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# The 'Small-Cap Effect' Isn't Dead, After All

New research finds that the tendency of small-cap stocks to outperform large-caps over time still exists, but almost exclusively within the S&P 500

Baby boom: Toy maker Mattel was one of the S&P 500 'small' stocks (it's now in the S&P MidCap index). Being one of the smaller stocks in the S&P 500 isn't a bad fate, a study shows.

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Contrary to reports in recent years that the small-cap effect has disappeared, it's actually alive and well. We've just been looking for it in all the wrong places.

The small-cap effect refers to the long-term tendency of small-capitalization stocks to outperform the large-caps. Since the mid-1920s, according to data from Dartmouth finance professor Kenneth French, the 10% of stocks with the smallest market caps have beaten the largest 10% of stocks by an annualized margin of 2.4 percentage points.

Much of the past two decades have been an exception to this long-term pattern, however. Over the past 15 years, for example, the Russell Microcap Index (containing 2,000 of the tiniest exchange-listed stocks) lagged behind the Russell Top 50 Mega Cap Index (containing the 50 largest-cap stocks) by 2.5 annualized percentage points.



According to just-released research, the small-cap effect now exists almost exclusively within the group of stocks within the S&P 500. Over the 15 years through 2019, the 10% of stocks in the S&P 500 that are the smallest have outperformed the largest 10% by 1.2 annualized percentage points. Among stocks that aren't in the S&P 500, the researchers found, small-caps have slightly underperformed large-caps.

## Thank the index funds



The authors of this new research— Hao Jiang of Michigan State University, Dimitri Vayanos of the London School of Economics, and Lu Zheng of the University of California, Irvine—argue that the ultimate cause of this change has been the growth of index funds, and in particular index funds benchmarked to the S&P 500. They found evidence that this growth has led the average large-cap stock within the S&P 500 to become overvalued.

That's because any stocks in the S&P 500 that are already overvalued will become even more so when money flows into S&P 500 index funds. By definition, of course, these overvalued stocks will have a larger market cap than they would if they were instead fairly valued or undervalued. Just the opposite will be true for the group of the smallest stocks. This widening spread in the valuations of the smallest and largest S&P 500 stocks sets up the precondition for the former to outperform the latter.

Notice that the professors' argument doesn't rely on an ability to know which of the stocks in the S&P 500 are over- or undervalued. Their theory is instead based on the unobjectionable assumption that overvaluation exists.

**Small Beats Large After All**

Value of $1 invested in subsets of the S&P 500 on Dec. 31, 2004


Sources: Hao Jiang, Michigan State University; Dimitri Vayanos, London School of Economics; Lu Zheng, University of California, Irvine

## The Tesla test

Consider Tesla, TSLA **7.84%** ▲ which upon joining the S&P 500 in December became the sixth-largest stock in the entire index, with a market cap of more than $600 billion. If it was overvalued upon becoming part of the index, as many believe, then joining the S&P 500 has made its overvaluation even more extreme: The company's market cap has grown by more than $200 billion in just the few weeks since becoming part of the S&P 500.

A similar observation can be made of the group of so-called FANMAG stocks— Facebook, FB **-0.44%** ▼ Apple, AAPL **0.86%** ▲ Netflix, NFLX **0.30%** ▲ Microsoft, MSFT **0.61%** ▲ Amazon.com, AMZN **0.65%** ▲ and Google parent Alphabet. GOOG **1.12%** ▲ These six stocks represent just 1.2% of the stocks in the S&P 500, but collectively have grown to more than 20% of the index's total market cap. In part because of the influx of new money into S&P 500 index funds, their combined market cap grew by nearly $3 trillion last year. To the extent any of them was overvalued at the beginning of 2020, they are even more so today, Prof. Zheng points out. This in turn bodes poorly for their future performance relative to the smallest 50 stocks in the S&P 500, whose combined market caps amount to less than 5% of the FANMAG stocks.

What about the smaller stocks outside of the S&P 500, such as those in the Russell Microcap Index? Prof. Vayanos says that he and his co-researchers would expect that the pattern they found for the S&P 500 to be significantly reduced in smaller-cap indexes, to the extent it exists at all. There are several reasons for this: Far less money is benchmarked to those smaller-cap indexes than to the S&P 500, and smaller-cap index funds are much less concentrated in their largest stocks. Both are necessary preconditions for the researchers' pattern to hold.

Prof. Zheng emphasizes that the smallest stocks within the S&P 500 won't beat the largest stocks all the time. Depending on the flow of new money into index funds, the largest S&P 500 stocks may very well beat the smallest stocks over the shorter term.

When that happens, however, the prediction of this new research is that the situation eventually will reverse.

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