

Event Study

An *event study* tests market efficiency: one investigates whether the occurrence of a certain event creates an opportunity for economic profit.

Ex Dividend Date

An example of an event study is to study what happens to the stock price at the *ex dividend* date. If the market is efficient, then on average the stock price falls by the amount of the dividend. Otherwise one has an opportunity for economic profit.

One might conjecture that the stock price will not react fully; the stock price falls on average by less than the dividend.

However this event does not appear to create any opportunity for economic profit.

Stock-Split Announcement Effect

The interesting event study [1] deals with stock-split announcements.

Data

The study collects data on a large number of stock splits. One computes the rate of return of the stock during the month that the stock split is announced, on the month after, on the second month after, etc. In addition one computes the rate of return on the month before the announcement, two months before, etc.

One then calculates the excess return relative to the Treasury bill interest rate. One then averages these excess returns month-by-month, for the entire sample.

(Also, using the capital-asset pricing model, one corrects the excess returns for risk.)

Market Efficiency

If the market is efficient, then after the announcement, the average excess return should be zero.

For the time of the announcement and for earlier dates, market efficiency has no implication—any average excess return is possible.

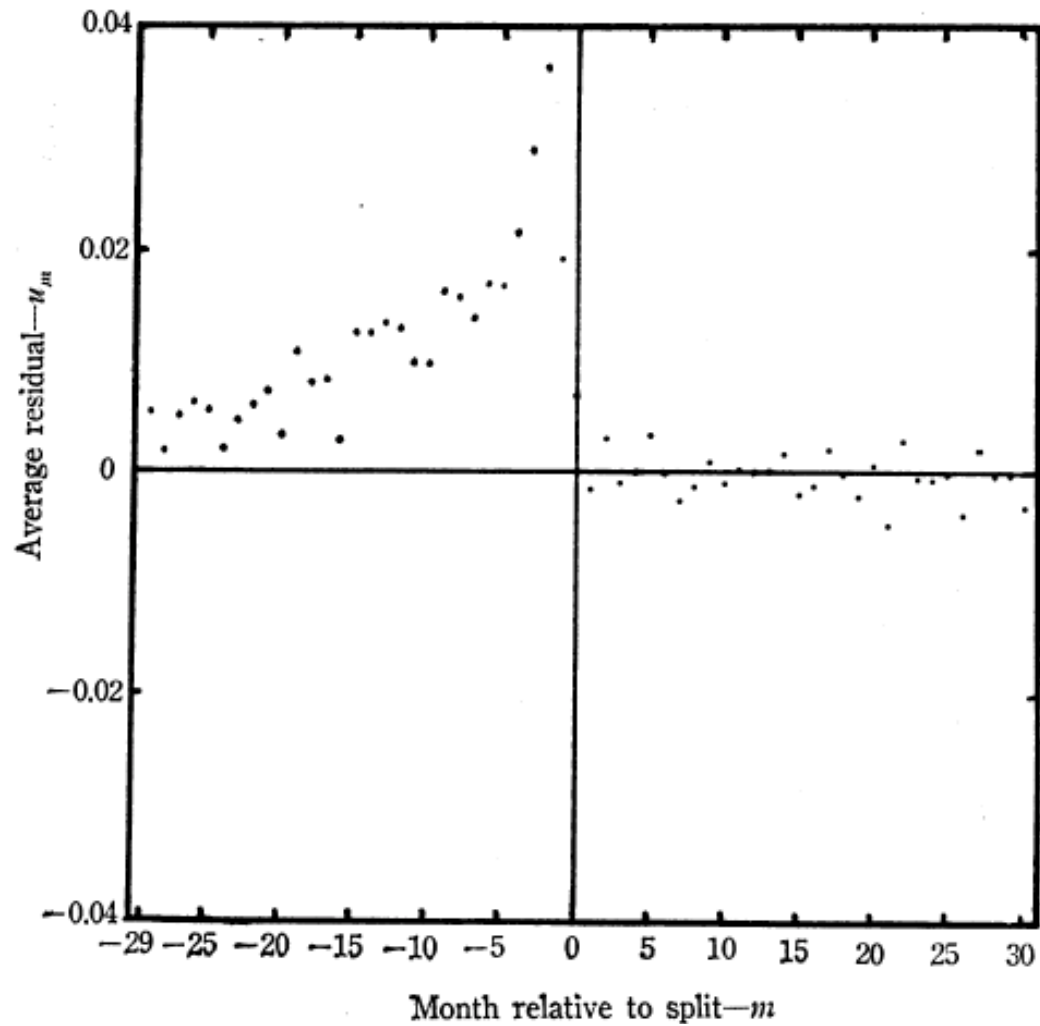
Finding

The findings are compatible with market efficiency. Figure 1 [1, p. 13] shows the excess return for months before and after the split announcement.

For the months after the announcement, the average excess return is not significantly different from zero.

For the month of the announcement and for earlier months, the average excess return is positive, presumably the result of good news. Since a company splits its stock when it is doing well, it is natural that news on these dates would tend to be good rather than bad.

Figure 1: Excess Return Relative to Split Announcement



Earnings-Announcement Effect

One can compare an earnings announcement by a company to the forecasted earnings by stock analysts.

Can one make money from the forecast error? For example, if the announcement is better than the forecast, is that a good time to buy? Does the stock price react immediately, or only slowly?

Studies find that not all adjustment of the stock price is immediate, so there is some inefficiency.

January Effect

The January effect asserts that on average the stock market rises in January.

The mean rate-of-return on the stock market in January is indeed statistically significantly higher than the average for the other months.

The month with the lowest mean rate-of-return is October, but the finding is not statistically significant.

Super-Bowl Effect

According to the Super-Bowl effect, whether the stock market rises or falls during the year depends on which team wins the Super Bowl.

If the National Football Conference champion wins, then the market rises.

If the American Football Conference champion wins, then the market falls.

This trading rule has worked extremely well in the past.

The effect is strongly statistically significant, much stronger than the January effect.

Yet surely no one thinks that this finding is anything more than a coincidence, and no one thinks who wins has any implication for the stock market.

Day-of-the-Year Effect?

A possible event study would be to calculate the average percentage change in the Dow Jones industrial average for each day of the year for the last fifty years.

Some day would have the highest average rate of return, and some day would have the lowest. One might then proclaim a “day-of-the-year” effect.

Would this finding have any meaning? Would one expect the market to do particularly well or poorly on this day in the future?

Small-Cap Effect

The small-cap effect is the claim that stocks for companies with small capitalization (small total value of outstanding stock) have a higher average rate of return than big-cap stocks.

References

- [1] Eugene F. Fama, Lawrence Fisher, Michael C. Jensen, and Richard Roll. The adjustment of stock prices to new information. *International Economic Review*, 10(1):1–21, February 1969.