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Investor behaviour and PEAD of stock prices

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Abstract

Post-earnings Announcement Drift (PEAD) is a well-noted market anomaly where a rational risk-based explanation remains elusive. This paper presents empirical evidence in the Indian stock market supporting the hypothesis that individual investors' news-contrarian trading behavior drives the PEAD and impedes a full price response to earnings news, leading to under-reaction and PEAD. In contrast to individual investors, the foreigners are net buyers of good earnings surprise stocks before the earnings announcement. Further, it is observed that the presence of PEAD depends on the post-announcement trading behavior of individual investors.

Keywords: Post-earnings-announcement drift; market efficiency; under-reaction; investor behavior

1. Motivation

The market efficiency theory postulates that, once a firm's current earnings are publicly announced, the information content in it should be quickly digested by investors and be incorporated into stock trading prices. However, it has been known for long that this is not happening exactly. Prior empirical studies established that a stock's cumulative abnormal return tends to drift in the director of the earnings surprise following the earnings announcement. This tendency of sluggish stock price response to earnings' announcement, referred to as Post-Earnings Announcement Drift (PEAD), is one of the strongest evidence against the notion of market efficiency. A rational and risk-based explanation is elusive.

In this paper, the evidence supports the "individual trading hypothesis" [Hirshleifer, Myers, Myers, and Teoh, 2008], under which individual investors' post-announcement trading behavior impedes a full price response to earnings news, leading to under-reaction and PEAD. They hypothesize that individual investors' trade as contrarians to earnings news, buying after negative earnings surprise and selling after positive earnings surprise. We find that PEAD is present only for those stocks that individual investors trade as contrarians to earnings news. More specifically, the evidence indicates that the stocks with positive earnings surprise show significantly positive drift only when individuals are net sellers following the announcement. Similarly, the stocks with negative earnings surprise show significantly negative drift only when individuals are net buyers after the announcement. Our findings

suggest that individual investors' contrarian trading behavior after the earnings announcement slows down a full price adjustment in response to earnings news, leading to under-reaction and PEAD.

In contrast to individual investors, foreign investors are net buyers of good earnings surprise stocks before the earnings announcement. Moreover, foreign investors' pre-announcement trading behavior predicts earnings surprise, analogous to CRS (2009) who find that U.S. institutional investors' trading behavior anticipates earnings surprise and PEAD. We also find that after the announcement, foreign investors trade in the same direction as earnings surprise. This post-announcement trading behavior of foreign investors suggests that they take advantage of PEAD, similar to institutional investors in the U.S. as found by CRS (2009). Domestic institutional investors' trading behavior, on the other hand, does not show a strong association with earnings surprise both before and after the earnings announcement. Our last but the strongest empirical evidence supporting the individual trading hypothesis is that the presence of PEAD depends on the post-announcement trading behavior of individual investors. We find that the stocks with positive earnings surprise experience positive abnormal returns only when individual investors are net sellers after the announcement. Similarly, we find that the stocks with negative earnings surprise experience negative abnormal returns only when individual investors are net buyers after the announcement. Furthermore, we find that more intense individual selling after the earnings announcement is associated with greater PEAD for positive earnings surprise stocks, and more intense individual buying after the earnings announcement is associated with greater PEAD for negative earnings surprise stocks. These findings show that PEAD is always accompanied by individual investors' news contrarian trading behavior after the earnings announcement, which indicates that individual investors' trading drives PEAD by impeding a full stock price response to earnings news.

2. Methodology and Data

The data about the stocks that announced surprise earnings and the Nifty, used as benchmark in this study, was obtained from the NSE website and the CMIE prowess database. The prowess database provides category-wise trading information on daily basis. We have considered data for 60 days prior to and after the earnings announcements. The cumulative abnormal returns (CAR) for the five earnings surprise quintiles over various windows around the earnings announcement date. For the good earnings surprise stocks (Q5), the CARs are significantly positive for up to 60 trading days after the announcement, and the CAR for the [2, 61] window is both economically and statistically significant. For bad earnings surprise stocks (Q1), the drift in stock returns is relatively smaller in magnitude and less persistent than good earnings surprise stocks. The pattern of CARs prior to

earnings announcements suggests the presence of information leakage before the announcement, particularly for good earnings surprise stocks. The results clearly indicate that PEAD exists in the Indian stock market for our sample period.

3. Results and Findings

It is observed that there exists a clear difference in the pattern of trading behavior across different types of investors. Second, given the difference in the trading behavior before the earnings announcement, foreign and institutional investors appear to be better informed and/or more sophisticated than individual investors, since foreign investors are net buyers of good earnings surprise stocks and institutional investors are net sellers of bad earnings surprise stocks before the earnings announcement. They broadly conform to the popular notion of individual investors being naïve, and institutional and foreign investors being better informed or sophisticated.

It is hypothesized that the more informed and/or more sophisticated investors' trading behavior before earnings announcements would predict earnings surprise. This hypothesis is tested by estimating the regression equation on earnings surprise for each investor type. The results suggest that foreign investors in the Indian stock market trade in the manner of anticipating earnings surprise, particularly good earnings news. While CRS (2009) find that institutional investors' pre-announcement trading behavior appears to predict earnings surprise in the U.S. stock market, we do not find that institutional investors in India trade in the manner of anticipating earnings surprise. Instead, we find that foreign investors' trading prior to earnings announcements is strongly associated with earnings surprise. And individual investors as a group appear to be on the other side of foreign investors' pre-announcement trades, as they tend to sell good earnings surprise firms.

The results further show that PEAD exists only when institutional and foreign investors trade in the same direction as earnings news, which suggests that they are on the other side of the news-contrarian trading by individual investors. More specifically, positive earnings surprise stocks experience PEAD only when institutional or foreign investors are net buyers, and negative earnings surprise stocks experience PEAD only when institutional or foreign investors are net sellers. The results together indicate that individual investors' post-announcement trading contributes to PEAD, and institutional and foreign investors' post-announcement trading appears to exploit PEAD to their advantage.

4. Conclusion

In this paper, we investigate whether individual investors' news-contrarian trading behavior drives post-earnings-announcement drift (PEAD). We make use of the unique feature of the Indian stock

market data that provide daily trading volume by investor category at daily frequency for each stock. As predicted by the hypothesis, individual investors tend to trade in the opposite direction to earnings surprise, selling good earnings surprise stocks and buying bad earnings surprise stocks, which impedes a full price response to earnings news. In addition, PEAD exists only for those stocks that individuals trade in the opposite direction to earnings surprise: positive earnings surprise stocks show positive abnormal returns only when individuals are selling them, and negative earnings surprise stocks experience negative abnormal returns only when individuals are buying them. Furthermore, the magnitude of PEAD is greater for those stocks that are more intensely sold (for positive earnings surprise) and bought (for negative earnings surprise) by individuals. Taken together, our findings provide empirical support for the individual trading hypothesis, indicating that individual investors' news-contrarian trading behavior is a strong driver of PEAD.

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