.3%	2.4%	4.3%	2.9%	3.8%	2.5%
Real Estate	1.4%	1.3%	1.4%	1.3%	1.3%	1.3%	1.4%	1.7%	2.0%
S&P 500	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Standard & Poor's

1 - This Tech Rally is Different from 1999, Wall Street Journal, July 20, 2017.

five stocks in the index would have resulted in an index return that was 2.6% worse, and in 2015, 2.8% worse. Removing the top 10 stocks would reduce the index return by 4.1% on average from 1994 to 2014, and 3.7% in 2015. The standard deviation band around the removal of each stock is relatively small.

The majority of the time, the top 10 stocks by market capitalization generate a greater, average return than the average return of all the stocks in the S&P 500. 2017 is no exception, but the average difference is small, particularly compared to years such as 1998 and 1999 when the average return to the top 10 stocks was 40 to 55 percentage points greater than the average of all stocks in the S&P 500. (see Graph 1)

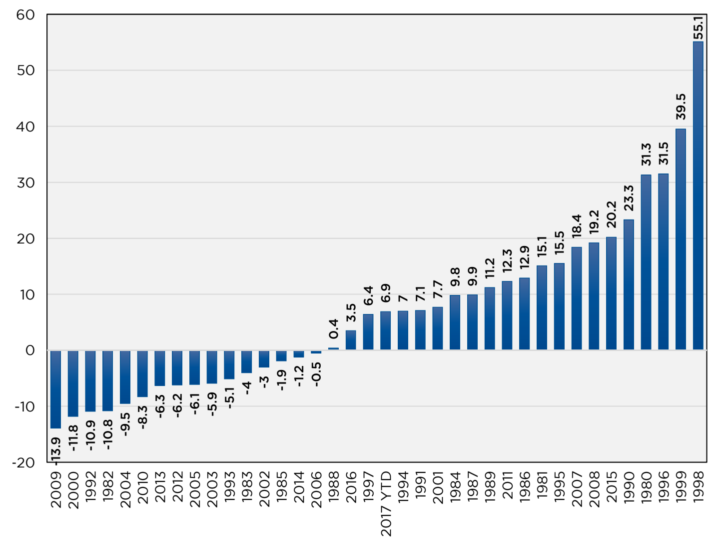
Our conclusion is that, on average, the S&P 500 is no more concentrated today by the top 10 names or sector allocation than it has been in the past. It is certainly less concentrated than was the case during the dot.com bubble period. Importantly, the concentration today – especially at the sector level – is reflective of the sector's earnings contribution to the S&P 500.

Table 4: Impact of removing the stocks with the most positive impact on return

N	2015	Average (1994-2014)	STD Event
1	0.8	0.80%	-0.1
2	1.6	1.40%	0.2
3	2.0	1.80%	0.2
4	2.4	2.20%	0.2
5	2.8	2.60%	0.1
6	3.0	3.00%	0.0
7	3.2	3.30%	-0.1
8	3.4	3.60%	-0.1
9	3.6	3.90%	-0.2
10	3.7	4.10%	-0.2
11	3.9	4.40%	-0.2
12	4.0	4.60%	-0.3
13	4.1	4.90%	-0.3
14	4.3	5.10%	-0.3
15	4.4	5.30%	-0.3
16	4.6	5.50%	-0.3
17	4.7	5.70%	-0.3
18	4.8	5.90%	-0.3
19	4.9	6.10%	-0.4
20	5.0	6.30%	-0.4

Source: AQR, S&P 500

Graph 1: Top 10 Average Change vs. S&P 500 Average Change



Source: Standard & Poor's

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