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Calendar Anomalies: Abnormal Returns at Calendar Turning Points

There is overwhelming evidence that abnormal equity returns are associated with the turn of the year, the week and the month, as well as with holidays and the time of day. These returns are not unique to one historical period, nor can they be explained by considerations of risk or value.

Tax-loss selling at year-end, cash flows at month-end and negative news releases over the weekend may explain some of these return abnormalities. But human psychology offers a more promising explanation. Calendar anomalies tend to occur at turning points in time. While these artificial moments have little economic significance, investors may deem them important, and behave accordingly.

The question remains why these effects, which have been recognized for some years, have not been arbitraged away. Trading costs are, of course, an impediment. A portfolio manager would not consider liquidating an entire portfolio on a Friday merely in order to avoid experiencing relatively poor weekend returns. But planned trades can be scheduled to take advantage of calendar-based return patterns. Calendar effects should be of particular importance to traders.

CALENDAR ANOMALIES have long been part of market folklore.[1] Studies of the day-of-the-week, holiday and January effects first began to appear in the 1930s.[2] And although academics have only recently begun seriously to examine these return patterns, they have found them to withstand close scrutiny.

Calendar regularities generally occur at cusps in time—the turn of the year, the month, the week, the day. They often have significant economic impact. For instance, the "Blue Monday" effect was so strong during the Great Depression that the entire market crash took place over weekends, from Saturday's close to Monday's close. The stock market actually rose on average every other day of the week.

Calendar anomalies are often related to other return effects. For instance, some calendar anomalies are more potent for small than for large capitalization stocks. While analysis of cross-sectional effects requires fundamental databases—a relatively recent innovation—the study of calendar anomalies requires only time-dated records of market indexes. Hence calendar anomalies can be tracked historically for much longer periods than effects requiring fundamental data.

The availability of a century of data brings enormous statistical power for testing calendar effects, but it also increases the likelihood of data-mining. If enough patterns are tested, some will appear significant merely by chance. In exploring calendar anomalies, therefore, significance levels must be properly adjusted for the number of hypotheses examined, out-of-sample tests should be encouraged, and only plausible hypotheses considered.[3]

Calendar regularities appear to be even more aberrant than cross-sectional return effects. A skeptic, for instance, might assert that low P/E stocks provide outperformance simply because of their greater riskiness; this argument can be deflected, but it requires potentially controver-

1. Footnotes appear at end of article.

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