Behavior of Stocks Entering the S&P 500
1990 – 1999

Overview

This is the first in a series of studies examining the return behavior of stocks entering and leaving the S&P 500 during the 1990's. This particular study focuses on stocks entering the index. We find that during the three days prior to a stock's entry into the index, entrants exhibited a median excess return of 4.73%. In the days and months following entry into the index, these same stocks tended to under perform the index. The median loss for the three days following entry into the index was 1.68%. Losses are somewhat larger as the length of the study period is increased to one month, with the median loss increasing to 3.87%. Entrants appear to mount a recovery in the second month following entry into the index, as the median loss over the two month period declines to 3.37%. On balance, it appears that one can gain a performance edge by purchasing stocks three days prior to their entry into the index. However, once this window of opportunity passes, it is best to delay purchasing a stock for at least one month following its date of entry. Details of the study follow.

Methodology

The initial study set consisted of all stocks entering the S&P 500 between January 1, 1990 and December 31, 1999. To distinguish the impact of a stock's entry into the index from other non-fundamental factors that may have influenced stock price, such as a spin-off or merger activity, we eliminated all stocks from the sample that did not have a trading history for at least 10 days prior to the stock's entry into the index. This left a total of 188 entry events to examine over the 10 year period. The vast majority of these events occurred in the second half of the decade, with 140 stocks meeting our trading history requirement entering the index between 1995 and 1999.

To study the behavior of stocks prior to entry, we calculated excess returns relative to the S&P 500 over four periods ending at the close of the market on the date of entry. The return periods considered were one trading day prior to entry (labeled T-1day), two trading days prior to entry (labeled T-2days), three trading days prior to entry (labeled T-3days) and ten trading days prior to entry (labeled T-10days). The difference in return between T-3days and T-10days provides an approximation of the "surprise premium" associated with the announcement of a stock's selection for the index as index changes are typically announced one week in advance. To study the behavior of stocks following entry, we calculated excess returns over seven periods beginning at the close of the market on the date of entry. The return periods considered were one trading day following entry (T+1day), two trading days, three trading days, five trading days, ten trading days, 1 calendar month and 2 calendar months.

Analysis

Table 1 reports sample statistics for the 10 year sample for the return periods prior to entry. Note that the median return increases with the length of the holding period. This

result is remarkably robust as it also holds in the 1990-1994 sub-sample, the 1995-1999 sub-sample and each individual year, with the exception of 1992. Results for 1992 may be skewed by a small sample size as only 7 stocks qualify for inclusion in the study in that year. The "surprise premium" associated with the announcement of a stock's selection appears to be approximately 3% to 3.5% based on the difference between the median return for periods T-3days and T-10days. Since the entry announcement typically occurs more than three days prior to entry, it appears that investors may be able to increase returns by purchasing these stocks prior to entry. The median excess return over the three days prior to index entry is approximately 4.7%.

Table 2 reports sample statistics for the same stocks over the two months following their addition to the S&P 500. Median excess returns are negative in each column with losses mounting through the first month following entry into the index. However, stocks appear to rebound during the second month following index entry as the median return for the two month period reported in the column labeled T+2months is higher than the median return reported in column T+1month. These results hold up for the 1990-1994 and 1995-1999 sub-samples. However, they are not as robust in individual years. In half of the years studied (1990, 1994, 1995, 1998 and 1999) the median stock continues to under perform the index during the second month following index entry. While the results are not as robust as those for the period prior to index entry, on balance they support the conclusion that stocks tend to under perform the index in the month following their entry into the index.

Table 1

Excess Return From Given Date to S&P 500 Addition

1990-1999

	T-1day	T-2days	T-3days	T-10days
Observations	188	188	188	188
Maximum	24.92%	39.23%	41.56%	55.48%
Minimum	-9.51%	-8.22%	-9.46%	-18.45%
Median	2.64%	3.88%	4.73%	8.14%
Mean	3.07%	4.47%	5.41%	9.26%
Standard Deviation	4.98%	5.90%	6.45%	9.99%

Table 2

Excess Return From S&P 500 Addition to Given Date

1990-1999

	T+1day	T+2days	T+3days	T+5days	T+10days	T+1month	T+2months
Observations	188	188	188	188	188	188	188
Maximum	7.14%	9.02%	17.64%	26.21%	19.94%	23.22%	44.23%
Minimum	-26.84%	-36.37%	-38.28%	-30.15%	-43.31%	-46.19%	-57.23%
Median	-0.75%	-1.25%	-1.64%	-1.67%	-2.04%	-3.87%	-3.37%
Mean	-0.96%	-1.48%	-2.00%	-1.88%	-2.43%	-3.61%	-3.61%
Standard Deviation	3.08%	4.34%	5.49%	6.22%	7.37%	10.00%	14.32%

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