INSTITUTIONAL FORESIGHT: DO INSTITUTIONS PROFIT FROM REPURCHASE ANNOUNCEMENTS?

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ABSTRACT

Share repurchases create an asymmetric information environment for institutional investors. The firm and its insiders know the announcement's timing and whether or not there will be actual implementation of share repurchases. Institutions do not have this information ex-ante, but do they have the foresight to trade profitably? We test this using daily intermarket sweep order, biweekly short interest, and quarterly 13(f) data. We find evidence that institutions are unprofitable particularly when they are competing against better-informed participants. Institutional investors appear to be mistiming their trades, selling prematurely at lower prices.

Key Words: Intermarket sweep order, repurchase announcement, institutional investor

INTRODUCTION

Armed with superior research skills, informed and sophisticated institutional investors are able to acquire In the strategic trading model developed by Holden and Subrahmanyam (1992), there are multiple informed traders competing aggressively, and in the process, they quickly reveal their commonly shared information. Their private information is rapidly incorporated into stock prices and the market is assumed to be strong-form efficient. This means that in a multi-period scenario traders with private information do not have an information advantage and cannot make a profit. We empirically test this model using share repurchase announcements as the event with multiple periods: the pre-announcement, announcement, post-announcement, and repurchasing period. The informed agents are the institutional investors, registered insiders, and the firm. Unlike other corporate events, all three actively participate around share repurchase announcements. Institutional investors will pay attention to the announcement and actual repurchase because they are the biggest investors in U.S. equities holding approximately 75 percent of U.S. stocks (Alexander et al., 2014). Share repurchase announcements provide a good opportunity for insiders to sell their accumulated shares as the stock prices increase due to the significant positive announcement effect (Ofer and Thakor, 1987; Ikenberry et al., 1995; Peyer and Vermaelen, 2009; Bargeron et al., 2011). For the firm, this corporate event is the only time it can buy back its shares. Essentially, this is a battle of champions between the institutional investors, insiders and the firm. Do the institutions have the foresight to trade profitably when they are pitted against the other informed and active players? Alternatively, will it be a three-way tie because in an efficient market all information advantage is competed away rapidly?

We believe the answers to these questions are further complicated by the signaling strategies of the firm. While other corporate events, such as earnings announcements, tend to resolve uncertainty (Lee et al.,

1993), share repurchase announcements seem to complicate matters further for other market participants. In our sample, 72% of the announcements are followed through with the actual implementation of share repurchases within two years, but the other 28% are not. Some of these announcement-only firms may not need to follow through with actual repurchases because they may truly be undervalued. According to Bhattacharya and Jacobsen (2016), the announcement can generate enough interest to the firm that retail and institutional trading will adjust the stock price back to the equilibrium for heavily undervalued firms. In this scenario, the firm does not need to use its own money to repurchase shares. However, this cheap talk strategy is not effective for firms that are viewed as slightly undervalued, fairly valued or overvalued by the market. To convince the market that the slightly undervalued or fairly valued stocks are mispriced, these firms need to follow through with actual buybacks to signal that the firms have information that the market has not incorporated into the valuation. Firms that are overvalued and have no intention of actually repurchasing shares, should ideally avoid participating in share repurchase announcements because the market will eventually discover their strategy to camouflage with the undervalued firms. Yet, this type of firms may still engage in share repurchase announcements to artificially support insider selling by temporarily boosting stock prices. This false signaling can transfer wealth from the investors to the insiders, who are using the firm's money to support their transactions (Fried, 2005). In summary, the share repurchase environment is a rather complicated one for institutional traders because true intention of the repurchase announcement is unknown.

Our paper differs from prior research on repurchases in several important ways. First, we focus on the complexity and dual nature of the repurchase signals due to the presence of the firms and insiders as highly informed participants in the market. Our research objective is different from Louis and White (2007), in which the authors find that insiders use fixed-priced tender offers to signal undervaluation and Dutch-auction tender offers to reduce the actual repurchasing price. We examine all types of repurchase announcements rather than examining only or some combination of Dutch-auction, fixed-priced tender, or open-market repurchases to evaluate how institutions react to the dual signals in all repurchase scenarios. Our analysis reveals that the information from the firm and the insiders complicates the institutions' ability to correctly identify the undervalued firms that are using the announcement as a method to attract institutional attention as discussed in Bhattacharya and Jacobsen (2016). Second, we focus on the sophisticated institutional investors' decisions around the announcement time, not around the actual implementation of share repurchases. In De Cesari et al. (2012), the authors explain that the repurchasing firms can buy their shares back at a bargain price if the firms have little institutional interest. Without institutional involvement, the firms can take further advantage of the information asymmetry by buying back shares from less informed retail traders. Based on the findings of De Lisle et al. (2014), institutional investors are active around actual repurchases; they are net sellers when the firms are implementing repurchases. The authors attribute this trading strategy mostly to the information asymmetry between institutions and individual investors. Our contribution is different from these papers because they analyze institutional trading around the repurchase implementation period, which resolves the uncertainty created by the initial repurchase announcement. Because institutional investors hold the majority of U.S. equities, they would take the opposite side of the firm's' actual repurchases for the right price. They are the liquidity providers when the firm is actually repurchasing, especially when individual investors are unwilling to tender their shares. However, less is known about the firm's follow-through intention and the insiders' trading activities during the announcement period. Institutional investors are not subject to strong counterparty purchases during the days before the announcement. The prior literature also does not assess if institutions benefit economically from trading around repurchases. We fill this gap in the literature by extensively analyzing institutional profitability during the announcement period. We aim to answer questions related to whether or not institutions have the foresight to properly time their trades when there are multiple forces working against them in an environment where they are not the most informed participant. Third, to capture the sophisticated trading strategies of institutions, we examine their activities

