

Nasdaq at 6000

Trends in the Evolution of the Nasdaq Composite

The Nasdaq Composite (most often referred to as “The Nasdaq”) is one of the most widely cited indexes in the world—mentioned thousands of times a day along with the Dow Jones Industrial Average and the S&P 500. The Nasdaq crossed the milestone 6000 level for the first time on April 25, 2017. This accomplishment came after especially impressive growth during the last couple of years. The Nasdaq Composite has outperformed the S&P 500 in seven of the last 10 calendar years. From the end of 2006 through April 24, 2017, it has outperformed the S&P 500 cumulatively by over 80%.

At this noteworthy juncture, this report covers four aspects of the evolution of the Nasdaq Composite from 1998 to the present: the growth in aggregate index portfolio value; changes in the net issuance of shares in the secondary market; changes in the number and size of components; and the concentration of market cap among the index components.

By way of review, the Nasdaq Composite is a market cap-weighted index comprised of all Nasdaq-listed equities. Eligible component security types include common stocks, ordinary shares, ADRs, shares of beneficial interest, limited partnership interests and tracking stocks. Nasdaq-listed closed-end funds, convertible debentures, exchange traded funds, preferred stocks, rights, warrants, units and other derivative securities are excluded.

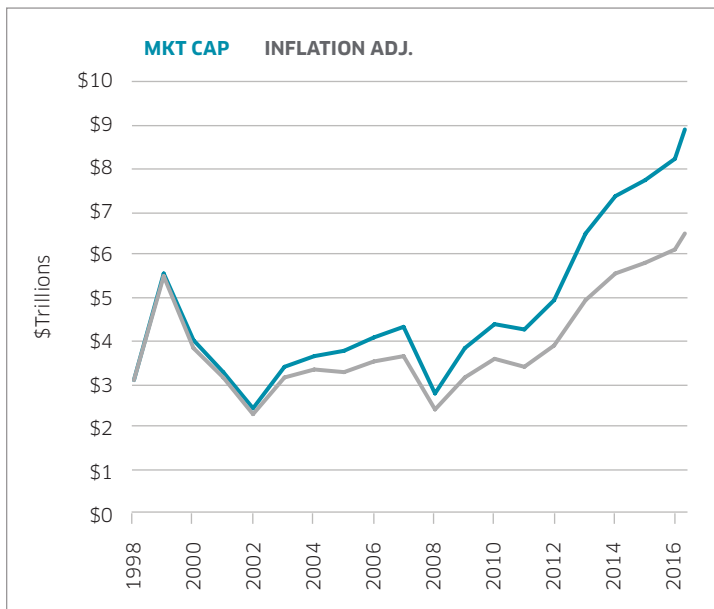
The Nasdaq Composite index has two main products tracking it, both sponsored by asset manager Fidelity – a mutual fund (FNCMX) and an ETF (ONEQ). Interest in both of the products has skyrocketed over the last few years. As recently as the beginning of 2014, assets in both products totaled less than \$1B. That figure has almost quintupled with assets approaching the \$5B mark.

BY JEFFREY W. SMITH, NASDAQ ECONOMIC RESEARCH

Aggregate Market Capitalization

Behind any stock market index is a corresponding equity market portfolio. For the Nasdaq Composite, the portfolio is simply the set of all Nasdaq-listed equities. The following graph shows the aggregate market cap of the index components from the end of each indicated year up to its value in April 2017. The graph shows the nominal value as well as the value adjusted for inflation, using the Personal Consumption Expenditure deflator.

Aggregate Mkt Cap for Nasdaq Composite



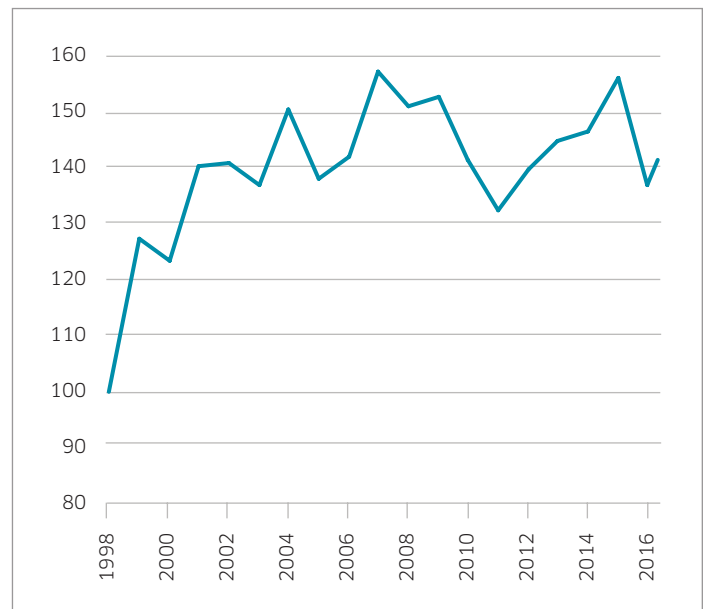
The graph shows the rise and fall of the tech bubble as well as the impact of the financial crisis. Since the end of 2008, the portfolio value has risen steadily, with particularly remarkable growth during the last five years or so. The current portfolio value of almost \$9 trillion is up by a factor of 3.33 since the end of 1998. Adjusting for inflation, the value is up by a factor of 2.34. (The PCE price index is up by a factor of 1.4 during this time frame).

