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# The Effect on Stock Price of Inclusion in or Exclusion from the S&P 500

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Previous studies have documented that announcements by investment firms such as Value Line are associated with stock price reactions.[1] These studies have focused on announcements that relate to ranking stocks according to their expected price performances. The announcements, in other words, refer to the relevant stock's "investment appeal."

Standard & Poor's Corporation states categorically that "the investment appeal of the stocks does not enter into the selection process" that is used when firms are added to or dropped from the S&P 500. S&P has never disclosed any well specified decision model for including or excluding stocks in the index, but it has stated that the composition of the index is changed to keep it representative of the market and, of course, as necessitated by mergers, acquisitions or bankruptcies of included firms.

This paper investigates the stock price effects of announcements by S&P to include or exclude stocks in its indexes. There are at least two reasons to expect such effects. For one, even though the decision to include or exclude a stock may not imply any judgment about its investment appeal on the part of Standard & Poor's, the announcement of inclusion or exclusion may impart information to the investing public that changes their perception of the stock's investment appeal. Another possibility investigated is that inclusion or exclusion of a stock creates "price pressure."[2] Because some index fund managers invest only in S&P 500 firms, the inclusion (exclusion) of a firm in the S&P 500 may be expected to increase (decrease) demand for its stock, hence its stock price.

## Data

We obtained from the *Security Price Index Record* of S&P's Statistical Service a list of firms included in or excluded from the various S&P indexes over the period November 1977 to December 1983. The starting date was chosen to coincide with the introduction of the Stock Price Notification Service, which notifies subscribers by telephone of changes in the indexes at the end of the business day of the change. This allows for a precise identification of the "event" day. Prior to 1977, announcements of changes were made only periodically (every three to six months) in the S&P's *Outlook*; the *Wall Street Journal* rarely published changes in the indexes' compositions.

Table I presents the number of firms included in and excluded from the S&P 500 and supplementary S&P indexes during this period. Of the 110 firms excluded from the S&P 500, 94 had merged, been liquidated or filed for bankruptcy within a few weeks of the announcement of exclusion; no such apparent reasons could be found for the remaining exclusions.[3]

The appendix details the methods used to analyze daily stock returns around the S&P announcement dates. We examined the deviations of actual returns from expected returns and evaluated the significance of the deviations, which were defined as excess returns.

## Effects of Inclusion

Table II and Figure A show the excess returns on the firms that were added to the S&P 500 for which stock returns were available on the CRSP tape; 87 firms in the sample met the data requirements for the first trading day (event day 0) after the announcement by S&P.[4] On average, these firms earned a large positive 3.07 per cent excess return on day 0. The statistical evidence strongly supports a price effect stemming from the S&P announcement.[5]

The results also suggest that news of S&P decisions had not leaked to the market prior to the announcement. Specifically, on each of the five days prior to the event day, the excess returns were insignificantly different from zero. Furthermore, excess returns from day −120 to day −1 were not significantly positive or negative, indicating that S&P's selection was not dependent on the performance of a firm in the period prior to its inclusion.

Cumulative average excess returns (CAXR) for periods after the event date were essentially zero. This increases our confidence in the various test statistics. (A relatively higher number of large t-statistics in the nonevent period would have been observed if the test statistics had not been properly specified.)

Table III, giving the cross-sectional distribution of day 0 excess returns, indicates that the significant excess returns on the event day cannot be attributed to a few outliers. The median excess return of +2.84 per cent is close to the mean of +3.07 per cent. The results, taken as a whole, indicate that inclusion in the S&P 500 provides significantly positive information to the market.

An analysis of post-period returns, undertaken to ascertain whether the announcement day excess returns were merely temporary, found a change in the riskiness of the securities, as measured by beta. Unless appropriate estimation periods (as explained

1. Footnotes appear at end of article.

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