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Asymmetric decrease in liquidity trading before earnings announcements and the announcement return premium ☆

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ABSTRACT

Investors are reluctant to trade in the high-information-asymmetry days before earnings announcements. We show that the decrease in liquidity trading before announcements is asymmetric. We analyze buy and sell orders of investors with passive investment strategies, and find they do not reduce their sales as much as their purchases in the days before announcements. Investors needing liquidity sell stocks at a discount relative to the post-announcement price, and these preannouncement liquidity sales are a significant driver of the average positive returns, or return premium, known to characterize announcement days.

1. Introduction

Prior literature shows that the average risk-adjusted returns on earnings announcement days are positive, and demonstrates that this "earnings announcement premium" is associated with idiosyncratic risk (e.g., Cohen, Dey, Lys, and Sunder, 2007; Barber, De George, Lehavy, and Trueman, 2013).[1] Investors holding diversified portfolios should not be affected by idiosyncratic risk. In this paper, we show that liquidity trades, or specifically preannouncement liquidity sales, are a significant driver of positive announcement returns.

We hypothesize that an asymmetric decrease in liquidity trading in the days before announcements drives the positive announcement premium. Liquidity investors are reluctant to trade on days characterized by high information asymmetry (e.g., Admati and Pfleiderer, 1988; Foster and Viswanathan, 1990), and on the days before earnings announcements in particular (e.g., Chae, 2005). However, liquidity sales are usually more pressing than liquidity purchases (e.g., Kraus and Stoll, 1972; Chan and Lakonishok, 1993; Keim and Madhavan, 1995; Campbell, Ramadorai, and Schwartz, 2009), and liquidity investors might have less flexibility to reduce their sales than to reduce their purchases before announcements. Indeed, we find there are more liquidity sales than liquidity purchases in the days before announcements. These preannouncement liquidity sales lead to positive announcement returns. Specifically, we show that announcements preceded by stock sales are followed by positive announcement returns, a return reversal resulting from liquidity sales (e.g., Amihud and Mendelson, 1980; Ho and Stoll, 1981;

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[1] For further evidence of the earnings announcement premium, see, for example, Penman (1984), Chari, Jagannathan, and Ofer (1988), and Ball and Kothari (1991).

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Grossman and Miller, 1988; Huang and Stoll, 1996). In contrast, stock purchases before announcements are less liquidity-driven than sales, and are followed by announcement returns that are not statistically different from zero.

We perform our analysis using the comprehensive Trade and Quote (TAQ) data set, which includes all trades before announcements. To infer the existence of buying or selling activity before announcements, we use the Lee and Ready (1991) algorithm, which can be noisy.[2] To alleviate this identification concern, we also test our asymmetric liquidity hypothesis using the Plexus data set, which specifies trade directions and motives. Plexus includes the buy and sell orders of passive institutional investors, whose investment objective is to mimic an index or a benchmark portfolio, and whose trades are driven by liquidity needs rather than by information on upcoming announcements. Consistent with our asymmetric liquidity hypothesis, we find that investors that Plexus identifies as passive reduce their stock purchases more than they reduce their stock sales in the days before earnings announcements.

The positive announcement returns that we observe after preannouncement sales are independent of the actual earnings news; notably, higher levels of preannouncement sales are actually associated with a higher likelihood of negative earnings news. Extreme return observations do not drive the phenomenon either. We find that median announcement returns and announcement returns based on bid-ask-spread midpoints are positive after preannouncement sales. To control for the effect of systematic risk on announcement returns, we adjust returns for size, book-to-market, and momentum risk factors. Additionally, we show that announcement returns have similar risk factor loadings after preannouncement sales and after preannouncement purchases. This result indicates that the positive returns observed after preannouncement sales are not due to higher systematic risk. The use of scheduled instead of actual announcement dates in the analysis does not change the results. Results are also similar for sub-periods within our sample. We repeat the estimation in four subsamples, 1998–2001, 2002–2005, 2006–2009, and 2010–2012, and find that the effect of preannouncement sales on announcement returns is statistically significant in each of these periods.

This paper contributes to the literature that examines the change in liquidity on high-information-asymmetry days. Investors are reluctant to trade on these days (e.g., Admati and Pfleiderer, 1988; Foster and Viswanathan, 1990), and prior literature demonstrates that there is a decrease in liquidity and liquidity trading on high-information-asymmetry days before earnings announcements (e.g., Lee, Mucklow, and Ready, 1993; Krinsky and Lee, 1996; Chae, 2005). We find, however, that the decrease in trading is asymmetric. Liquidity traders do not reduce their sales as much as their purchases before announcements, and are willing to pay higher liquidity costs for preannouncement sales than for preannouncement purchases.

[2] Lee and Radhakrishna (2000) and Odders-White (2000), for example, show that the Lee and Ready (1991) algorithm correctly classifies most but not all trades.

The study also contributes to our understanding of the earnings announcement premium. Cohen, Dey, Lys, and Sunder (2007) and Barber, De George, Lehavy, and Trueman (2013) show an increase in idiosyncratic risk at announcements drives the earnings premium. Frazzini and Lamont (2007) offer a behavioral explanation for the earnings premium. They find that the premium is associated with an increase in trading activity on announcements, and suggest that the heightened attention that investors pay to firms around the time of their earnings releases creates an upward pressure on the firms' stock prices. Systematic risk can also change around earnings announcements and affect announcement returns (e.g., Ball and Kothari, 1991; Patton and Verardo, 2012; Savor and Wilson, 2015). Our findings forward a liquidity explanation for the premium. We control for the effects of idiosyncratic risk, systematic risk, and trading activity, and find that preannouncement liquidity sales are a significant driver of the premium beyond these factors. We show the effect of preannouncement sell pressure on the premium is the most significant among the considered factors: It is almost as great as the effects of idiosyncratic risk and of trading activity combined.

The rest of the paper is organized as follows: Section 2 discusses our hypotheses. Section 3 analyzes the buy and sell orders of liquidity traders before announcements. Section 4 analyzes announcement returns after sell pressures. Section 5 provides robustness tests and additional analysis, and Section 6 presents our conclusions.

2. Hypothesis development

We hypothesize that an asymmetric change in liquidity trading before announcements drives the earnings announcement premium. Specifically, we posit that, before announcements, liquidity selling is more frequent than liquidity buying. Liquidity pressures are followed by return reversals, and because liquidity selling is more frequent than liquidity buying before announcements, announcement returns are positive on average. In this section, we describe our hypotheses regarding the asymmetric change in liquidity trading before announcements, and its effect on the earnings announcement premium.

First, we hypothesize that an asymmetric change takes place in liquidity buying and selling of stocks before announcements. Liquidity traders who are not constrained to buy or sell a specific stock at a specific time, as, for example, in Admati and Pfleiderer (1988) or in Foster and Viswanathan (1990), will refrain from trading before earnings announcements, when information asymmetry is known to be high, and will reduce both their sales and their purchases before announcements (e.g., Chae, 2005). Evidence in prior literature, however, suggests that investors are generally more constrained in the timing of their sales than in the timing of their purchases, and are willing to pay higher transaction costs for immediacy when selling than when buying. Campbell, Ramadorai, and Schwartz (2009), for example, find that institutional investors pay higher liquidity costs when they sell than when they buy stocks, and suggest this asymmetry in liquidity costs could be a result of investor inability or reluctance to short sell.