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Is Small Stock Theory Dead?

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Small stock theory originated around 1980 from research conducted at the University of Chicago. Founded with a \$300,000 Merrill Lynch grant in 1960, its Center for Research in Securities Prices (CRSP) was endowed with the mission of collecting and analyzing data to better understand past stock market behavior. The initial work at CRSP focused on the New York Stock Exchange (NYSE) and later was expanded to the broad S&P 500 introduced in 1957. To learn more about stock market cycles, simulation studies were conducted to develop S&P 500 daily pricing data going back to 1926.

Later on, CRSP research branched out to other areas of the stock market. The earliest work on small stock theory was conducted by Rolf Banz who arranged all stocks on the NYSE into five quintiles based on market cap from 1926-1979. He found that the bottom quintile returned 11.6% on average each year versus 8.8% per year for the top quintile, which contained the largest stocks.

Marc Reinganum studied 2,000 stocks on the New

York and American stock exchanges from 1962-1980. He created 10 portfolios each consisting of 200 stocks in descending order of market capitalization and found that the portfolio containing the smallest stocks outperformed the portfolio with the biggest stocks by over 20%, on average.

Critics have argued against small stock theory for a variety of reasons. Some argue that the database contained significant errors and that small cap stocks were not necessarily synonymous with small companies. Others contended that, if there is a small stock effect, it was because small companies were under-researched and under-owned by institutional investors and mutual funds.

In searching for an answer to small stock theory, I researched in the mid-1980s the relationship between earnings growth and stock prices for big and small companies. Two periods were selected for the study: 1975-1980 and 1979-1982. These periods were selected because S&P 500 earnings expanded in the first period then declined in the subsequent period, increasing 86% in the former and declining 15% in the latter. Two quintiles of stocks were created and examined using S&P 500 companies in each period, one with the biggest stocks and the other with the smallest stocks based on market cap.

This study shed light on the reason behind the small stock effect. From the end of 1975 through 1980, the average cumulative price gain was 134% for the bottom quintile of the S&P 500 versus 45% for the top quintile. During this period, average cumulative earnings grew 159% for the bottom quintile compared to 105% for the top quintile.



From 1979-1982, the average cumulative price gain for the bottom quintile was 63% versus 36% for the top quintile, and average cumulative earnings grew 37% versus 13%, respectively.

The gold standard for small stock work is Dimensional Fund Advisors (DFA), which piggybacked research done at CRSP. DFA built a small cap index using the smallest decile of publicly traded stocks going back to 1926. Assuming a \$100 investment in this index starting in 1926, I calculated that this investment would have grown to \$11.9 million before taxes by the end of 2020. By comparison, the same \$100 investment in the S&P 500 would have grown to \$1.3 million before taxes.

My earlier research indicated that small company earnings tended to grow faster than those of big companies. Thus, my investment approach focused on fast earnings growth, using a hurdle rate of 20%, but with an eye pointed toward faster growth in making stock selections. Along the way, I became known as a “small cap growth stock manager” because of the makeup of my portfolios.

There has been a seismic shift in the economy and stock market from 2010 through 2020 – enough to call small stock theory into question. The Dimensional Fund Advisors U.S. Small Cap index returned less than half the S&P 500 return on a cumulative basis from 2010-2020, 120% versus 267%, respectively. This poor showing by small stocks calls into question whether the small stock effect applies anymore.

There are two significant factors that have favored big domestic companies in recent years. First, the move to globalization has translated into a market opportunity that is five times greater than the domestic market for American companies. Second, and of greater significance, has been the growing influence of technology.

Technology means that companies can scale up sales and earnings faster than at any time in history. Technology provides greater efficiencies in operations

as evidenced by dramatic productivity improvements, which allow for greater profitability. Finally, technology means less sensitivity to business cycles.

Just two tech stocks were represented among the five largest stocks in the S&P 500 companies at the end of 2010. By the end of 2020, the five largest were all tech stocks: Apple, Microsoft, Amazon, Facebook and Google. These five accounted for an unprecedented 20.6% of overall index weighting. Whereas S&P 500 earnings declined by 15% in 2020, according to the NYU Stern School of Business, these five reported average earnings growth of 37% and recorded an average price gain of 53%.

I recently surveyed a universe of some 5,400 stocks consisting of an array of big, mid and small cap stocks using a screen of at least 40% earnings growth over the two latest quarters. This screen produced 1,623 companies that met or exceeded the metrics. Surprisingly, the vast majority of stocks that passed through the screen were big and midcap stocks; only 108, or less than 7%, were small cap. In conclusion, it seems possible that small stocks may have ceded market leadership to big stocks in the foreseeable future.