from the full range of daily to quarterly frequencies. Specifically, we use three different measures of institutional trading: daily intermarket sweep order (ISO), biweekly short interest, and quarterly 13(f). Thus, we cover institutional trading strategies related to both long and short positions.

HYPOTHESIS DEVELOPMENT & RESEARCH DESIGN

In contrast to the monopolistic informed trader model developed by Kyle (1985), the multi-period model of Holden and Subrahmanyam (1992) relaxes this restriction and allows for at least two informed agents. In this model, prices rapidly incorporate any information as soon as the informed agents take action. The market is strong-form efficient in which the advantage of having private information quickly dissipates. We believe this model holds true when there is no uncertainty surrounding the information signaled by the informed agents. This is not the case with share repurchase announcements because the first source of uncertainty comes from the unknown timing of the announcement, which has been linked to lower market efficiency (Bagnoli and Watts, 1998). While there may be a way to identify when the announcement might occur by examining the average volatility spreads using daily options trading data according to Hao (2016), share repurchase announcements are still considered non-routine when compared to other corporate events, such as earnings and dividend announcements. Secondly, the announcement signal regarding the value of the firm may not be entirely true. For example, the information signaling hypothesis in the share repurchase literature posits that if the firm believes its shares are undervalued, it can signal such information to the market using repurchase announcements (Miller and Rock, 1985; Vermaelen, 1981). However, this undervaluation signal can be quite misleading if not backed by actual implementation. Considering that a large proportion of announcement events are not followed through with actual share repurchases, it is possible that the announcing firms are employing a "signal-jamming" strategy. According to Fudenberg and Tirole (1986), firms can interfere with other participants' information-gathering and decision-making process by providing signals that may not be entirely true about the firm. It is also possible that the firm's repurchase decision is related to funding corporate acquisitions, managing the dilutive effects of employee stock options, boosting the reported EPS, reducing excess cash available to management, and inhibiting overinvesting (Jensen, 1986; Bens et al., 2003; Grullon and Michaely, 2004; Skinner, 2008). These disturbances or noisy information may lead others to make poor decisions with unfavorable outcomes (Mirman et al., 1993). In the context of share repurchases, the institutional investors are the information gatherers and their decision-making process is affected by the signals sent by the firm and its insiders. These dual signals can help the institutions make profitable trades if this information accurately portrays the status of the firm. While there are papers related to undervaluation signaling or signal jamming, our paper is unique because we are the first to study the interaction between the institutions, firm, and insiders around repurchase announcements when all three parties are actively competing against each other. We fill this gap in the literature by explaining if the institutions have the skills to decipher the complex compounding nature of the information signaled by the firm and its insiders.

For the purpose of developing our formal hypotheses, we consider a four-period timeline in Figure 1. The time $t = 0$ represents the repurchase announcement. At the pre-announcement period, time $t = -1$, if the firm is undervalued, then it would make more sense to announce share repurchases. However, depending on the motives of the insiders, the firm may announce its repurchase event when the firm is overvalued or fairly valued at time $t = -1$. The other signal about the firm's undervaluation or overvaluation is contained in the insider's decision to buy or sell, respectively, at time $t = -1$. We expect prices to appreciate after the announcement at time $t = 1$ irrespective to the undervaluation or overvaluation of the firm. For the overvalued firms, prices would depreciate at time $t = 2$ because of the lack of follow through. For the undervalued firms, prices would continue to appreciate at time $t = 2$ in response to the actual implementation of repurchases.