Net Share Issuance

Any stock price index, such as the Nasdaq Composite, tracks the change in value of a fixed portfolio. The change in the value of the Nasdaq portfolio shown above combines both price changes and changes in composition and number of shares in the portfolio. By comparing changes in the value of the portfolio with changes in the price index, one can infer the value of an implicit share index.

The idea is based on the identity that for a given security: $Mkt\ Cap = Price \times Shares$. Applying this concept, we can define $Share\ Index = \frac{Aggregate\ Mkt\ Cap}{Price\ index}$. The values of such a share index are shown as follows, where the 1998 value is normalized to a level of 100.

Implicit Nasdaq Composite Share Index

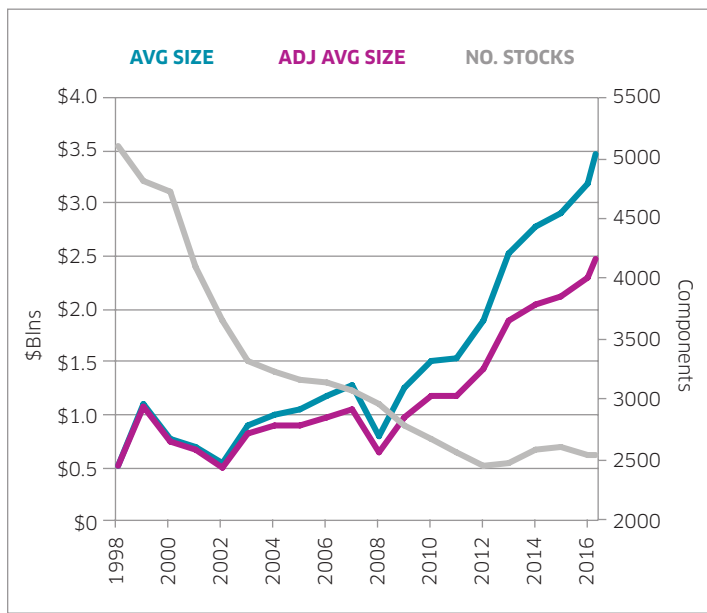


From 1998 to the present, aggregate market cap grew by a factor of 3.33, while the Nasdaq Composite grew by a factor of 2.36. This difference implies an increase in the number of portfolio shares, with the implicit share index up by about 40% over this time interval. The increase is due to additional injections of capital into Nasdaq-listed stocks via secondary share offerings. The graph shows that most of these additions took place during the tech boom through the early 2000s.

Number of Components

There has been much discussion about the declining number of public companies listed on U.S. stock markets. That trend has held on Nasdaq, shown as follows.

Number of Index Components and Avg Size



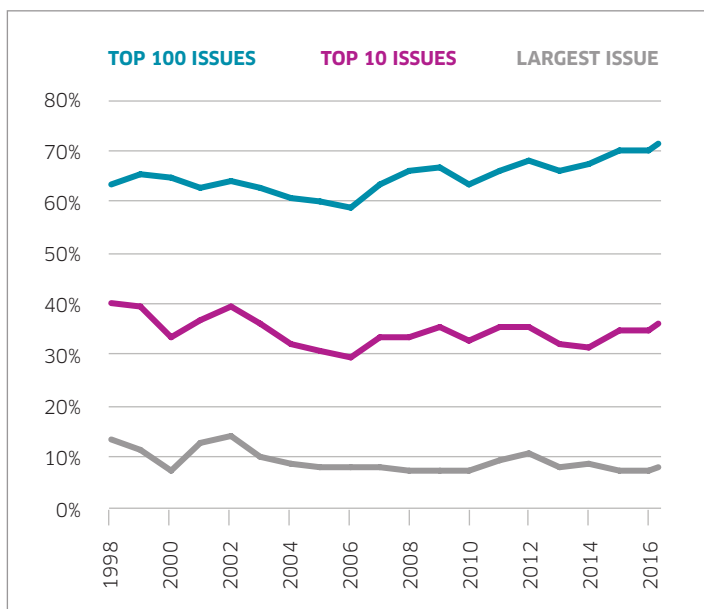
In round numbers, there is half the number of components in the index currently as compared to 1998. In light of what has happened to aggregate market cap, however, this decline implies that average issue size must be much larger. Indeed, in nominal terms, the average component size has increased by a factor of 6.7. Adjusted for inflation, the factor is 4.8.

