



Idiosyncratic risk and share repurchases[☆]



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ABSTRACT

The 'open market share repurchase anomaly' occurs when stocks of repurchasing firms subsequently outperform non-repurchasing firms matched on several firm characteristics. We document that the post-repurchase outperformance reflects higher idiosyncratic risk exposure for repurchasing firms than matching firms. A possible explanation is that, as firms' leverage increases due to share repurchases, their exposure to idiosyncratic risk rises, thus increasing their stocks' expected returns relative to matched firms.

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1. Introduction

Research has documented a positive price reaction after corporate share repurchase announcements. Several studies interpret the positive abnormal return as a signal of undervaluation for the repurchasing firms.¹ Ikenberry et al. (1995, 2000) find positive long-run abnormal returns following share repurchases for a period of up to four years. Subsequent studies provide varying explanations for the long-run drift in stock prices. Chan et al. (2004) suggest both the mispricing and disgorging of free cash flows as sources of the long-horizon return drift. Grullon and Michaely (2004) argue that stock prices reflect changes in the cost of capital only gradually, and that the systematic risk changes associated with repurchases provide a determinant of the long-run price trend. Gong et al. (2008) suggest that deflating the pre-repurchase earnings is one reason repurchasing firms experience abnormal returns after repurchase announcements. Peyer and Vermaelen (2009) find strong support for the long-run abnormal returns as a correction of an overreaction to bad news prior to the repurchase. However, the 'share-repurchase anomaly' remains largely unexplained.

This paper proposes a potential risk-based explanation for the anomaly. Repurchasing firms may experience increased financial leverage following share repurchases. Repurchasers spend cash or increase borrowing when they buy back shares,

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¹ Other reasons include distribution of excess cash (Chay and Suh, 2009; Grullon and Michaely, 2004), change toward the optimal financial leverage (Dittmar, 2000), funding of employee stock option plans (Kahle, 2002), takeover defense (Billett and Xue, 2007), and enhancement of investor-management agreement (Huang and Thakor, 2013).

leading to increased financial leverage (Dittmar, 2000; Hovakimian, 2004; Jensen, 1986; Stephens and Weisbach, 1998). Other things being equal, more highly levered firms should have higher bankruptcy risk and hence higher return volatility. Dennis and Strickland (2009) find a positive cross-sectional relation between idiosyncratic volatility (proxied for idiosyncratic risk) and financial leverage. Given increased financial leverage following repurchases, idiosyncratic volatility for repurchasing firms should rise.² The key to our inference is the linkage between idiosyncratic return volatility and stock return. Several studies state that investors find it difficult to hold a perfectly diversified portfolio as suggested by modern portfolio theory. Thus, under-diversified investors should require greater returns to compensate for bearing idiosyncratic risk (Levy, 1978; Merton, 1987). Recently, Fu (2009) empirically finds a positive relation between idiosyncratic risk and expected stock returns in the cross section. Based on this evidence, we infer that the previously documented outperformance of repurchasing firms relative to their benchmarks is a consequence of higher idiosyncratic risk.

This paper contributes to the literature in several ways. First, we explain how idiosyncratic risk can account for the observed outperformance following open-market repurchase announcements. Since stock prices equate to the present value of future expected cash flows in a rational market, Irvine and Pontiff (2009) offer three fundamental explanations for the time trend in idiosyncratic risk: (1) discount rate shocks increase idiosyncratic return volatility; (2) cash flow streams have become more idiosyncratic; or (3) the market fails to price idiosyncratic risk. Moreover, Campbell et al. (2001) find that since the idiosyncratic volatility has increased substantially over the period 1962–1997 even as the total volatility of the stock market has remained relatively constant, idiosyncratic volatility has become the largest component of firm-specific return volatility. To the best of our knowledge, this paper provides the first empirical evidence on the idiosyncratic risk-return characteristic explanation for the post-repurchase outperformance anomaly. Second, as mentioned in Vermaelen (2005), long-run abnormal returns are quite sensitive to the measure of normal returns. These results can thus be criticized because any test of market efficiency is a joint test of efficiency and a model of market equilibrium. There is always a possibility that the excess returns observed are caused by an omitted repurchase-risk factor. To address this gap, this paper proposes a potential risk-based explanation by testing the association between post-repurchase abnormal return and idiosyncratic risk using various approaches.

2. Sample and methodology

2.1. OMR sample

Open-market repurchase announcements by NYSE, AMEX, and NASDAQ companies are collected from the Securities Data Corporation's (SDC) U.S. Mergers and Acquisitions Database over the period from January 1984 through December 2012. The sample period ends with December 2012 because we need sufficient data to calculate three-year long-term stock performance following repurchases. We drop repurchase announcements made within 3 years of a previous repurchase announcement.³ Consistent with Gong et al. (2008), we exclude self-tender offers and block repurchases. We also exclude utilities and financial firms and open-market repurchases announced during the last quarter of 1987.

2.2. Idiosyncratic risk

Following Ang et al. (2006) and Fu (2009), we estimate the idiosyncratic risk of a stock as follows.⁴

$$R_{i,d} - R_{f,d} = a_{i,t} + b_{i,t}[R_{m,d} - R_{f,d}] + s_{i,t}SMB_d + h_{i,t}HML_d + e_{i,d} \quad (1)$$

where R_i is the stock i 's daily return, R_f is the one-month T-Bill rate, R_m is the value weighted NYSE/AMEX/NASDAQ market return, SMB is the small-firm portfolio return minus the big-firm portfolio return, and HML is high book-to-market portfolio return minus low book-to-market portfolio return. d and t are the subscript for the day and month, respectively. We require at least 15 trading days with daily returns and non-zero trading volume for each month. The idiosyncratic risk is the standard deviation of the regression residuals multiplied by the square root of the number of trading days in that month.⁵

2.3. Long-run abnormal returns

We measure post-repurchase long-run stock abnormal return by the three-year buy-and-hold abnormal return (BHAR) following the announcement date. The three-year BHAR equals the difference in the three-year compound return between a repurchasing firm and its matching firm. Matching firms must not have had a repurchase announcement in the three

² von Eije et al. (2014) examine how firms' repurchase decisions influence their idiosyncratic risk from the viewpoint of the life-cycle stage. However, they find mixed results on the idiosyncratic risk effects after repurchase initiations or omissions. In contrast, we examine the relation between stock repurchase and idiosyncratic risk through the lens of leverage changes.

³ Our results remained unchanged if we include the repurchase announcements that occur within 3 years of a previous announcement.

⁴ For each firm-month, we estimate the following model created by Fama and French (1993), using all firms that have the necessary data on CRSP and Kenneth French's website. We thank Professor Kenneth French for sharing the factor data.

⁵ We also estimate idiosyncratic risk by adopting the market model regression of monthly stock returns on the returns of the value-weighted portfolio of all NYSE-, AMEX-, and NASDAQ-traded stocks, following Pástor and Veronesi (2003).

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