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Summary of "Driven to Distraction: Extraneous Events and Underreaction to Earnings News"[1]

Post-earnings announcement drift (PEAD) is the tendency for a stock's cumulative abnormal return to drift in the direction of earnings surprise for several weeks (even several months) following an earnings announcement. Arbitrageurs can front run the market by longing stocks with positive news and shorting the ones with negative news immediately after the announcements. A recent literature examines how investors' limited attention can cause such underreaction to news.

Investors selectively allocate attention. The attention to a firm's earnings announcement and its implication for long-run profitability can be distracted by other firms' announcements. Therefore, greater distraction implies more severe underreaction to the firm's earnings news – a weaker immediate price reaction and a stronger post-earnings announcement drift. In this paper, the authors study this *investor distraction hypothesis*.

Based a database of quarterly earnings announcements from 1995 to 2004, the authors perform two independent sorts of stocks in each quarter.[2] First, firms are sorted into deciles by earnings surprise, and second, by the number of other firms' announcements on the announcement day.[3] For the lowest number-of-announcements decile (low-news days), the average spread of announcement-window cumulative abnormal return between good-surprise firms (highest earnings-surprise decile) and bad-surprise firms (lowest earnings-surprise decile) is 7.02%, whereas for the highest number-of-announcements decile (high-news days), the average spread drops to 5.81%.[4] The lower sensitivity of stock price to earnings surprise in the high-news days indicates that extraneous events distract investors from trading new information into stock prices. Moreover, the volume increases less in the announcement days when there are more announcements competing for attention.

Greater competing news is also associated with stronger post-earnings announcement drift. The average spread of post-announcement-window cumulative abnormal return (i.e. post-announcement drift) between good- and bad-surprise firms is 7.18% in the high-news days, whereas the spread in the low-news days is only 2.66%.[5] This is also consistent with the *investor distraction hypothesis*, because more severe underreaction of stock prices to news in the high-news days requires stronger adjustment afterwards. The difference in post-announcement drift between high-news and low-news days declines over a long horizon, and becomes insignificant by 90 days after the announcement.

Extraneous news leads to lower sensitivity of stock prices to earnings surprise in the announcement days, and higher sensitivity of stock prices to the previous earnings surprise afterwards. This pattern holds after controlling for other variables that are found to affect the sensitivity of stock returns to earnings announcements.[6] Moreover, none of those control variables have stronger effect on return sensitivity to earnings surprise than the number of competing announcements.

This *investor distraction effect* can be systematically exploited by a trading strategy to deliver significant alpha against standard benchmarks. Instead of the two-way independent decile-sort, the

authors perform quintile-sorts by earnings surprise and the number of competing announcements for a higher level of diversification within each of the resulting 5-by-5 equal-weighted portfolios. Within each number-of-announcements quintile, a long-short portfolio is formed to buy the firms in the top earnings-surprise quintile and to short the firms in the bottom earnings-surprise quintile, and the portfolio is rebalanced monthly. The long-short strategies aim to profit from post-announcement drift.

Consistent with the *investor distraction hypothesis*, in the highest number-of-announcements ("high-news") quintile, the long-short portfolio achieves the largest Fama-French three-factor alpha of 1.64% per month.[7] This is much higher than the alpha of 0.77% per month in the lowest number-of-announcements quintile. The refined post-announcement-drift strategy that focuses only on clustered earnings surprises (high-news quintile) delivers far better performance, because it takes longer time for stock prices to fully incorporate the information when extraneous events distract attention.

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[1] Hirshleifer, David, Sonya Seongyeon Lim, and Siew Hong Teoh, 2009, *Journal of Finance* 64, 2289-2325.

[2] Quarterly earnings announcements are from the CRSP-Compustat merged database and I/B/E/S. Announcements are clustered by day of week and show a seasonal pattern. The number of announcements is high on Tuesday, Wednesday, and Thursday, and lowest on Friday, and it is lowest in March, June, September, and December because about 60% of announcements are for fiscal quarters ending in these months and it takes 1-2 months before the release.

[3] Firms' earnings surprise is defined as the difference between announced earnings and the consensus earnings forecast (the median of the recent analyst forecasts from I/B/E/S detail tape), normalized by the quarter-end stock price.

[4] Announcement window includes the announcement day and the next day. Abnormal return is defined as the difference between the buy-and-hold return of the announcing firm and that of a size and book-to-market (B/M) matching portfolio. Each stock is matched with one of the 25 (5-by-5) size- and B/M-sorted portfolios at the end of June every year. The daily returns of the 25 size-B/M sorted portfolios are from Prof. Kenneth French's website.

[5] Post-announcement window starts from two days after the announcement and ends at the 61st day after.

[6] Control variables include *Earnings Persistence* (the first-order autocorrelation coefficient of quarterly earnings per share during the past four years), *Institutional Ownership* (constructed from CDA/Spectrum 13F database), *Earnings Volatility* (the standard deviation during the past 4 years of the earnings deviation from 1-year-ago earnings), *Reporting Lag* (the number of days from the quarter-end until the earnings announcement date), *#Analysts* (the number of analysis following the firms during the most recent fiscal year), and *Share Turnover* (the average monthly trading volume divided by the average number of shares outstanding in the past 12 months).

[7] The three-factor alpha is the intercept of time-series regression of portfolio returns on the Fama-French benchmark returns, i.e. the market returns in excess of Treasury bill rate, the returns to the small-minus-big portfolio, and the returns to the value-minus-growth portfolio. For more details, please refer to: Fama, Eugene F., and Kenneth R. French, 1993, Common risk factors in the returns on stocks and bonds, *Journal of Financial Economics* 33, 3-56.