Clocks going forward can catch investors napping: How investors' reactions are affected by sleep disruption

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Clocks losing an hour in spring significantly affects how investors respond to companies that reveal unexpected levels of earnings, research shows.

Sleep disruption resulting from the one-hour change means financiers underreact when firms announce higher or lower earnings than analysts predicted, the study suggests.

When a so-called earnings surprise coincides with the spring reset, an affected company's stock return typically drifts towards what seems to be the correct valuation in the post-announcement period.

Researchers at the University of Edinburgh Business School say their findings are consistent with sleep-deprived investors mispricing and subsequently revisiting relevant information. The team says its findings highlight the vital role that investors' cognitive ability—specifically reasoning and processing speed—plays in efficient market pricing.

This study is the first to gauge how the move to Daylight Savings Time (DST) affects the information-processing capabilities of investors.

Deeper understanding

The research team hopes the study—published in the *European Journal of Finance*—will deepen understanding of the effects of sleep deprivation on financial markets.

The team carried out its research by aligning the start of DST to pricing patterns generated by news about individual stocks—including post-announcement drift. Previous research, by contrast—which assessed DST's impact on market-wide volatility—did not look at individual stocks, meaning other interpretations for pricing patterns were possible.

The team studied a large sample of earnings announcements, made between 1993 and 2018, in the wake of the spring clocks reset. These were then contrasted with earnings forecasts made at the time. Unexpected increases in earnings within the target group were then compared with a control group of similar companies that had announced financial results exactly one week earlier.

Sizeable drift

The team found that following the transition to DST, the stock prices of firms in the target group underreacted to earnings surprises by 36 percent relative to control firms. Companies in the target group also experienced a sizeable post-announcement drift.

In the weeks following earnings surprises, firms in the target group experienced returns that were about twice the level of those experienced by firms in the control groups.

"These high levels of returns are consistent with investors revisiting—and reversing—their initial underreaction to earnings surprises," says lead researcher Angelica Gonzalez, a Senior Lecturer in Finance.

"Since the reversal is evident as early as 10 days post-announcement, this suggests the return patterns can be explained by investors revisiting the original earnings surprise as their sleep recovers—rather than the arrival of new information."

More information: Angelica Gonzalez et al, Let me sleep on it: sleep and investor reactions to earnings surprises, *The European Journal of Finance* (2024). DOI: 10.1080/1351847X.2023.2287065

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