Given these possibilities, if the institutional traders have foresight, we expect them to purchase shares aggressively using strategies such as ISOs at time t = -1 before the post-announcement price run-up in t = 1 and/or t = 2. Similarly, with good foresight, we expect the institutions to sell shares of overvalued firms at time t = 1 and sell shares of initially undervalued firms at time t = 2 when the stocks have reached full price appreciation due to the actual implementation of repurchases. We also expect short sellers to time their trades accordingly. Christophe et al. (2004) find that short sellers can generate positive and significant profit around earnings announcements. Although earnings announcements do not have the same level of uncertainty, the ability to trade profitably around these events is a good indication that they may also be able to profit from other corporate announcements. While it is clear that institutions are skilled traders, we question their ability to replicate the same success around share repurchase announcements when the insiders and firm are actively participating.

Hypothesis 1 (null form): Institutional investors do not trade profitably around share repurchases announcements. The direction, pricing, timing of their trades do not result in higher profitability compared to other traders.

For the second hypothesis, we turn our attention to the registered insiders and company's own follow through action. Registered insiders are defined as an individual who directly or indirectly own more than 10% of the firm's equity or who is an officer or director of the company according to Section 16 of the Securities Exchange Act of 1934. While lawmakers have established key regulations to increase transparency and reduce market manipulation, these traders are still active and profitable around key corporate events. For instance, lawmakers established Rule 10b-5, which requires insiders 1) to refrain from trading the firm's shares when they have "material" nonpublic information or 2) to disclose the information. However, to be charged with breaking Rule 10b-5, the insiders have to intentionally deceive others. Fraud due to negligent behavior will not invoke Rule 10b-5. Furthermore, the information has to be "material," giving the insiders an unfair advantage to unduly influence the market. Otherwise, the insiders are free to trade. The regulation also allows insiders to establish multiple 10b-5 plans, which facilitate the sales of a predesignated number of shares at regular intervals. While the intentions are good, the insiders can still work around these restrictions by canceling the planned sales if they perceive good information is in the near future. This does not break insider trading laws as no transactions were executed. Hence, no liabilities were created. In fact, according to Lee et al. (1992), insiders appear to increase their frequency of buying and decrease their frequency of selling before the announcement. In addition to Rule 10b-5, the insiders need to follow the SEC Section 16(b) short-swing profit rule, which states that the insiders must return any profit gained from the buying and selling of the company stock within a six-month period. This regulation is designed to discourage insider trading with non-public information. Similar to the other regulations, there are ways to get around the short-swing rule. The insiders can avoid violating Section 16(b) by waiting until the six-month period ends, allowing them to keep all the profit. For example, insiders can buy shares months before the announcement and sell these shares during the post-announcement price run-up to maximizing the selling price or to exploit any mispricing (Louis et al., 2010). Due to their ability to trade profitably, we further expand the main question to tests the relevance of the second signal from the portfolio activities of insiders around the time of the repurchase announcement.

We determine the insider net trade direction based on their transactions during the previous six months when they are found to be active (Chan et al., 2012). We believe that insider trades are a valuable source of information to investors. The more often insiders trade, the more information is revealed to the public, giving investors more opportunities to reallocate their resources and potentially make some profits (Manne, 1966; Bernhardt et al., 1995). According to Bonaime and Ryngaert (2013), actual repurchases accompanied by net insider buying result in significantly higher and longer-lasting abnormal returns than when insiders are net sellers. We believe that insider trading during the pre-announcement period could

also provide information to investors as it does during the actual share repurchase, and it would be wise for the institutions to study the insider's trading pattern so they can respond profitably.

In addition to the insider signal, the firm's decision to follow-through with actual repurchases may also affect the trading behavior of institutional investors. Actual repurchases may signal that the firm is not employing cheap talk and may be undervalued. Following Bonaime (2012), if a firm buys back its shares within eight quarters, we classify the announcement as a follow-through event. The undervaluation signal is strongest when the insiders are net buyers and the firm follows through with actual repurchases. Combined, they signal to the market that the firm is poised for future earnings growth. Hence, institutional investors can earn a positive and significant profit if they buy more shares before the post-announcement price run-up. In contrast, increased institutional selling beforehand may indicate the absence of institutional foresight.

Hypothesis 2 (null form): Institutional investors do not trade profitably in the complex signaling environment of share repurchases taking into account insider trading and the firm's follow-through decision to actually implement repurchases.

DATA

Beginning in January 2004, the SEC requires that the announcing firm discloses its repurchase activities every quarter. They must disclose the total number of shares repurchased during the previous quarter, the average price paid for those shares, the number of shares that were purchased as a part of a previously announced plan, and the maximum number of shares that could be repurchased. The data for share repurchases are from the Securities Data Company (SDC). Our repurchases sample has 3,254 repurchase announcements from 1819 firms reported from September 2007 to December 2013. The firms announce the repurchase of approximately 242.67 billion shares and actually repurchase 37.79 billion shares at an average repurchase price of $33.16. In total, these firms spent $1.2 trillion to repurchase their shares (SDC).