This phenomenon of a fewer number but larger size of listed companies is also evident for stocks listed on the New York Stock Exchange (NYSE). While there may be multiple factors behind this shift, the changing regulatory environment may have played a big role. For instance, the rules imposed under the Sarbanes-Oxley Act have arguably increased the minimum efficient size for a company to be public.

Market Cap Concentration

The distribution the market cap of listed issues is extremely skewed—many small ones, fewer medium ones, and even fewer large ones. This has always been an aspect of Nasdaq, which by historical legacy was the home of small non-listed (OTC) stocks that were subsequently joined by tech stocks, some of which have become world-class giants. The following graph shows trends in the fraction of aggregate market cap accounted for by the top 100 stocks, top 10 stocks, and the largest stock.

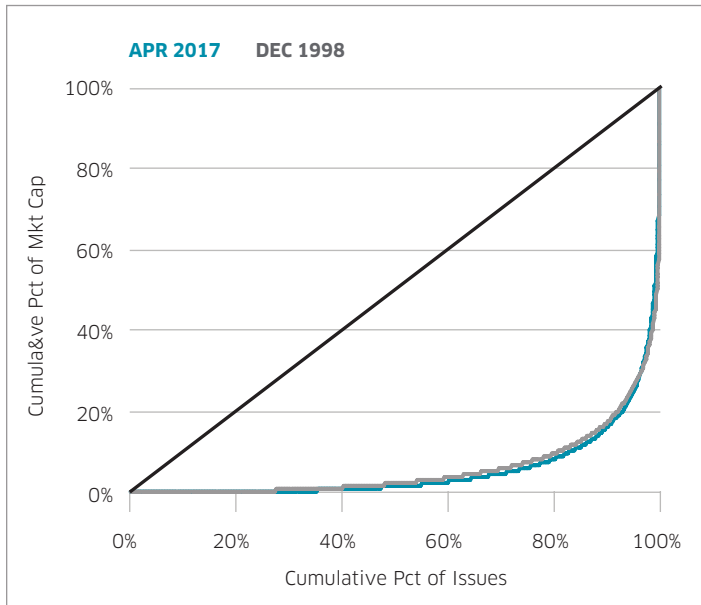
Pct Aggregate Index Mkt Cap from



It's remarkable that out of about 2,500 components, the top 100, representing four percent of the components, make up more than two-thirds of the index value. Over the time frame represented, this percentage is relatively flat, though it has been creeping up in recent years. Also remarkable is the fact that the Nasdaq Composite's largest issue has consistently represented about 10% of the value of the index. The largest company has not always been Apple. Prior to Apple's rise at the end of 2010, the largest company was Microsoft for every year other than 2000 when it was Cisco.

Another way illustrating the level of market cap concentration, comparing the present with 1998, is the following graph, called the Lorenz curve. This graph plots the cumulative number of components, ranked smallest to largest, against the cumulative percentage of aggregate market cap accounted for by those components.

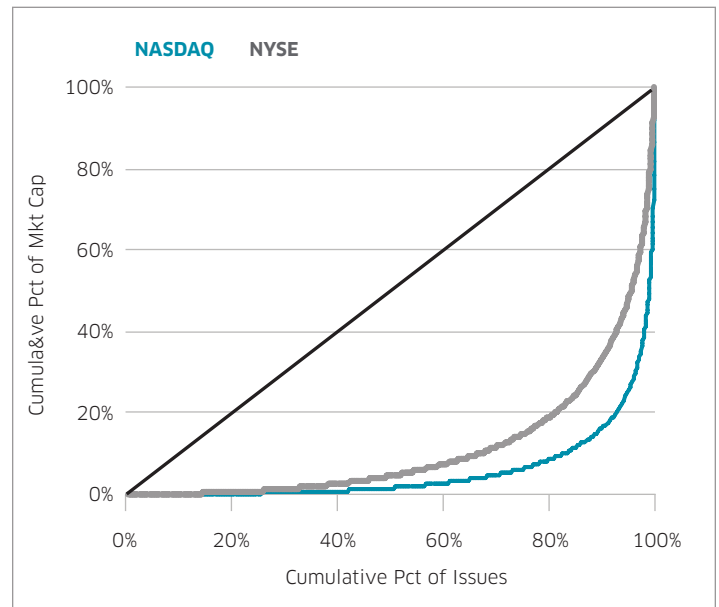
Mkt Cap Concentration of Nq Issues



If all issues were the same size, the concentration curve would be a 45-degree line (like the black line above). Actual concentration is very different. There's not much difference between the current Nasdaq Composite with that of 1998. Both periods were very top heavy.

For reference, here is the current comparison between Nasdaq and NYSE:

Mkt Cap Concentration



Both NYSE and Nasdaq have highly concentrated distributions, but NYSE is noticeably less concentrated than Nasdaq.

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