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New findings on repurchase anomaly — The first-month effect

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ABSTRACT

Prior studies find positive abnormal returns following share repurchase announcements. We examine the association between announcement month and the excess returns. We find that the average excess return is consistently higher for repurchases announced in the first month of a fiscal quarter than for those announced in the other two months. Interestingly, 1st-month and non-1st-month announcers are highly comparable in firm characteristics, pre-announcement returns, and disclosed motives. The magnitude of the first-month effect barely changes after we switch to multivariate regressions, and it remains large under firm-fixed effects. Investment strategies based on *BTM*, *firm size*, *and pre-announcement return* are all improved by a first-month strategy. The first-month effect extends well beyond the first year, but the market does not seem to realize it. We propose an explanation for the first-month effect based on the conjecture that managers receive firm information in an uneven manner throughout a fiscal period. This explanation is supported by our empirical tests. Additional empirical analyses provide results that fail to support several plausible alternative explanations.

1. Introduction

The literature well documents the anomalous stock price behavior following share repurchase announcements. Lakonishok and Vermaelen (1990) and Ikenberry, Lakonishok, and Vermaelen (1995) provide the initial evidence of the long-term excess returns after repurchase announcements. One would expect the anomaly to disappear after practitioners' exploitation of it over time (Schwert, 2003). However, it is interesting to observe that the under-reaction to repurchase announcements still strongly exists, despite the fact that the anomaly was made public a long time ago (Peyer & Vermaelen, 2009). Instead of providing a theory to explain the under-reaction, our study actually discovers another "anomaly" on top of the repurchase anomaly. This extra layer of anomalous price behavior relates to repurchase announcement time and has a large economic significance. We also propose an explanation for this abnormal behavior, followed by supporting empirical evidence.

Managers from repurchasing firms claim undervaluation as the main reason for their repurchase decisions (Brav, Graham, Harvey, & Michaely, 2005). To investors, however, the announcement itself may not serve as a strong signal of undervaluation (Babenko, Tserlukevich, & Vedrashko, 2012): First, managers may buy back shares for other reasons, such as excess cash and fewer investment opportunities. Second, because managers are under no legal obligation to complete the announced buyback plans, they may announce repurchases simply to manage up the stock prices. Third, some repurchase decisions may be the result of managers' overconfidence in firm value (Ben-David, Graham, & Harvey, 2013). Therefore, investors may need indicators to distinguish the truly undervalued ones from the rest of the repurchase-announcing firms. Considering that managers' decisions to repurchase reflect their private information about firm value, we conjecture that the time when those decisions are made may also have information content.

We find little literature that relates to repurchase-announcement time.[1] Thus, instead of proposing a hypothesis, we start with an explorative approach. By using 1-year buy-and-hold abnormal returns (BHARs), we reveal an interesting pattern: firms that announce their repurchases in the first month of a fiscal quarter outperform those that announce repurchases in the other two months. This first-month effect is consistently observed in the four quarters and with a significant economic magnitude. On average, the post-announcement abnormal return of 1st-month announcers is more than twice as large as that of non-1st-month announcers.

We then examine whether the above phenomenon is due to differences in firm characteristics between 1st-month announcers and non-1st-month announcers. We find that the two groups are comparable in major financial characteristics, pre-announcement returns, and disclosed motives. The magnitude of the first-month effect in multivariate analyses barely differs from that in univariate analyses. It is possible that BHAR captures a certain unobservable risk factor and 1st-month announcers happen to have a different loading on this risk factor. To

[1] The study by Brockman and Chung (2001) is remotely related to repurchase timing. They find that managers time their actual repurchases in the open market to lower the acquisition cost.

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further control for this, we use two approaches: First, we focus on firms that have more than one announcement and compare the BHARs following their 1st-month and non-1st-month announcements. Second, we control for firm-fixed effects in multivariate regressions. Similar approach has been used in Michaely et al. (2015) to show that the "Friday effect" is actually due to differences in firm characteristics. However, it is worth mentioning here that the results from firm-fixed-effect model are not truly predictive since the model requires the use of future values to compute firm-level means.

While we mainly use 1-year abnormal returns in this study, further analyses based on 5-year BHAR show that the first-month effect extends well beyond the first year. The average 5-year BHAR of 1st-month announcers is more than four times as large as that of non-1st-month announcers.[2] From another perspective, we examine whether the market is aware of this anomalous first-month effect by looking at the 3-day BHARs around announcements. The results provide no evidence of the market's knowledge of it.

We then propose an explanation for the first-month effect as follows: Managers receive information about their firms in an uneven manner. Budget plans, sales targets, and internal reviews are constantly made on a quarterly basis. New information, such as the actual quarterly performance by each department within a firm, emerges or becomes more definite when it is approaching fiscal quarter-ends. This is consistent with the empirical evidence that firms' window dressing efforts are usually made at the closing of a quarter (e.g., Allen & Saunders, 1992; Chapman & Steenburgh, 2011; Cohen, Mashruwala, & Zach, 2010). The quarter-end new information managers gather from different departments allow them to have a comprehensive re-evaluation of their firms' prospects, risks, and values. As a result, the repurchase decision made then or soon after is more likely to be a new-information-based strategic decision than a mimicking or herding behavior.

