Information Leakage Prior to SEC Form Filings

Pre/Post Release Drift

In summary, to confirm the existence of information leakage, we construct 5 portfolios based on pre-release price run-up $\Delta P_{05} = \log \frac{P_t}{P_{t-30}}$ and the post-trade $\Delta P_{05}$ over 30 minutes before and after the announcement and the pre-trade $\Delta P_{05}$ over 30 minutes before the announcement) drift for all matched SEC form submissions and the results show that the mean returns started to move much earlier than the announcement as shown in Figure 2 which plots the return for every 15-second interval from 30 minutes prior to event time to 30 minutes after event time ($t=120$). Incidentally, the event time (i.e., the EDGAR acceptance time stamp, $t=120$) has the most extreme returns for that 15-second interval, as expected. Figure 3 plots the cumulative return, and the fact that the returns of the portfolio’s cumulative return run-up prior to event time agree in the same direction (and magnitude) with their cumulative return after event time is evidence in support of information leakage.

Single/Double Sort

The Single-sort Table 1 reports average returns and differences in returns, together with statistical tests and standard errors, and we find that generally speaking, as we go from portfolio 1 to portfolio 5, the higher the price runup prior to the event, the higher the cumulative return post the event, consistent with the information leakage conjecture.

Pre-release period

Buyer/Seller-initiated Trade Volume Categorized According to Lee and Ready (1991)

We conduct this exercise by regressing the cumulative return of 30-minute interval prior to the event to an “aggresive-buy-indicator”, $X_{AR}$, which is calculated from the difference between the number of shares in trades that are classified as buyer initiated according to Lee and Ready (1991), $V_B$, and the number of shares in trades that are classified as seller initiated according to Lee and Ready (1991), $V_S$, and divided by the total volume traded in the pre-event horizon, $V$, formally, $X_{AR} = \frac{V_B - V_S}{V}$.

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> From September 2003 - present intraday transactions data (trades and quotes) for all securities listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX), as well as Nasdaq National Market System (NMS) and SmallCap issues.

Conclusion

Using the TAQ millisecond data and a comprehensive sample of the acceptance timestamp of SEC form filings, we find strong evidence of information leakage in the 30-minute intervals around Edgar acceptance timestamp of corporate SEC filings, in that if the stocks are ranked into 5 portfolios based on the price run-up prior to filing release, for all form types, the events with the highest run-up would also have the highest price increase post filing release. Also, depending on the type of the SEC filing, for filings that could contain both positive and negative information, for example, form 8K 10k and 100 (as opposed to SC 13D or 13G which generally can only be good news for stock price), the events with the most run-down prior to the release would also have the most price decrease post filing release. Our finding is not explained by momentum.

Incidentally, panel regression results in Table 3 provide evidence in support of the presence of informed trading.

Keywords: Information Leakage, Private Information, Big Data, Informed Trading, Millisecond Trades

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