We evaluate institutional profitability using three different datasets: 1) TAQ provides intraday and daily ISO trading activity including the exact timestamp, price, quantity, and trade condition, 2) Compustat provides biweekly short interest position data, and 3) Thomson Reuters 13(f) provides quarterly institutional holding which will also capture institutional trading activities not included in the ISO and short interest data, such as the changes in institutional holding resulting from trades executed in the upstairs market. We calculate profit by using CRSP closing prices a fixed period after the institutional transaction.

ISOs are limit orders that automatically execute in designated markets while simultaneously submitting orders in the markets with better prices. ISOs represent 31% of the volume and 38% of trades in our sample. Fully integrated in September 2007, ISOs are mainly used by informed institutional traders to sweep multiple markets of their liquidity, although possibly at an inferior price (Chakravarty et al., 2012). The authors also provide evidence that ISO trades, presumably used by buy-side institutions, are associated with larger information share than NISO trades, which are mainly used by retail traders. While ISOs can be used to take liquidity, they can also provide liquidity. Liquidity-providing ISO traders are incentivized to do so in order to earn rebates to cushion their profitability. Regardless of liquidity taking or provision, traders use ISOs more for the execution speed and order fulfillment. Faster execution gives institutional investors more opportunities to trades profitably as price-sensitive information is released, for example, in repurchase announcements. Because we suspect that ISO traders will be able to properly time the execution of their orders, we focus on these relatively more informed trades to determine if they can make a profit using a more aggressive trading mechanism.

We also analyze the trading activities of short sellers, which account for approximately 26% of the daily volume (Alexander et al., 2014), to determine if these sophisticated traders can benefit from repurchase

announcements. Considering that there is a price appreciation after the announcement, we expect to see a significant decrease in short selling up to the price run-up associated with repurchase announcement.

Our third dataset, Thomson Reuters 13(f), provides a big-picture summary of institutional trading. The 13(f) data provide required filings of institutional investment managers with over $100 million in assets. We use the quarterly updates to understand long-term institutional trading and to determine if institutions profit in the quarters around the repurchase announcement. Using the Bushee (2001) method of classifying the 13(f) institutions, we are able to study in-depth if institutions with different investment time horizons and styles are able to profit in the presence of the firm and its insiders. The first type is the transient institutional investors, who have a high portfolio turnover and highly diversified portfolio holdings. These are the institutions most likely to pay close attention to corporate announcements and respond to them by altering their holding and position frequently. According to Bushee (2001) and Puckett and Yan (2011), this trading strategy generates significant abnormal returns. The second type is the dedicated institutional investors, who maintain a very low portfolio turnover and larger average portfolio investments. Quasi-indexer institutional investors also have low portfolio turnover but highly diversified portfolio holdings. Both dedicated and quasi-indexer investors have longer investment horizons.

In our efforts to provide a diverse set of institutional data, we do acknowledge that there are overlaps in the data. For instance, transient institutions can use ISOs to execute their trades around the announcement, short sellers can also be transient traders, and some shorting strategies could include using ISOs. Without the information to identify these traders, we are unable to clearly separate the three institutional types from each other. However, we believe that our inclusion of these three types can shed light on how the ISO sweeping mechanism, short seller's timing, and transient institution's short-term strategy can lead to profitability.

Lastly, for the other variables, we use analyst forecast data from I/B/E/S, accounting data from Compustat, and insider trading data from Thomson Reuter TFN U.S. Securities and Exchange Commission Form 4.

FINDINGS

We find that the information advantage of the firm and its insiders is not eroded quickly, and that institutional profitability is not higher than the profitability of other traders. Our finding is robust even when we consider our prior beliefs about institutional foresight. Following Harvey (2017), we calculate the Bayesianized p-value based on the even odds that institutions are unable to earn higher profits than other traders, and find that our null hypotheses still hold true. We believe institutional investors are not profitable because they are unable to overcome the information advantage of the firm and its insiders with little notice to when the announcement will occur. The timing of the repurchase announcement appears to create an environment that is difficult for institutional investors to trade profitably. Another possible interpretation of our findings is that institutional investors sell around the announcement because they have captured their target profit from a long-term investment perspective. This explanation assumes that institutional investors have purchased shares long before the announcement, and they view the event as a good time to capture the required profit for their investment. Rather than making this assumption in our paper, we analyze profitability as the institutional investor's ability to earn a significant and positive return given the evidence from prior research of a post-announcement price run-up. This means purchasing before the price appreciation and selling at the peak of this run-up.

REFERENCES

References available upon request from the authors