For some firms, new information may not cluster at quarter-ends at all. Repurchase announcements may just happen to fall in the first month of a quarter. If it is the quarter-end new information that gives rise to the first-month effect, we should observe the effect only in firms whose managers tend to obtain new information around the end of a fiscal period. We test this prediction to provide support for the proposed explanation. We first use volatilities in cash flows, sales, and net income as measures of the likelihood of new information arising at the end. The rationale is that managers in firms that are more stable can better predict firm performance and thus derive less new information from the quarter-end reports submitted by various departments. As predicted, the first-month effect only exists in high-volatility firms. The high-volatility first-month investment strategy generates twice the average excess returns as compared to the first-month-only strategy. In comparison with the strong interaction between the first-month effect and performance volatilities, the interactions between it and other firm characteristics, including pre-announcement returns, are all weak and insignificant in regression analyses.

We also use earnings surprises to measure the degree of new information clustering around quarter-ends. Specifically, we use, first, the deviation of actual performance from analysts' consensus and, second, 3-day abnormal returns around earnings announcements. Consistent with the prediction, first-month effect is only significant among firms that tend to have earnings surprises.

The finding of the first-month effect contributes to the literature that documents the anomalous price behaviors following repurchases. While prior studies have shown that some firm characteristics predict post-announcement excess returns (e.g. firm size, BTM ratio, pre-announcement price movement), in practice investors may hesitate to invest based on those characteristics. For example, Peyer and Vermaelen (2009) find that pre-announcement price decline is a strong predictor of post-announcement excess return. They propose the hypothesis that the positive abnormal returns are a correction of analysts' overreaction to bad news before repurchases. Since analysts are reluctant to admit their mistakes by changing their opinions afterwards, it is psychologically difficult for investors to invest in these "beaten-up" firms. It would be against the opinions of professionals, who are supposed to have superior knowledge of firm value. The first-month effect we find is independent of the impacts of those firm characteristics and pre-announcement returns. From the perspective of portfolio construction, we show that traditional strategies based on BTM, firm size, or pre-announcement return can all be greatly improved when a first-month strategy is incorporated.

The proposed explanation and the following supporting evidence introduce a special perspective that is not explored by the literature yet. While repurchase decisions may reflect managers' private information about firm value, we suggest that the quality and quantity of this private information may be time-dependent. Even for managers who divulge their private information by claiming "undervaluation" as the repurchase motive, we find that such a claim is more likely to be a sincere or fact-based one when accompanying 1st-month announcements than non-1st-month ones.

Section 2 provides some literature background. Section 3 describes the repurchase sample (3.1–3.4) and our initial observation of the first-month effect (3.5). Section 4 provides detailed analyses of the first-month effect: In Section 4.1, we implement analyses of firms that have both 1st-month and non-1st-month announcements. Section 4.2 delivers the results from multivariate regression analyses using our full sample. Section 4.3 examines the first-month effect over a long horizon (five years) and market reactions in a short announcement window (three days). Section 4.4 examines the first-month effect in relation to disclosed motives and confounding news. Section 5 proposes an explanation based on information distribution (5.1), offers some supporting empirical evidence (5.2), and discusses an alternative explanation based on EPS manipulation (5.3). Section 6 concludes and discusses some potential issues with the study.

2. Background

2.1. Repurchase anomaly

Using a sample of 258 fixed-price tender offers, Lakonishok and Vermaelen (1990) demonstrate that repurchasing firms experience excess returns in the 2-year period following announcements. Their study is different from the prior ones (e.g., Dann, 1981; Masulis, 1980; Rosenfeld, 1982; Vermaelen, 1981, 1984), which focus on market reactions in a short announcement window. Results from Lakonishok and Vermaelen have implications for investment strategies: Investors are able to generate abnormal returns by trading around tender offer announcements.

Most repurchases are in the form of open market deals. Ikenberry et al. (1995) analyze a sample of 1289 open market repurchase announcements (during 1980–1990) and report an average abnormal return of 12.1% over the 4-year period after announcements. Although the market reacts positively to repurchase announcements on average, the magnitudes are relatively small in the announcement window, leaving excess returns to a long-term buy-and-hold strategy. Vermaelen (2005) presents a real example of the excess returns earned by implementing such a strategy in the market. The author was responsible for the portfolio selection for an open-ended mutual fund sold by the Belgian bank KBC. The fund was started in July 1998 and invests in firms that have announced repurchases. He shows that, in terms of buy-and-hold return, the KBC buyback fund outperforms all US mutual funds sold in Belgium as of February 13, 2004. As Vermaelen argues, "pure luck" is insufficient to explain the fund's excellent performance.

[2] Our study focuses on 1-year BHAR instead of 5-year BHAR for two reasons: (1) using 1-year BHAR allows us to keep a larger number of observations; and (2) Fama (1998) points out that bad-model errors grow faster with return horizon in long-term event studies due to the compounding effect.